intralox

2023 ENGINEERING MANUAL

MODULAR PLASTIC BELTS

Warranty—Intralox, LLC warrants products of its own manufacture for a period of one year from date of shipment, to the extent that Intralox, LLC will repair or replace any products of faulty material or defective workmanship proven under normal use or service. No other warranty is expressed or implied unless otherwise set forth in writing and approved by a representative duly authorized to extend such approval by Intralox, LLC.

Caution—Intralox, LLC does not warrant that the design and/or operational function of any machine that incorporates and/or intends to incorporate Intralox, LLC products, conform to any local, state and/or federal regulations and standards relating to public safety, worker safety, safety guards, sanitation safety, fire safety, or any other safety regulations. ALL PURCHASERS AND USERS SHOULD CONSULT THEIR APPROPRIATE LOCAL, STATE AND FEDERAL SAFETY REGULATIONS AND STANDARDS.

Notice—The information contained in this manual is provided only as an aid and service to our customers. Intralox, LLC does not warrant the accuracy or applicability of such information and, Intralox, LLC is specifically not responsible for property damage and/or personal injury, direct or indirect for damages and/or failures caused by improper machine design, application, installation, operation, abuse and/or misuse of its products whether or not based on information contained herein.

Warning—Intralox products are made of plastic and can burn. If exposed to an open flame or to temperatures above Intralox specifications, these products may decompose and emit toxic fumes. Do not expose Intralox conveyor belting to extreme temperatures or open flame. Flame retardant belt products are available in some series. Contact Intralox Customer Service for more information.

Maintenance—Prior to installing, cleaning, lubricating, or performing maintenance on any conveyor belt, sprocket or system, consult the federal, state, and local regulations in your area regarding the control of hazardous/stored energy (lockout/tagout).

For customer service and engineering contact information, see www.intralox.com.

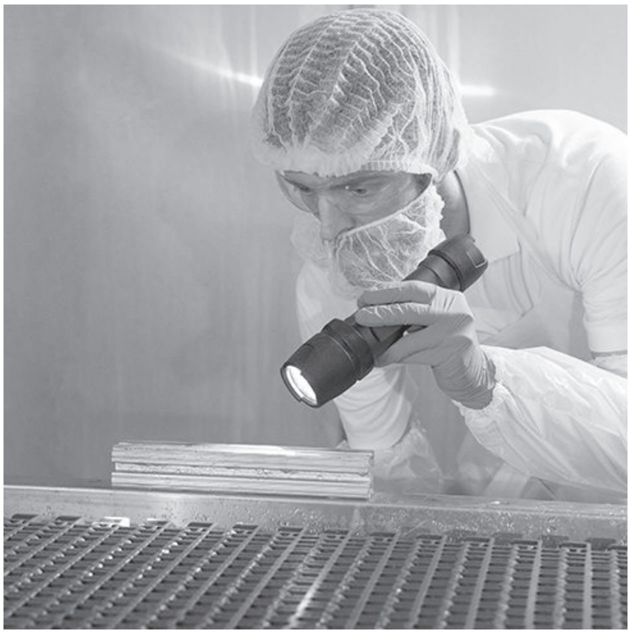
TABLE OF CONTENTS

TABLE OF CONTENTS

1 INTRALOX OVERVIEW

With more than 50 years of experience, Intralox continues to lead the way in helping customers achieve their goals by offering comprehensive conveyance solutions that create significant economic value. Intralox delivers innovative, premium technology within a direct business model and a global, industry-specific structure. Our industry-specific teams have an in-depth knowledge of customer applications, and provide customer service and technical support all day, every day, year round. Working with Intralox allows you to experience our uncompromising commitment to providing solutions and solving problems for our customers.

We pushed past the boundaries of traditional conveying systems with the revolutionary invention of modular plastic belting, and continue to move beyond industry standards with new products, equipment, solutions, and services. Intralox's commitment to innovation has led to over 1500 patents currently in force around the world. When our customers have challenges, we invent smart solutions to meet them.



BELT CONSTRUCTION

All Intralox belts are constructed with injection molded plastic modules. These modules are assembled into interlocked units and joined by hinge rods.

Figure 1: Plastic modules joined by hinge rods

Belts are either one module wide (for narrow or SeamFree™ belts) or built in a bricklayed pattern from two or more modules. Bricklayed belts are built with the joints between modules staggered between the joints of adjacent rows. This bricklayed structure interlocks the modules, giving the belt inherent lateral strength. The hinge rods do not hold the belt together from side to side, but act only as pivot members in shear. The belt that results from this construction process is intrinsically strong, both laterally due to the bricklaying, and longitudinally due to the rods being placed in multiple shear.

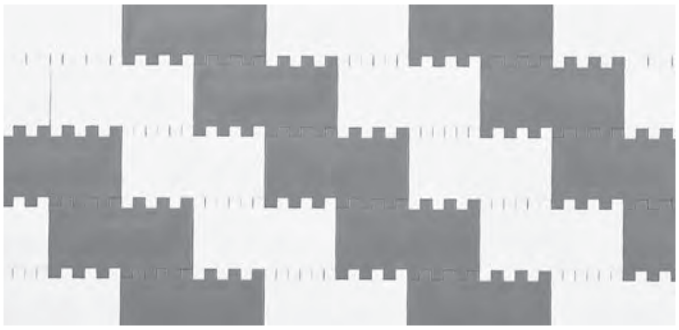


Figure 2: Bricklayed structure

Because of modular construction, Intralox belts can be made in almost any width, from three links wide.

Each belt style incorporates several distinguishing features. Surface, pitch, and drive features are described in detail in Belt Selection Process. Hinge and edge features are:

- Open hinges—the hinge rods are visible from either the top or bottom surface (or both) of the belt to aid in belt inspection.
- Closed hinges—the hinge rods are completely enclosed to protect them from abrasives or contaminants.
- Flush edges—flush edges ride snugly beside the conveyor frame rails without gaps or exposed rod heads. They reduce the possibility of product, or belt, snagging on the frame.

DRIVE METHOD

Intralox belts are positively driven by plastic or metal sprockets, not friction rollers. The sprockets, another part of the Intralox system, have square bores and are driven by matching square shafts.

NOTE: Round bore sprockets are available for certain belts.

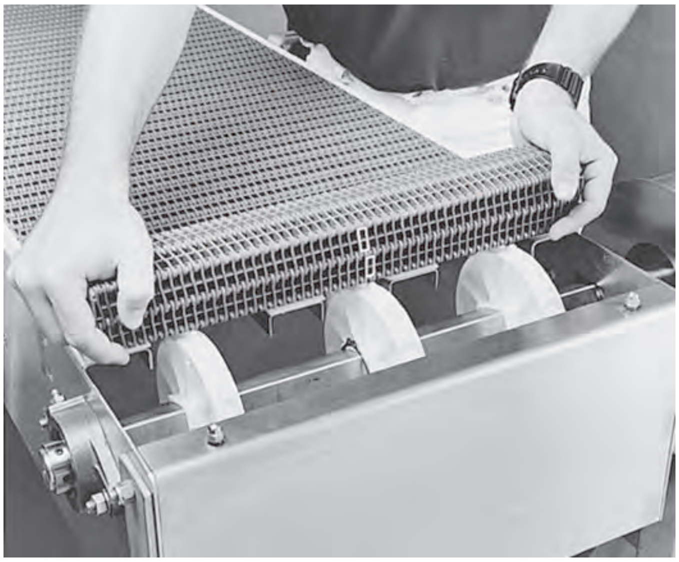


Figure 3: Sprocket-driven Intralox belt

Not only do square shafts transmit torque (rotational force) without the need for troublesome keys and keyways, they accommodate the lateral expansion differences of the plastic belt material and the metal shafts. Only one sprocket per shaft is retained. The others are allowed to float, moving along the shaft as the belt expands or contracts. Thus, the sprockets are always transmitting torque. Of all belt drive systems tested, the square shaft with square bore sprockets has proven to be the most effective, economical, reliable, trouble-free, and simple.

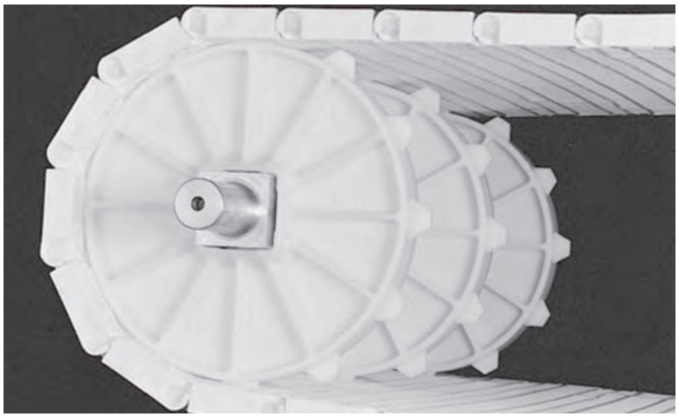


Figure 4: Square-bore sprockets on square shaft

DESIGN REQUIREMENTS

Intralox conveyor belts are available in various styles, materials, and colors, with many accessory options. To make the appropriate selections when designing for a particular application, reliable information about operating and environmental conditions is critical. Factors to evaluate include:

- Type of belt system: straight running, radius, or spiral
- Overall dimensions of the installed belt:
  - Distance between drive and idle shafts
  - Belt width
  - Conveyor elevation changes
- Belt speed
- Product characteristics:
  - Density
  - Unit size and shape
  - Hardness, toughness, brittleness, rigidity
  - Texture (smooth, rough, granular, lumpy, spongy)
  - Corrosiveness
  - Moisture content
  - Temperature
  - Frictional nature
- Any process change during conveyance:
  - Heating
  - Cooling
  - Washing, rinsing, draining
  - Drying
- Cleaning and sanitation requirements and conditions:
  - USDA-FSIS approval
  - Harsh temperatures or chemicals
  - Continuous on-line cleaning
- Product loading and removal methods: smooth or impact transfers
- Operating environment conditions:
  - Temperature
  - Moisture and humidity
  - Chemical nature (acid, base)
  - Abrasive materials (sand, grit)
  - Hazardous materials (dusts, vapors)
- Drive system type:
  - Motor driven
  - Chain driven

For more information, see Design Guidelines.

BELT SELECTION PROCESS

STEP 1: CHOOSE THE RIGHT TYPE OF BELT SYSTEM

Choose a straight-running, radius, or spiral belt system.

STEP 2: CHOOSE THE RIGHT MATERIAL FOR YOUR APPLICATION

Intralox belts and accessories are available in standard and special application materials. For complete descriptions of the standard and special application belt materials see, Standard Belt Materials and Special Application Belt Materials.

Contact Intralox Customer Service for more information. Current telephone numbers are listed on the back cover.

For specific recommendations on chemical properties, see Chemical Resistance Guide.

STEP 3: SELECT THE BEST BELT SURFACE, PITCH, AND DRIVE METHOD

Next in the process of choosing the belt for your application is to determine the belt surface or style best suited for the product or material being conveyed.

NOTE: Unless otherwise noted, all belts have fully flush edges.

The pitch of the belt is the next differentiating feature. Smaller pitch reduces chordal action (over similar size sprockets) and the space required for product transfer. Intralox belts are available in the following belt pitches:

0.315 in (8.0 mm)	1.07 in (27.2 mm)	2.07 in (52.6 mm)
0.50 in (12.7 mm)	1.44 in (36.6 mm)	2.50 in (63.5 mm)
0.60 in (15.2 mm)	1.50 in (38.1 mm)	3.00 in (76.2 mm)
1.00 in (25.4 mm)	2.00 in (50.8 mm)	

Also consider the drive method. Where back tension is an important consideration, drive method plays a significant role. Intralox belts are either hinge-driven or center-driven.

STEP 4: SELECT A BELT OF SUFFICIENT STRENGTH FOR YOUR APPLICATION

After choosing the material and surface style to meet your needs, next determine if the selected belt is strong enough to meet your application requirements.

ANALYSIS FOR STRAIGHT RUNNING BELTS

After making a tentative series and style selection, see Belt Selection Instructions for instructions to determine the belt pull and adjusted belt pull for comparison with the allowable strength for that belt. To make the necessary calculations for belt pull, gather the following information:

1. The product weight applied to the belt, in pounds per square foot (or kilograms per square meter),
2. The length of the proposed conveyor, in feet (or meters),
3. Any elevation changes in the conveyor, in feet (or meters),
4. The desired operating speed, in feet per minute (or meters per minute),
5. The percentage of belt area with accumulated product,
6. The maximum belt operating temperature, in degrees Fahrenheit or Celsius,
7. The type of material upon which the belt will run in the conveyor frame. For example: stainless or carbon steel, UHMW-PE, HDPE, nylon, etc.,
8. The service duty, i.e., frequent startups under heavy load, an elevating or “pushing conveyor”, etc.

ANALYSIS FOR RADIUS AND SPIRAL BELTS

These belts require a more complex analysis. The following additional information is required:

1. The length of each straight run,
2. The turning angle and direction of each turn, and
3. The inside turn radius, measured from the inside edge of the belt.

STEP 5: OTHER IMPORTANT CONSIDERATIONS

Consider the following factors before proceeding any further with belt selection.

ROD MATERIAL

Each belt style and material is presented with a standard rod material; however, other rod materials are available and can be evaluated based on your application. Contact Intralox Customer Service for more information.

BELT MATERIAL GROWTH

Belt materials, especially nylon, can expand or contract depending on storage and use conditions. In high-temperature and high-humidity environments, belts can expand over time. In cooler, drier conditions, belts can contract. Intralox provides belt widths and tolerances that account for potential expansion and contraction during the belt assembly process. Operating conditions are not accounted for. Once a belt leaves our assembly facility, environmental conditions can cause the belt width to change. Contact Intralox Customer Service for more information.

BELT SPEED

The belt speed affects the wear and life expectancy in these ways:

1. Hinge and sprocket wear: The frequency of module rotation about the hinge rods (as the belt engages and disengages the sprockets) is directly proportional to speed. The rotary motion can cause wear to both rods and modules. This wear rate, however, is inversely proportional to the belt's length, i.e., a shorter conveyor can wear faster than a longer one if both are running at the same speed. It follows that sprocket/tooth wear is directly proportional to speed. Sprockets with more teeth cause less module/hinge rotation, and so less wear than sprockets with fewer teeth.
2. Belt surface wear: As belts slide over carryways, returnways, shoes, and other fixed members, some wear is to be expected. The most destructive conditions are high speed, heavy loads, abrasive materials, and dry or non lubricated operation.
3. Dynamic effects of high-speed operation: Two effects of high-speed conditions are belt *whipping* or oscillating in unsupported sections, and *load surges* as heavy, stationary products are suddenly accelerated to belt speed. Where possible, avoid both of these conditions.

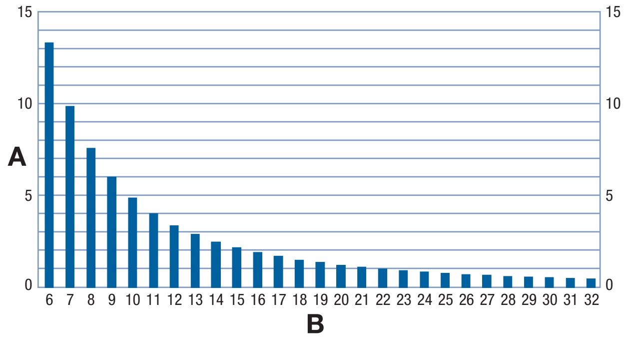
ABRASIVE CONDITIONS AND FRICTION EFFECTS

In order to extend belt life, abrasives in a conveying application must be identified, the best combination of materials chosen, and protective features included. Abrasives will wear away any material, but the correct material choice can significantly increase belt life. In highly abrasive applications, the hinge rods and sprockets are usually the first elements to be affected. Hinge rod wear typically results in excessive belt-pitch elongation. This can prevent proper tooth engagement, increasing the wear on sprocket teeth. Intralox offers stainless steel split sprockets and abrasion resistant rods that work to increase belt life.

CHORDAL ACTION AND SPROCKET SELECTION

As the modules of belts engage their driving sprockets, a pulsation occurs in the linear velocity of the belt. This pulsation is due to chordal action, which is the rise and fall of a module as it rotates around a shaft centerline. It is characteristic of all sprocket-driven belts and chains. The variation in speed is inversely proportional to the number of teeth on the sprocket. For example, a belt driven by a six-tooth sprocket has a pulsating speed variation of 13.4%, while a belt driven by a 19-tooth sprocket has a variation of only 1.36%.

- In applications where product tipping is a concern, or where smooth, even speed is critical, use sprockets with the maximum number of teeth available.



A Percent of speed variation
B Number of sprocket teeth
Figure 5: Pulsating speed variation

SHAFTS

Intralox, LLC USA can supply square shafts, machined to your specification, in standard sizes of 5/8 in, 1 in, 1.5 in, 2.5 in, 3.5 in, 40 mm and 60 mm. Available materials are carbon steel (C-1018) (not available in 40 mm and 60 mm) and stainless steel (303, 304 and 316). Contact Intralox Customer Service for more information.

Intralox, LLC Europe offers square shafts in standard sizes of 25 mm, 40 mm, 60 mm, 65 mm, and 90 mm. Available materials are carbon steel (KG-37) and stainless steel (304).

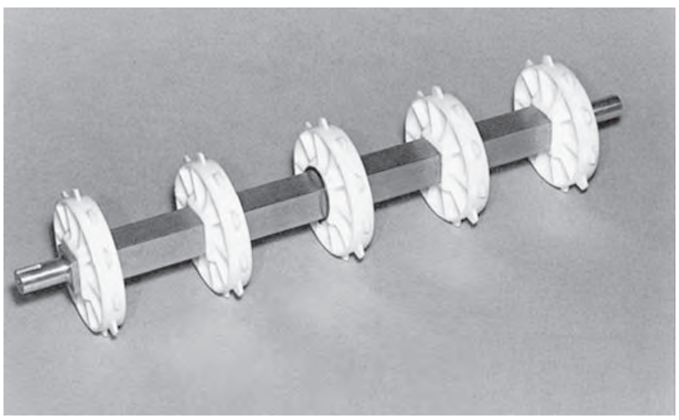


Figure 6: Square shaft

Square shafts need turning of bearing journals only. No keyways for sprockets are required. Only one sprocket per shaft must be retained to prevent lateral belt movement and to provide positive tracking. Sprocket retention is usually accomplished by placing retainer rings on opposite sides of the center sprocket. Some retainer rings rest in grooves cut into the four corners of the shaft. These grooves introduce stress concentration zones on the shaft. Under high load conditions, the grooves can lead to a premature fatigue failure of the shaft. Self-set retainer rings and split collar retainer rings are available which do not require grooves.

SHAFT STRENGTH

The two primary concerns regarding the strength of the conveyor drive shafts are 1) the ability to pull the belt without excessive shaft deflection, and 2) the strength to transmit the torque for driving the belt. In the first case, the shaft acts as a beam, supported by bearings and stressed by the belt's tension through the sprockets. In the second case, the shaft is being rotated by the drive motor. Resistance from the belt's tension introduces torsional (twisting) stresses. These two types of stresses, maximum deflection and maximum allowable torque, are analyzed separately. Simple formulas are provided for selecting appropriate shafts.

Maximum deflection is governed by adequate belt and sprocket tooth engagement. If the shaft deflects more than 0.10 in (2.5 mm) the sprockets may not engage properly, resulting in “jumping”. On bi-directional conveyors with center-drive, the limit is increased to 0.22 in (5.6 mm) because the return side tension is greater and the tooth loading is more uniformly distributed.

WEARSTRIPS

Wearstrips are added to a conveyor frame to increase the useful life of the conveyor frame and belt, and to reduce the sliding friction forces. Proper choice of wearstrip design and material, yielding the best coefficient of friction, reduces belt and frame wear, and power requirements.

Any clean liquid, such as oil or water, will act as a coolant and as a separation film between the belt and the carryway, usually reducing the coefficient of friction. Abrasives such as salt, broken glass, soil and vegetable fibers will embed in softer materials and wear on harder materials. In such applications harder wearstrips will prolong belt life.

STATIC ELECTRICITY

Plastic belts can produce a static discharge or spark when used in a dry environment. If static electricity is a potential problem in your application, electrical grounding is recommended. Lubricating or adding moisture to the conveyor running surfaces is also recommended. Some belt styles are available in electrically conductive (EC) acetal. Contact Intralox Customer Service for more information.

INTRALOX SERVICES

For more information on any of the following services, contact Intralox Customer Service. See the back cover for global contact information.

- **Engineering Assistance and Design Review**—Intralox engineers and technical experts are available to provide engineering assistance and design reviews.
- **CalcLab**—Intralox provides CalcLab™ to help calculate and evaluate many aspects of conveyor design. CalcLab is an always up-to-date replacement for legacy engineering programs that runs in the browser and can be accessed from any internet-connected computer. To use CalcLab, go to calclab.intralox.com.
- **Engineering Analysis Computer Programs**—Intralox offers web-based engineering programs that help determine belt pull, sprocket requirements, motor and drive information, and more.
- **CAD Drawing Files**—Auto CAD.DXF templates for all series are available. The templates have belt and molded sprocket details that can be used in CAD conveyor designs.
- **Product Literature**—Intralox offers additional technical and application-specific literature on most of the products listed in this manual.
- **World Wide Web**—For information on Intralox products, our company, or to access our engineering programs or this engineering manual, visit the Intralox web site at www.intralox.com.

2 PRODUCT LINE

STANDARD BELT MATERIALS

ACETAL

This material is a thermoplastic that is considerably stronger than polypropylene and polyethylene. Acetal has a good balance of mechanical and thermal properties.

- Temperature range: -50°F to 200°F (-46°C to 93°C).
- Thermal expansion coefficient: 0.00072 in/ft/°F (0.11 mm/m/°C).
- Low coefficient of friction, making it a good choice for container handling and transport.
- High-strength electrically conductive (HSEC) acetal is available for applications where a slow static build-up has to be dissipated. With HSEC acetal, dissipation is slow and improves in a humid environment. HSEC acetal is available in Series 400 Non Skid.
- Good fatigue endurance and resilience.
- Relatively impact, cut, and scratch resistant.
- Specific gravity: 1.40. Not buoyant in water.

POLYETHYLENE (PE)

PE is a lightweight thermoplastic with superior flexibility and high impact strength. Intralox recommends black polyethylene for low-temperature applications exposed to direct sunlight.

- Temperature range: -100°F to 150°F (-73°C to 66°C). For exact temperatures, see the belt data table for the selected belt style.
- Thermal expansion coefficient:
  - S100 and S400 Raised Rib: 0.0015 in/ft/°F (0.23 mm/m/°C).
  - All other belts: 0.0011 in/ft/°F (0.17 mm/m/°C).
- Excellent performance at low temperatures.
- Excellent product release characteristics.
- Resistant to many acids, bases, and hydrocarbons.
- Specific gravity: 0.95. Buoyant in water.

POLYPROPYLENE (PP)

A standard material for use in general applications and where chemical resistance is required.

- Temperature range: 34°F (1°C) to 220°F (104°C).
- A relatively strong material in normal use, polypropylene becomes somewhat brittle at low temperatures.
- Good balance between moderate strength and lightweight.
- Good chemical resistance to many acids, bases, salts, and alcohols.
- Specific gravity of 0.90. Buoyant in water.
- Not recommended in high-impact conditions below 45°F (7°C).
- Use black polypropylene for applications exposed to direct sunlight.

SPECIAL APPLICATION BELT MATERIALS

ABRASION RESISTANT (AR) NYLON

This material is recommended for wet or dry abrasive, heavy-duty applications.

- FDA-compliant material is available in black and white.
- Temperature range: -50°F to 240°F (-46°C to 116°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- Uses the same temperature factor table as regular nylon.
- Heat stabilized for superior outdoor wear.
- Specific gravity: 1.06. Not buoyant in water.

CHEMBLOX

ChemBlox™ is an engineered material optimized for food processing, where a high degree of chemical resistance is required. This material is recommended for continuous-use antimicrobial dip tanks that use peracetic acid (PAA) or similar chemicals.

- Temperature range: 0°F to 150°F (-18°C to 66°C).
- Thermal expansion coefficient: 0.00087 in/ft/°F (0.13 mm/m/°C).
- UL 94 flammability rating: V-0 at 1/32 in (0.8 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Exceptional resistance to strong acids.
- Highly resistant to other sanitation chemicals, salts, alcohols, and oxidants.
- Resistant to UVA and UVB light, ozone, and radiation.
- Specific gravity: 1.77-1.79. Not buoyant in water.
- Tough and durable, even after continuous chemical exposure.
- Extremely hydrophobic compared to other plastics or metals.

DETECTABLE ACETAL

This material was developed for applications in the food processing industry where foreign material contamination is a concern. Detectable acetal is optimized for detection by a metal detector. Under certain conditions, it may also be detected by an X-ray detector. If only X-ray detection is used, Intralox recommends selecting the X-ray detectable materials developed specifically for X-ray detection. Testing the material in a metal detector in the production environment is the best method for determining detection sensitivity.

- Temperature range: -50°F to 200°F (-46°C to 93°C).
- Thermal expansion coefficient: 0.00072 in/ft/°F (0.11 mm/m/°C).
- Good impact resistance in temperatures above 34°F (1°C).
- Specially formulated for enhanced impact resistance.
- Metal-filled material does not rust or expose hazardous sharp fibers.
- Specific gravity: 1.61. Not buoyant in water.
- Available in select styles across a wide range of belt series. Contact Intralox Customer Service for more information.

DETECTABLE MX

This material was developed for applications in the food processing industry where foreign material contamination is a concern. Detectable MX is optimized for detection by a metal detector. Under certain conditions, it may also be detected by an X-ray detector. If only X-ray detection is used, Intralox recommends selecting the X-ray detectable materials developed specifically for X-ray detection. Testing the material in a metal detector in the production environment is the best method for determining detection sensitivity.

- Temperature range: -50°F to 200°F (-46°C to 93°C).
- Detection package will not rust and contains only food-safe additives.
- For series and accessory availability, contact Intralox Customer Service.

DETECTABLE NYLON

This material was developed for applications in the food processing industry where foreign material contamination is a concern. Detectable nylon is optimized for detection by a metal detector. Under certain conditions, it may also be detected by an X-ray detector. If only X-ray detection is used, Intralox recommends selecting the X-ray detectable materials developed specifically for X-ray detection. Testing the material in a metal detector in the production environment is the best method for determining detection sensitivity.

- Temperature range: -50°F to 180°F (-46°C to 82°C).
- Thermal expansion coefficient: 0.00072 in/ft/°F (0.11 mm/m/°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- Uses the same temperature factor table as regular nylon.
- Metal-filled material does not rust or expose hazardous sharp fibers.
- Specific gravity: 1.06. Not buoyant in water.
- For wet-abrasive or dry-abrasive, heavy-duty applications.
- Available for S1700 belts.

DETECTABLE POLYPROPYLENE A22

This material was developed for applications in the food processing industry where foreign material contamination is a concern. Detectable polypropylene A22 is optimized for detection by a metal detector. Under certain conditions, it may also be detected by an X-ray detector. If only X-ray detection is used, Intralox recommends selecting the X-ray detectable materials developed specifically for X-ray detection. Testing the material in a metal detector in the production environment is the best method for determining detection sensitivity.

- Temperature range: 0°F to 150°F (-18°C to 66°C).
- Good impact resistance in temperatures above 34°F (1°C).
- Thermal expansion coefficient: 0.0011 in/ft/°F (0.17 mm/m/°C).
- Specially formulated for enhanced impact resistance.
- Specific gravity: 1.13. Not buoyant in water.
- Metal-filled material does not rust or expose hazardous additives.
- Available in select styles across a wide range of belt series. Contact Intralox Customer Service for more information.

EASY RELEASE PLUS

This material resists rubber sticking and maintains dimensional stability in the presence of oils and high temperatures. Easy Release PLUS is appropriate for tire industry applications.

- Temperature range: 34°F to 220°F (1°C to 104°C).
- Thermal expansion coefficient: 0.0004 in/ft/°F (0.06 mm/m/°C).
- Easy Release PLUS is available in S1400 Flat Top.

EASY RELEASE TRACEABLE POLYPROPYLENE

This material was developed to resist rubber sticking and offer metal detectability for tire applications where stickiness and product contamination can be problematic.

- Temperature range: 34°F to 220°F (1°C to 104°C).
- Available in S1400 Flat Top.

ENDURALOX POLYPROPYLENE

A specially formulated material designed to maximize the life of Intralox belts in a pasteurizer environment. Enduralox™ polypropylene protects the molecular structure of polypropylene from environmental factors such as temperature cycling, bromine, and chlorine.

- Temperature range: 34°F to 220°F (1°C to 104°C).
- A relatively strong material in normal use, Enduralox polypropylene becomes somewhat brittle at low temperatures.
- Not recommended in high-impact conditions below 45°F (7°C).
- Same physical properties as standard polypropylene.
- Good chemical resistance to many acids, bases, salts, and alcohols.
- Specific gravity: 0.90. Buoyant in water.

FLAME RETARDANT THERMOPLASTIC POLYESTER (FR TPES)

This material is UL94 V-0 rated and does not sustain a flame. Though the material does not actively burn, it does blacken and melt in the presence of flame. FR TPES is stronger than polypropylene, but not as strong as acetal.

- Temperature range: 40°F to 150°F (4°C to 66°C).
- UL 94 flammability rating: V-0 at 1/32 in (0.8 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Specific gravity: 1.45. Not buoyant in water.

HEAT RESISTANT (HR) NYLON

This material is available for dry, elevated-temperature applications. It complies with FDA regulations for use in food processing and packaging applications.

- Temperature range:
  - Continuous exposure: -50°F to 240°F (-46°C to 116°C).
  - Intermittent exposure upper limit: 270°F (132°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- UL 94 flammability rating: V-2. For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Specific gravity: 1.13. Not buoyant in water.

HI-IMPACT

This material is available only for S800 Tough Flat Top. Hi-Impact was developed for applications in the food-processing industry where extreme impacts are a concern.

- Temperature range: 0°F to 120°F (-18°C to 49°C).
- Thermal expansion coefficient: 0.001 in/ft/°F (0.156 mm/m/°C).
- Greater impact resistance than acetal and polypropylene.
- Specific gravity: 1.18. Not buoyant in water.

HIGH HEAT RESISTANT (HHR) NYLON

HHR nylon is appropriate for dry, elevated-temperature applications. This material complies with FDA regulations for use in food processing and packaging applications and is USDA-FSIS accepted (meat and poultry).

- Temperature range:
  - Continuous exposure: -50°F to 310°F (-46°C to 154°C).
  - Intermittent exposure upper limit: 360°F (182°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- UL 94 flammability rating: V-2. For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Specific gravity: 1.13. Not buoyant in water.

HIGH STRENGTH ELECTRICALLY CONDUCTIVE (HSEC) ACETAL

This material can be used to help dissipate static charges that can build up, especially when moving cans or other conductive objects. A metal rail or carryway can be used to ground the belt, dissipating any charge build-up in the product. Entire belts can be made from HSEC acetal, although HSEC acetal is usually spliced into regular acetal belt sections. For example, three rows of HSEC acetal for every 2 ft (0.61 m) of S100 or S900 belt, or five rows for every 2 ft (0.61 m) of S1100 belt).

- HSEC acetal has a surface resistivity of 1000 Ohms according to IEC 60093.
- Has the same chemical resistance and friction factors as regular acetal.
- Specific gravity: 1.40. Not buoyant in water.

LOW MOISTURE ABRASION RESISTANT (LMAR)

- Temperature range: -50°F to 290°F (-46°C to 143°C).
- Thermal expansion coefficient: 0.00096 in/ft/°F (0.14 mm/m/°C).
- UL 94 flammability rating: V-2 at 0.236 in (6 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- High heat resistance.
- Abrasion resistant.
- Bio-based polymer.
- Low moisture absorption provides dimensional stability.

LOW WEAR PLUS

Low Wear Plus is available for applications in the fruit and vegetable industry, where highly abrasive dewatering applications are a concern.

- Temperature range: 0°F to 120°F (-18°C to 49°C).
- Thermal expansion coefficient: 0.001 in/ft/°F (0.156 mm/M/°C).
- Better wear properties than nylon.
- Specific gravity: 0.18. Buoyant in water.

NYLON

This material is appropriate for applications that require good dry abrasion and chemical resistance. The two limitations to nylon are that it absorbs water and is more susceptible than acetal to cuts and gouges. Because of material expansion caused by water absorption, nylon is not recommended for very wet applications.

- Temperature range: -50°F to 180°F (-46°C to 82°C).
- Nylon can expand or contract depending on storage and use conditions. Contact Intralox Customer Service for more information.
- Good chemical resistance and low temperature performance.
- Abrasion resistant in dry applications.
- Good fatigue resistance.
- Specific gravity: 1.13. Not buoyant in water.
- Stronger than polypropylene.

POLYPROPYLENE COMPOSITE

A standard material for use in applications where both high strength and chemical resistance are required.

- Temperature range: -20°F to 220°F (-29°C to 104°C).
- Thermal expansion coefficient: 0.0004 in/ft/°F (0.06 mm/m/°C).
- Excellent strength and stiffness.
- Good chemical resistance to acids, bases, salts, and alcohol.
- Specific gravity: 1.12. Not buoyant in water.
- An electrically conductive (EC) polypropylene (PP) composite can be used to help dissipate built-up static charges. The EC PP composite is available in S1200 Non Skid.

PK

PK has a good balance of positive mechanical and chemical resistance properties. This material has a similar strength to acetal, with improved toughness and chemical resistance. PK has the unique property of low hydrocarbon permeability. This property prevents oils from soaking into the belt, which results in improved product release and product yield.

- Temperature range: -40°F to 200°F (-40°C to 93°C).
- Thermal expansion coefficient: 0.00073 in/ft/°F (0.11 mm/m/°C).
- Tough.
- Abrasion resistant.
- Chemically resistant. For applications that require specific chemical resistance, contact Intralox Customer Service for a list of chemicals.
- Impact resistant.
- Specific gravity: 1.24. Not buoyant in water.

PVDF

A specialty material with excellent chemical resistance to a wide variety of acids and bases.

- Temperature range: 34°F to 200°F (1°C to 93°C).
- Thermal expansion coefficient: 0.00087 in/ft/°F (0.13 mm/m/°C).
- UL 94 flammability rating: V-0 at 1/32 in (0.8 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Excellent resistance to acids, bases, salts, and alcohol.
- Specific gravity: 1.78. Not buoyant in water.
- Stronger than polypropylene.
- Available in S9000 Flush Grid.

SELF EXTINGUISHING LOW MOISTURE (SELM)

This material is a polymer engineered for use in spiral belts. Self-extinguishing characteristics are important to customers who want to reduce the risk of fires in their plants. Low moisture-absorption characteristics are particularly important to customers who want a material that performs in humid conditions and applications that require cleaning.

- Continuous temperature range: -50°F to 240°F (-46°C to 116°C).
- UL 94 flammability rating: V-2. For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Uses the same temperature factor table as regular nylon.
- Specific gravity: 1.06. Not buoyant in water.

UVFR

This material does not sustain a flame.

- Temperature range: 34°F to 200°F (1°C to 93°C).
- Thermal expansion coefficient: 0.00087 in/ft/°F (0.13 mm/m/°C).
- UL 94 flammability rating: V-0 at 1/32 in (0.8 mm). For information about fire behavior and safeguarding recommendations, contact Intralox Customer Service.
- Excellent resistance to ultraviolet radiation.
- Specific gravity: 1.78. Not buoyant in water.
- UVFR is available in S1100 Flush Grid and S900 Perforated Flat Top.

UV RESISTANT

UV resistant acetal and black polypropylene are available for applications that require UV protection.

- Temperature range:
  - UV resistant acetal: -50°F to 200°F (-46°C to 93°C).
  - UV resistant polypropylene: 34°F to 220°F (1°C to 104°C).

X-RAY DETECTABLE ACETAL

This material is specifically designed for detection by X-ray machines and is recommended for applications in the food-processing industry where foreign material contamination is a concern. Testing the material in an X-ray detector in the production environment is the best method for determining detection sensitivity. X-ray detectable materials are heavier in weight and require special design considerations. Intralox encourages the use of regular (unfilled) materials combined with conveyor design and preventive maintenance to mitigate the risk of foreign material contamination. Contact Intralox Customer Service for more information.

- Temperature range: -50°F to 200°F (-46°C to 93°C).
- Thermal expansion coefficient: 0.0007 in/ft/°F (0.10 mm/m/°C).
- To be used upline from an X-ray detector.
- Detectable materials use additives that respond to metal detectors, X-ray detectors, or both.
- Detectable materials perform differently than materials that do not contain these additives. Dry or abrasive environments can cause increased wear to detectable materials. Increased wear creates additional dust throughout the conveyor system.
- When detectable materials must be used, always use Intralox conveyor design guidelines for decreasing wear and reducing the risk of dust.
- Has the same chemical resistance as regular acetal.
- Specific gravity: 1.73–1.70. Not buoyant in water.

X-RAY DETECTABLE PK

This material is specifically designed for detection by X-ray machines and is recommended for applications in the food-processing industry where foreign material contamination is a concern. Testing the material in an X-ray detector in the production environment is the best method for determining detection sensitivity. X-ray detectable materials are heavier in weight and require special design considerations. Intralox encourages the use of regular (unfilled) materials combined with conveyor design and preventive maintenance to mitigate the risk of foreign material contamination. Contact Intralox Customer Service for more information.

- Temperature range: -40°F to 200°F (-40°C to 93°C).
- Thermal expansion coefficient: 0.00070 in/ft/°F (0.105 mm/m/°C).
- To be used upline from an X-ray detector.
- Detectable materials use additives that respond to metal detectors, X-ray detectors, or both.
- Detectable materials perform differently than materials that do not contain these additives. Dry or abrasive environments can cause increased wear to detectable materials. Increased wear creates additional dust throughout the conveyor system.
- In dry environments, use PK rods or acetal rods rather than X-ray detectable PK rods.
- When detectable materials must be used, always use Intralox conveyor design guidelines for decreasing wear and reducing the risk of dust.
- Abrasion resistant.
- Tough and impact resistant above 32°F (0°C).
- Specific gravity: 1.51. Not buoyant in water.

BELT MATERIAL PROPERTIES

SPECIFIC GRAVITY

This value is the ratio of the material density to the density of water at normal pressures and temperatures. A specific gravity greater than 1.0 means the material is heavier than water. A specific gravity less than 1.0 means the material is buoyant in water. For the specific gravity for each belt material, see Standard Belt Materials and Special Application Belt Materials.

FRICTION FACTORS

Friction factors determine the amount of drag induced by the belt sliding on the conveyor frame or sliding under the conveyed product. Lower friction factors lead to lower line pressures, less product marring, and lower belt pull and power requirements. Higher friction is sometimes required for gradual inclines or declines, or for higher line pressures necessary to feed other equipment.

Friction factor values are highly dependent on environmental conditions. The low value of the friction factor range is an experimentally derived friction factor for new belts on new wearstrips. Only use this value in the cleanest environments, or where water or other lubricating agents are present. Most friction factors must be adjusted based on the environmental conditions surrounding the conveyor.

For a conveyor belt strength analysis, use a higher friction factor than normal if any abrasive material, such as flour, sand, cardboard dust, glass, or similar are present. Very abrasive conditions can require friction factors that are two to three times higher than recommended for clean conditions. Use either the *Intralox Engineering Program* or the manual calculations provided in Belt Selection Instructions to perform a conveyor belt strength analysis.

Belt Material (Conditions)	Friction Between Wearstrip and Belt Wearstrip Material								Friction Between Product and Belt Product Material (used in Product Accumulation)[a]									
	UHMW-PE		HDPE		Nylatron		CS & SS Steel		Glass		Steel		Plastic		Cardboard		Aluminum	
	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
Conditions: (S) = smooth, clean conditions. (A) = abrasive, dirty conditions. NR = not recommended.																		
Acetal (S)	0.10	0.10	0.09	0.08	0.13	0.15	0.18	0.19	0.13	0.14	0.13	0.13	0.13	0.16	–	0.18	0.33	0.27
AR nylon max. temp (A)	–	0.32	–	0.22	–	0.36	–	0.30	–	–	–	–	–	–	–	0.22	–	0.31
AR nylon max. temp (S)	–	0.19	–	0.11	–	0.24	–	0.31	–	–	–	–	–	–	–	0.22	–	0.31
Detectable nylon max. temp (A)	–	0.32	–	0.22	–	0.36	–	0.30	–	–	–	–	–	–	–	0.22	–	0.31
Detectable nylon max. temp (S)	–	0.19	–	0.11	–	0.24	–	0.31	–	–	–	–	–	–	–	0.22	–	0.31
Detectable polypropylene A22	0.24	0.27	NR	NR	0.28	0.29	0.26	0.30	0.18	0.20	0.26	0.30	0.26	0.29	–	0.37	0.40	0.40
Easy Release PLUS (S)	0.11	0.13	0.09	0.11	0.24	0.25	0.26	0.26	–	–	–	–	–	–	–	–	–	–
FR TPES (S)	–	0.13	–	–	–	–	–	–	–	–	–	0.18	–		–		–	0.30
Hi-Impact	0.23	0.21	–	–	–	–	0.31	0.33	–	–	–	0.64	–	–	–	–	–	–
HR nylon 72°F (22°C) (A)	–	0.30	–	0.25	–	0.26	–	0.26	–	0.16	–	0.27	–	0.16	–	0.19	–	0.28
HR nylon 72°F (22°C) (S)	–	0.18	–	0.13	–	0.17	–	0.27	–	0.16	–	0.27	–	0.16	–	0.19	–	0.28
HR nylon max. temp. (A)	NR	NR	NR	NR	–	0.32	–	0.39	–	0.19	–	0.27	–	0.47	–	0.23	–	0.25
HR nylon max. temp. (S)	NR	NR	NR	NR	–	0.18	–	0.27	–	0.19	–	0.27	–	0.47	–	0.23	–	0.25
HSEC acetal (S)	0.10	0.10	0.09	0.08	0.13	0.15	0.18	0.19	0.13	0.14	0.19	0.20	0.13	0.16	–	0.18	0.33	0.27
LMAR (A)	–	0.32	–	0.22	–	0.36	–	0.30	–	–	–	–	–	–	–	0.22	–	0.31
LMAR (S)	–	0.19	–	0.11	–	0.24	–	0.31	–	–	–	–	–	–	–	0.22	–	0.31
PK	0.10	0.21	–	–	–	–	0.21	0.24	–	–	–	–	–	–	–	–	–	–
Polyethylene[b] (S)	0.24	0.32	NR	NR	0.14	0.13	0.14	0.15	0.08	0.09	0.10	0.13	0.08	0.08	–	0.15	0.20	0.24
Polypropylene (A)	NR	NR	NR	NR	0.29	0.30	0.31	0.31	0.18	0.19	0.26	0.32	0.11	0.17	–	0.21	0.40	0.40
Polypropylene (S)	0.11	0.13	0.09	0.11	0.24	0.25	0.26	0.26	0.18	0.19	0.26	0.32	0.11	0.17	–	0.21	0.40	0.40
Polypropylene composite (S)	0.30	0.35	–	–	–	–	0.31	0.37	0.24	0.23	0.36	0.32	0.17	0.21	–	–	0.55	0.45
PVDF	–	–	–	–	–	–	0.20	0.20	–	–	0.20	0.20	–	–	–	–	0.15	0.15
SELM (A)	–	0.32	–	0.22	–	0.36	–	0.30	–	–	–	–	–	–	–	0.22	–	0.31
SELM (S)	–	0.19	–	0.11	–	0.24	–	0.31	–	–	–	–	–	–	–	0.22	–	0.31
UV resistant polypropylene	0.11	0.13	0.09	0.11	0.24	0.25	0.26	0.26	0.18	0.19	0.26	0.32	0.11	0.17	–	0.21	0.40	0.40

[a] Friction factors for friction between product and belt only apply for Flat Top, Perforated Flat Top, Mesh Top, Flush Grid and Raised Rib belts.
[b] Polyethylene is not recommended for container handling.

TEMPERATURE

Temperature affects the physical properties of thermoplastic materials. Generally, as the operating temperature increases, belts weaken in strength, but become tougher and more impact-resistant. In colder applications, belts become stiffer and sometimes become brittle.

For temperature factors for Intralox belt materials, see Table 2: Temperature Factors.

BELT MATERIAL COMPLIANCE

FDA COMPLIANT

The material meets the FDA requirements described in the applicable Code of Federal Regulations, Chapter 21, Part 177 as noted. The material is chemically acceptable to the USDA for repeat use applications in slaughtering, processing, transporting, and storage areas in direct contact with meat or poultry products.

EU COMPLIANT

The material complies with the framework regulation 1935/2004/EC. The monomers and additives used to make the plastic are listed in the Union List. When tested to the criteria described in EU Regulation 10/2011, the finished article did not exceed the overall migration limit (OML) and any applicable specific migration limits (SML).

3A DAIRY TESTED

This test is based on materials, not product design. In accelerated use testing, the materials show that when they are cleaned and sanitized they maintain essential functional properties and surface finish.

Belt Material Compliance[a]			
Material Name	**FDA Compliant**	**EU Compliant**	**3-A Dairy Tested**
Acetal	FCN 1892	1935/2004/EC Regulation 10/2011	20-27
AR nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	20-27 (white)
ChemBlox™	21 CFR 177.2510	1935/2004/EC Regulation 10/2011	Not tested
Detectable acetal	21 CFR 177.2470	1935/2004/EC Regulation 10/2011	20-25
Detectable MX A25	21 CFR 177.2480	1935/2004/EC Regulation 10/2011	20-27
Detectable nylon	21 CFR 177.1500	Not compliant due to sizing agent	Not tested
Detectable polypropylene A22	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	20-27
Enduralox polypropylene	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	Not tested
HR nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	20-27 (white)
HHR nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	Not tested
Hi-Impact	21 CFR 177.2600	1935/2004/EC Regulation 10/2011	Not tested
Hi-Temp	21 CFR 177.2415	1935/2004/EC Regulation 10/2011	Not tested
LMAR	FCN 1573	1935/2004/EC Regulation 10/2011	Not tested
Low Wear Plus	21 CFR 177.2600	1935/2004/EC Regulation 10/2011	Not tested
Nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	Not tested
Polyethylene	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	20-23 (blue, natural, red)
Polypropylene	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	20-25 (blue, white, natural)
Polypropylene composite	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	Not tested
PK	FCN 1847	1935/2004/EC Regulation 10/2011	Not tested
SELM	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	Not tested
X-ray detectable acetal	21 CFR 177.2470	1935/2004/EC Regulation 10/2011	Not tested
X-ray detectable PK	FCN 1847	1935/2004/EC Regulation 10/2011	Not tested
[a] Contact Intralox Customer Service to verify compliance for specific belt series, styles, and material color combinations.			

GENERAL APPLICATION SPROCKET MATERIAL

ACETAL

These sprockets are used for most general-purpose applications. This material is considerably stronger than polypropylene and polyurethane, and has a good balance of mechanical, thermal, and chemical properties.

- Acetal has good fatigue endurance and resilience.
- Acetal is resistant to wear caused by abrasive applications.
- Temperature range: -50°F to 200°F (-46°C to 93°C).
- This material complies with FDA regulations for use in food processing and packaging applications.

SPECIAL APPLICATION SPROCKET MATERIAL

Not all sprocket pitch diameters, bore sizes, and material combinations are available in all series. Certain sprockets are made to order, and are not stocked. Some sprockets have long lead time items. Contact Intralox Customer Service for more information.

GLASS-FILLED NYLON

This material is more abrasion resistant than acetal but not as abrasion resistant as stainless steel. Glass-filled nylon is not chemical resistant.

- Also available as a two-material split sprocket with a polypropylene joining plate and a glass-filled nylon tooth plate.
- Temperature range for split sprockets with polypropylene joining plates: 45°F to 220°F (7°C to 104°C).
- Temperature range for all other glass-filled nylon sprockets: -51°F to 240°F (-46°C to 116°C).

NYLON

These sprockets are used in abrasive applications.

- Temperature range is -50°F to 240°F (-46°C to 116°C).

POLYPROPYLENE

These sprockets are used for applications where chemical resistance can be required.

- Polypropylene (PP) has good chemical resistance to many acids, bases, salts, and alcohols.
- The temperature range of PP is 34°F to 220°F (1°C to 104°C).
- A relatively strong material in normal use, PP exhibits a somewhat brittle quality at low temperatures. It is not recommended in high impact conditions below 45°F (7°C).
- This material complies with FDA regulations for use in food processing and packaging applications.
- Contact Intralox Customer Service for PP sprocket availability.

POLYPROPYLENE COMPOSITE

Polypropylene composite is a standard material for use in applications where both high strength and chemical resistance are required.

- Excellent strength and stiffness.
- Good chemical resistance to acids, bases, salts, and alcohol.
- Specific gravity: 1.12.
- Temperature range: -20°F to 220°F (-29°C to 104°C).
- The thermal expansion coefficient: 0.0004 in/ft/°F (0.06 mm/m/°C).

POLYURETHANE
These sprockets are used for applications where abrasive wear is common.

- The temperature range of polyurethane is 0°F to 120°F (-18°C to 49°C). Polyurethane becomes soft and flexible at high temperatures and has good chemical resistance.

POLYURETHANE COMPOSITE
This material is extremely rigid and can handle a large range of chemicals and temperatures.

- The temperature range is -50°F to 240°F (-46°C to 116°C).
- Avoid polyurethane composite split sprockets in high impact conditions below 45°F (7°C).
- Polyurethane composite split sprockets are recommended for drive shafts only.
- Some polyurethane composite split sprockets consist of one polyurethane composite tooth plate assembled between polypropylene joining plates that form the hub of the sprocket. Other polyurethane composite split sprockets do not use joining plates.

STAINLESS STEEL
These split sprockets are used in applications with abrasive wear, or when shaft removal is not practical. There are two types of stainless steel sprockets. The all-metal abrasion resistant sprockets are available in a many series and pitch diameters. The stainless steel split consists of one to three stainless steel tooth plates assembled between polypropylene joining plates that form the hub of the sprocket.

- The sprocket is split into two pieces for easy assembly on and off a shaft.
- Stainless steel split sprockets have good chemical resistance.
- The temperature range for polypropylene is 34°F to 220°F (1°C to 104°C).
- A relatively strong material in normal use, polypropylene exhibits a somewhat brittle quality at low temperatures. It is not recommended in high impact conditions below 45°F (7°C).
- These materials are FDA-compliant for use in food processing and packaging applications.
- These sprockets are built standard with 304 stainless steel plates and can be specially ordered with 316 stainless steel plates.
- Contact Intralox Customer Service for availability.

ULTRA ABRASION RESISTANT POLYURETHANE
- For abrasive, heavy-duty applications.
- For non-FDA applications.
- Temperature range -40°F to 160°F (-40°C to 70°C).
- Series 400 has a lower rating when using ultra abrasion resistant polyurethane sprockets.

ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMW-PE)
- Temperature range: -100°F to 150°F (-73°C to 66°C).

SPROCKET MATERIAL AVAILABILITY
The following table lists the materials available for each Intralox sprocket by series and pitch diameter. Note: not all sprockets of each pitch diameter are available in all listed materials. A material available for one bore type or bore size is not always available for other bore types or bore sizes of the same series and pitch diameter sprocket. Sprockets are either stocked or made-to-order, and can have long lead times. Lead times vary by sprocket. Some make-to-order sprockets also have set up charges. Contact Intralox Customer Service for specific lead times and availability.

Pitch Diameter in (mm)	No. Teeth	Sprocket Materials[a]										
		Acetal	Poly-propylene	Split Metal	AR[b] Metal	Nylon	Poly-urethane	Glass Filled Nylon	Poly-ethylene	Poly-urethane Composite	Ultra AR[b] Poly-urethane	Poly-propylene Composite
S100												
2.0 (51)	6	•	•									
3.5 (89)	11	•	•	•			•					
6.1 (155)	19	•	•	•			•					
S200												
4.0 (102)	6	•	•				•					
6.4 (163)	10	•	•		•		•					
10.1 (257)	16	•	•		•							
S400												
4.0 (102)	6	•	•	•		•	•					
5.2 (132)	8	•	•	•								
5.8 (147)	9			•[c]								
6.4 (163)	10	•	•	•	•	•				•	•	
7.8 (198)	12	•	•	•	•	•				•	•	
8.4 (213)	13			•[c]								
10.1 (257)	16	•	•	•	•	•				•	•	
S550												
2.4 (61)	24	•										
3.2 (81)	32	•										
S800												
4.0 (102)	6	•	•				•					
5.2 (132)	8	•	•	•			•					
6.5 (165)	10	•	•	•[d]			•				•	
7.7 (196)	12	•	•	•[d]			•				•	
10.3 (262)	16	•	•	•[d]							•	
S850												
4.0 (102)	6	•	•				•					
5.2 (132)	8	•	•	•[d]			•					
6.5 (165)	10	•	•	•[d]			•					
7.7 (196)	12	•	•	•[d]			•					
10.3 (262)	16	•	•	•[d]								
S888												
6.5 (165)	10	•				•						
7.7 (196)	12	•				•						
S900												
2.1 (53)	6	•	•									
3.1 (79)	9	•	•									
3.5 (89)	10	•	•	•								
4.1 (104)	12	•	•	•	•		•					
5.1 (130)	15			•				•				
5.8 (147)	17	•	•	•	•			•				
6.1 (155)	18	•	•	•	•		•	•				
6.8 (173)	20	•	•	•	•		•	•				
9.8 (249)	28			•								
S1100												
1.6 (41)	8				•							
2.3 (58)	12	•			•							

Pitch Diameter in (mm)	No. Teeth	Sprocket Materials[a]										
		Acetal	Poly-propylene	Split Metal	AR[b] Metal	Nylon	Poly-urethane	Glass Filled Nylon	Poly-ethylene	Poly-urethane Composite	Ultra AR[b] Poly-urethane	Poly-propylene Composite
3.1 (79)	16	•	•									
3.5 (89)	18	•	•	•								
3.8 (97)	20	•	•									
4.6 (117)	24	•	•	•				•				
5.1 (130)	26	•	•	•								
6.1 (155)	32	•	•	•				•				
S1200												
5.6 (142)	12			•								
6.5(165)	14			•						•		
7.4 (188)	16									•		
7.9 (201)	17									•		
10.2 (258)	22			•						•		
S1400												
3.9 (99)	12	•				•						
4.9 (124)	15	•										
5.1 (130)	16					•		•				
5.7 (145)	18	•				•		•				•
6.7 (170)	21							•				•
7.7 (196)	24	•				•						
9.9 (251)	31									•		•
S1500												
1.9 (48)	12	•										
2.3 (58)	14	•										
2.7 (69)	17	•										
3.8 (97)	24	•				•						
5.7 (145)	36	•				•						
S1600												
2.0 (51)	6	•										
3.2 (81)	10	•					•					
3.9 (99)	12	•					•					
6.4 (163)	20	•					•					
S1650												
2.0 (51)	6	•										
3.2 (81)	10	•										
3.9 (99)	12	•										
6.4 (163)	20	•										
S1700												
5.8 (147)	12										•	
6.7 (170)	14										•	
7.7 (196)	16										•	
10.5 (267)	22										•	
S1750												
6.8 (173)	14										•	
7.8 (198)	16										•	
10.6 (269)	22										•	
S1800												
5.0 (127)	6	•										
6.5 (165)	8	•										
8.1 (206)	10	•										

		Sprocket Materials[a]										
Pitch Diameter in (mm)	No. Teeth	Acetal	Poly-propylene	Split Metal	AR[b] Metal	Nylon	Poly-urethane	Glass Filled Nylon	Poly-ethylene	Poly-urethane Composite	Ultra AR[b] Poly-urethane	Poly-propylene Composite
10.5 (267)	13	•										
S1900												
6.7 (170)	10			•								
10.0 (254)	15			•								
10.6 (269)	16			•								
S2100												
2.3-6.9 (58-175)	12					•						
S2200												
3.9 (99)	8	•	•									
5.3 (135)	11	•	•				•					
6.3 (160)	13	•	•									
7.7 (196)	16	•	•									
S2300												
3.9 (99)	12					•						
5.1 (130)	16					•						
5.8 (147)	18					•						
6.4 (163)	20					•						
S2400												
2.0 (51)	6	•										
2.9 (74)	9	•										
3.9 (99)	12	•	•				•	•				
5.1 (130)	16	•	•			•	•	•			•	
6.4 (163)	20	•	•					•			•	
S2600												
5.2 (132)	8	•							•			
6.5 (165)	10	•							•			
S2700												
5.2 (132)	8	•										
6.5 (165)	10	•										
S2800												
6.3 (160)	13	•										
S2850												
6.2 (157)	13	•										
S2900												
6.2 (157)	13	•										
S2950												
6.2 (157)	13	•										
S3000												
5.2 (132)	8								•			
6.5 (165)	10								•			
7.7 (196)	12								•			
S4000												
3.9 (99)	12	•										
4.9 (124)	15	•										
5.1 (130)	16							•				
5.7 (145)	18	•						•				
6.7 (170)	21							•				
9.9 (251)	31									•		•

Pitch Diameter in (mm)	No. Teeth	Sprocket Materials[a]										
		Acetal	Poly-propylene	Split Metal	AR[b] Metal	Nylon	Poly-urethane	Glass Filled Nylon	Poly-ethylene	Poly-urethane Composite	Ultra AR[b] Poly-urethane	Poly-propylene Composite
S4400												
4.0 (102)	6					•						
5.3 (135)	8					•						
6.5 (165)	10							•				
7.8 (198)	12							•				
10.3 (262)	16					•		•				
S4500												
6.5 (165)	10							•				•
7.8 (198)	12							•				•
10.3 (262)	16					•		•				•
S9000												
3.3 (84)	10					•						
4.2 (107)	13					•						
6.1 (155)	19					•						
6.5 (165)	20	•		•								•
8.1 (206)	25			•								•
12.9 (328)	40								•			•
S10000												
9.9 (251)	10					•						
11.8 (300)	12					•						
13.7 (348)	14					•						
15.7 (399)	16					•						

[a] All Intralox sprockets can be classified either as stock items or as make-to-order items. Some make-to-order items incur special setup charges. Contact Intralox Customer Service for pricing, lead times, and availability.
[b] Abrasion resistant.
[c] For use with Series 400 Flush Grid acetal and HSEC acetal only.
[d] Available in three-plate, abrasion resistant split design.

BELT SELECTION INSTRUCTIONS

To determine if a belt is suitable for a particular application, the operating load versus operating strength must be identified. Use the following steps to calculate this comparison:

STEP 1: CALCULATE BELT PULL

BP is the belt tension when the belt is under load.

Formula 1:

$$BP = [(M + 2W) \times Fw + M_p] \times L + (M \times H)$$

where:
BP = belt pull (belt tension load in lb/ft (kg/m)
M = product load, lb/ft^2 (kg/m^2)
W = belt weight, lb/ft^2 (kg/m^2) Provided in the belt data table for each belt.
L = length of conveyor, ft (m), centerline (℄) to ℄
H = elevation change of conveyor, ft (m)
F_w = wearstrip to belt friction coefficient.
M_p = M × (F_p × % belt backed-up), load due to product accumulation.

Obtain F_w and F_p from the belt data table for each belt. If product accumulation is not expected, ignore M_p.

STEP 2: ADJUST CALCULATED BELT PULL FOR ACTUAL SERVICE CONDITIONS

Since the belt can experience various conditions, adjust the BP by applying an appropriate service factor (SF).

1. Use the following table to determine SF:

Operating Conditions	Add
Starts under no load, with load applied gradually	1.0
Frequent starts under load (more than once per hour)	0.2
Operation at speeds greater than 100 fpm (30 m/min)	0.2
Elevating conveyor	0.4
Pusher conveyor	0.2
Service factor (SF)	total

NOTE: At speeds greater than 50 fpm (15 m/min) on conveyors that are started with backed-up lines, consider soft-start motors.

2. Use one of the following formulas to determine the adjusted belt pull (ABP):

Formula 2:

$$ABP = BP \times SF$$

where:
ABP = adjusted belt pull, lb/ft (kg/m) of belt width
BP = belt pull
SF = service factor

Formula 3:

$$ABP \text{ for bi-directional and pusher conveyors} = BP \times SF \times 2.2$$

where:
ABP = adjusted belt pull, lb/ft (kg/m) of belt width
BP = belt pull
SF = service factor

STEP 3: CALCULATE ALLOWABLE BELT STRENGTH

Due to specific operating conditions, allowable belt strength (ABS) is sometimes less than the rated belt strength. Use the following formula to calculate the ABS.

Formula 4:

$$ABS = BS \times T \times S$$

where:
ABS = allowable belt strength
BS = belt strength from the belt data table for the selected belt. See Product Line.
T = temperature factor from Table 2: Temperature Factors.
S = strength factor from the belt data table for the selected belt. See Product Line.

The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. To get the speed/length ratio, divide the belt speed (ft/min) by the shaft centerline distance (ft). The strength factor adjusts the belt rating to account for wear caused by the combination of high speed, short conveyor lengths, and small sprocket sizes.

STEP 4: COMPARE ABP WITH ABS

If the ABS exceeds ABP, this belt is strong enough for your application. Proceed to the next steps to determine drive shaft sprocket spacing, shaft strength, and horsepower required.

If the ABS is less than ABP, consider changing some application parameters (for example, product load distribution or belt speed), until the recalculated ABP is acceptable.

STEP 5: DETERMINE MAXIMUM SPACING OF DRIVE SHAFT SPROCKETS

First, determine the percentage of allowable belt strength utilized (ABSU):

Formula 5:

$$ABSU = (ABP \div ABS) \times 100\%$$

where:
ABSU = allowable belt strength utilized
ABP = adjusted belt pull, lb/ft (kg/m) of belt width
ABS = allowable belt strength

If the calculated ABSU is above 75%, contact Intralox Customer Service to run the *Intralox Engineering Program* and verify your results.

Using the ABSU, find the maximum sprocket spacing from the *Sprocket Spacing as a Function of Belt Strength Utilized* graph for the series you are considering. See Product Line.

NOTE: Sprocket spacing on idle shafts can sometimes be greater than the spacing required on drive shafts. Do not exceed 6.0 in (152 mm) sprocket spacing on idle shafts for all series except S200, where the maximum spacing can never exceed 7.5 in (191 mm).

STEP 6: CONFIRM DRIVE SHAFT STRENGTH

Drive shafts must be stiff enough to resist excessive bending or deflecting under the belt pull, and strong enough to transmit the required torque from the driver. To ensure adequate shaft selection, determine both the drive shaft deflection and torque.

1. Select a shaft size which fits your sprocket of choice from the sprocket data page.

   NOTE: Most sprockets have more than one available bore size.

2. The shaft deflects under the combined loads of the adjusted belt pull and the shaft weight. Use the following formula to calculate the total shaft load:

   Formula 6:

   $$w = (ABP + Q) \times B$$

   where:
   w = total shaft load
   ABP = adjusted belt pull, lb/ft (kg/m) of belt width
   Q = shaft weight, lb/ft (kg/m), from Table 3: Shaft Data.
   B = belt width, ft (m)

3. For shafts supported by two bearings, use the following formula to calculate shaft deflection. For shafts supported by three bearings, see Calculate Shaft Deflection with Intermediate Bearings.

   Formula 7:

   $$D = \frac{5}{384} \times \frac{w \times L_S^3}{E \times I}$$

   where:
   D = shaft deflection
   w = total shaft load
   L_S = length of shaft between bearings, in (mm)
   E = modulus of elasticity from Table 3: Shaft Data
   I = moment of inertia from Table 3: Shaft Data

4. If the calculated deflection is less than the recommended maximum of 0.10 in (2.5 mm) for standard conveyors or 0.22 in (5.6 mm) for bi-directional conveyors, use the following formula to calculate the required torque. If the calculated deflection is at or above the recommended maximum, select a larger size shaft, a stronger material, or a shorter span between bearings, and recalculate the deflection.

Formula 8:

$$T_O = ABP \times B \times \frac{PD}{2}$$

where:
T_O = transmitted torque
ABP = adjusted belt pull, lb/ft (kg/m) of belt width
B = belt width, ft (m)
PD = sprocket pitch diameter of the selected sprocket. See Product Line.

5. Compare T_O with the maximum recommended torque on the drive shaft for the shaft journal sizes shown. See Table 4: Maximum Recommended Torque on Drive Shaft. Using a journal diameter which can be machined on the selected shaft, determine the maximum recommended torque. Ensure this value does not exceed T_O. If it does exceed T_O, select a stronger material or larger shaft.

STEP 7: DETERMINE THE POWER NEEDED TO DRIVE THE BELT

Use the following formulas to determine the required horsepower and power in watts.

Formula 9:

$$HP = \frac{ABP \times B \times V}{33000}$$

where:
HP = drive horsepower
ABP = adjusted belt pull, lb/ft of belt width
B = belt width, ft
V = belt speed, ft/min

Formula 10:

$$W = \frac{ABP \times B \times V}{6.12}$$

$$1\ HP = 445.7\ W$$

where:
W = watts
ABP = adjusted belt pull, lb/ft of belt width
B = belt width, ft
V = belt speed, ft/min
HP = drive horsepower

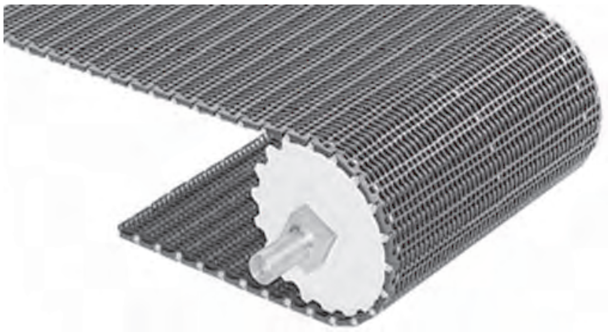
To obtain the required motor power, add expected power losses in the drive train between drive shaft and motor to the calculated power. See for recommendations.

Having determined the suitability of the belt, the sprocket spacing, the drive shaft size, and the power requirements, you are now ready to select accessories and design the conveyor assembly.

STRAIGHT-RUNNING BELTS

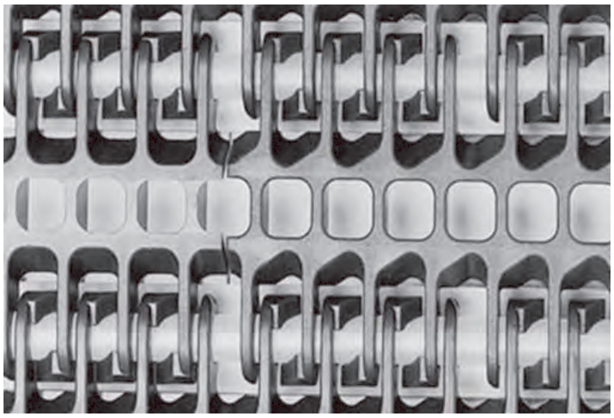
Flush Grid

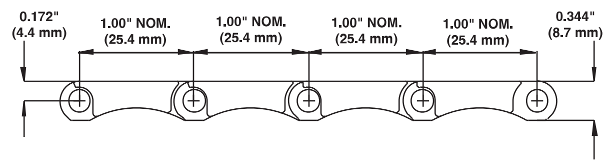
	in	mm
Pitch	1.00	25.4
Minimum Width	1.5	38
Width Increments	0.25	6.4
Opening Size (approximate)	0.2 × 0.2	5 × 5
Open Area	31%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth upper surface.
- Smaller pitch reduces chordal action and transfer dead plate gap.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For more material selections and stronger belt performance, see S560, S900, S1000, and S1100.





Belt Data

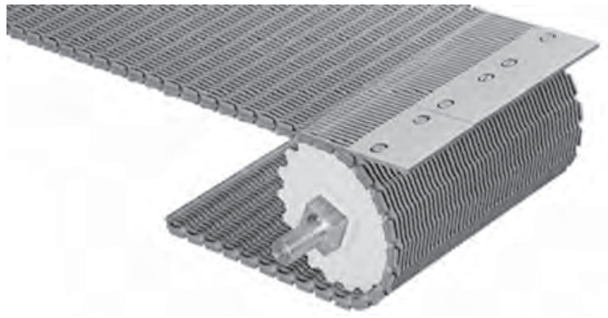
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	300	450	34 to 220	1 to 104	0.54	2.64
Polyethylene	Polyethylene	200	300	-50 to 150	-46 to 66	0.58	2.83
Acetal	Polypropylene	600	890	34 to 200	1 to 93	0.78	3.81
HSEC acetal	Polypropylene	400	595	34 to 200	1 to 93	0.78	3.81
Acetal[a]	Polyethylene	550	820	-50 to 70	-46 to 21	0.78	3.81

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

SERIES 100

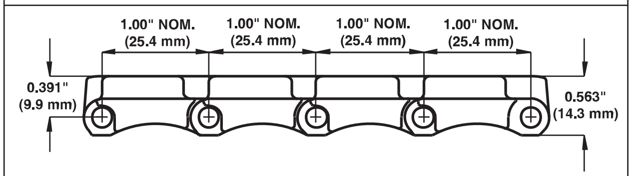
Raised Rib

	in	mm
Pitch	1.00	25.4
Minimum Width	1.5	38
Width Increments	0.25	6.4
Opening Size (approximate)	0.2 × 0.2	5 × 5
Open Area	31%	
Product Contact Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with closely spaced ribs
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Can be used with finger transfer plates to eliminate product tipping and hang-ups.
- For more material selections and stronger belt performance, see Series 900 Raised Rib.



Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	300	450	34 to 220	1 to 104	0.82	4.00
Polyethylene	Polyethylene	200	300	-50 to 150	-46 to 66	0.88	4.29
Acetal	Polypropylene	600	890	34 to 200	1 to 93	1.20	5.86
Acetal[a]	Polyethylene	550	820	-50 to 70	-46 to 21	1.20	5.86

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	2	3	2
12	305	3	3	2
14	356	3	4	3
15	381	3	4	3
16	406	3	4	3
18	457	3	4	3
20	508	5	5	3
24	610	5	5	3
30	762	5	6	4
32	813	7	7	4
36	914	7	7	4
42	1067	7	8	5
48	1219	9	9	5
54	1372	9	10	6
60	1524	11	11	6
72	1829	13	13	7
84	2134	15	15	8
96	2438	17	17	9
120	3048	21	21	11
144	3658	25	25	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

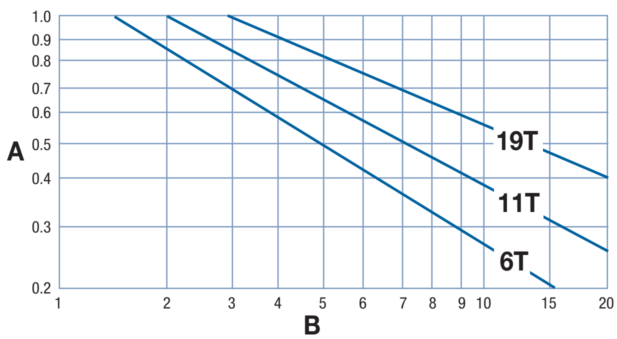
[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.25 in (6.4 mm) increments beginning with minimum width of 1.5 in (38 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

SERIES 100

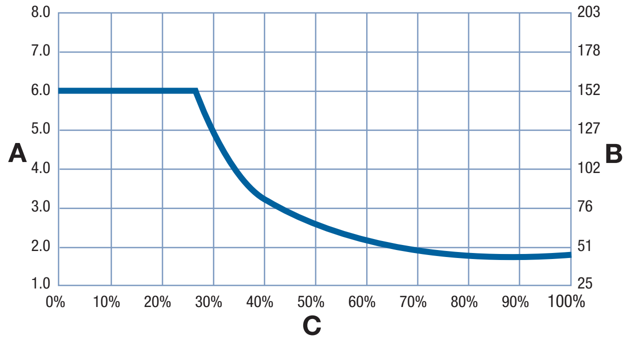
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

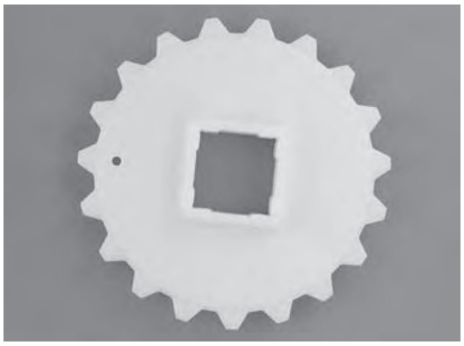
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

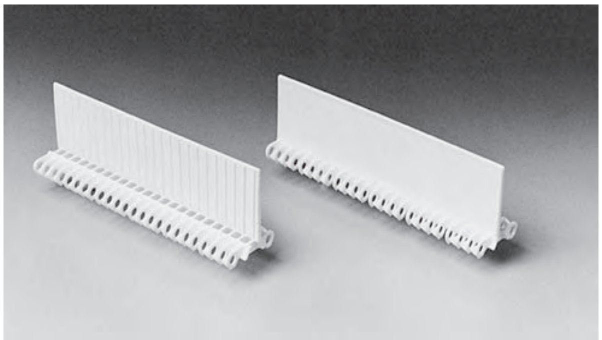
Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
6 (13.40%)	2.0	51	2.1	53	0.75	19		1.0		
11 (4.05%)	3.5	89	3.7	94	0.75	19		1.0, 1.5		40
19 (1.36%)	6.1	155	6.3	160	1.25	32		1.5, 2.5		40, 60, 65



Split Metal Sprockets

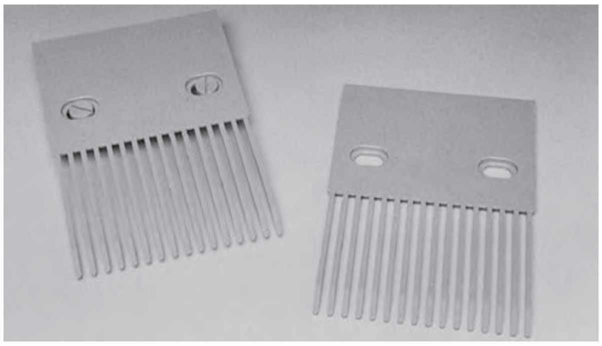
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
11 (4.05%)	3.5	89	3.7	94	1.5	38		1.5		40
19 (1.36%)	6.1	155	6.3	160	1.5	38		1.5, 2.5		40, 60, 65

Streamline/No-Cling Flights			
Available Flight Height		Available Materials	
in	mm		
1.5	38	Polypropylene, polyethylene, acetal	

- No fasteners are required.
- Streamline/No-Cling flights are smooth on one side and vertically ribbed on one side.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Available in linear increments of 1 in (25 mm).
- Minimum indent without sideguards: 0.5 in (13 mm).

Sideguards			
Available Sizes		Available Materials	
in	mm		
2	51	Polypropylene, polyethylene, acetal	

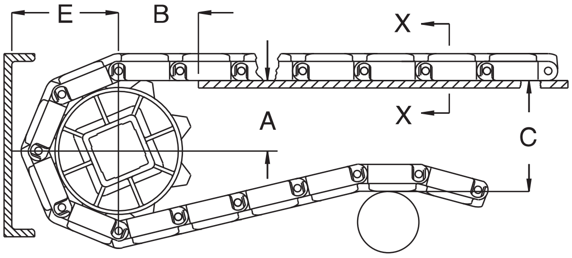
- Sideguards are used with Flush Grid belts to ensure product containment.
- Sideguards use a standard overlapping design and are an integral part of the belt.
- Fastened by the hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6- and 11-tooth sprockets, the sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when wrapping around the 19-tooth sprocket.
- Standard gap between sideguards and flight edge: 0.06 in (2 mm).
- Minimum indent: 0.75 in (19 mm).

Finger Transfer Plates				
Available Widths		Number of Fingers	Available Materials	
in	mm			
4	102	16	Acetal	

- Designed for use with Series 100 Raised Rib belts, to eliminate product transfer and tipping problems.
- The fingers extend between the belt ribs, to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts.

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



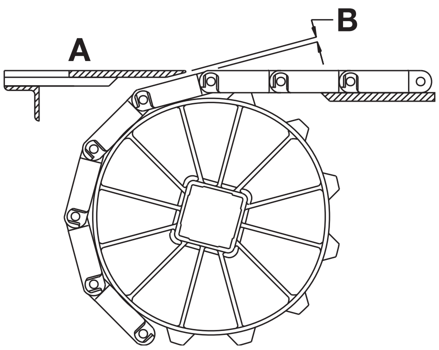
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 7: Basic dimensional requirements

S100 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
Flush Grid											
2.0	51	6	0.69–0.83	18–21	1.30	33	2.10	53	1.24	31	
3.5	89	11	1.53–1.60	39–41	1.70	43	3.60	91	2.01	51	
6.1	155	19	2.82–2.87	72–73	2.20	56	6.20	157	3.30	84	
Raised Rib											
2.0	51	6	0.69–0.83	18–21	1.30	33	2.10	53	1.45	37	
3.5	89	11	1.53–1.60	39–41	1.70	43	3.60	91	2.23	57	
6.1	155	19	2.82–2.87	72–73	2.20	56	6.20	157	3.52	89	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 8: Gap at transfer point between belt and dead plate

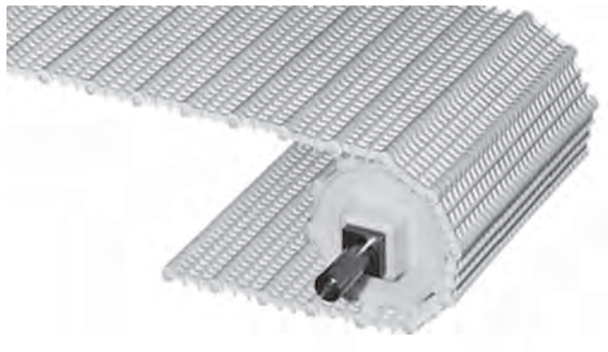
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
2.0	51	6	0.134	3.4
3.5	89	11	0.073	1.9
6.1	155	19	0.041	1.0

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

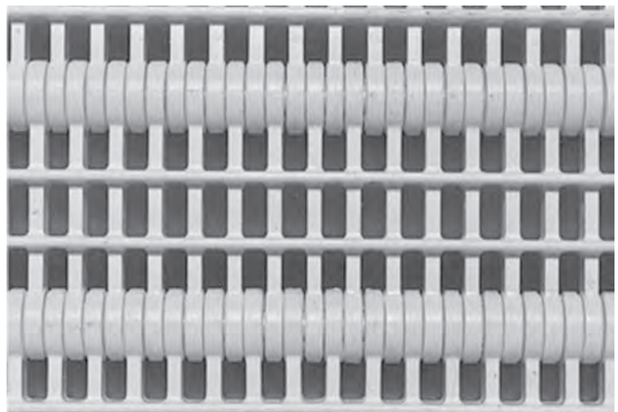
Open Grid

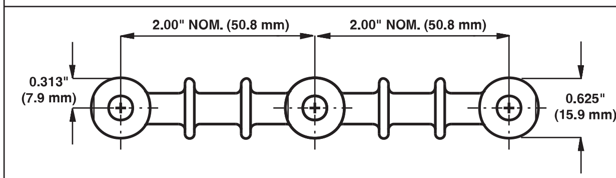
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.36	9.1
Opening Size (approximate)	0.23 × 0.48	5.8 × 12.3
Open Area	33%	
Hinge Style	Closed	
Rod Retention; Rod Type	Second headed; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Large, open area allows excellent drainage.
- Has double-headed hinge rods, so the belt edge is not fully flush.
- Low-profile, transverse ridges help move products up or down inclines.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Flights and sideguards are available.





Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1400	2080	34 to 220	1 to 104	1.24	6.05
Polyethylene	Polyethylene	900	1340	-100 to 150	-73 to 66	1.26	6.15

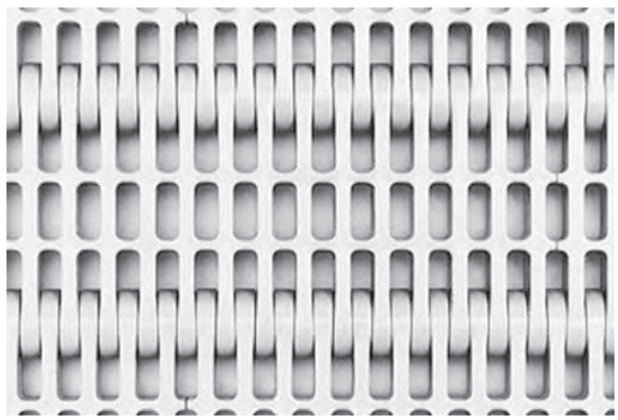
SERIES 200

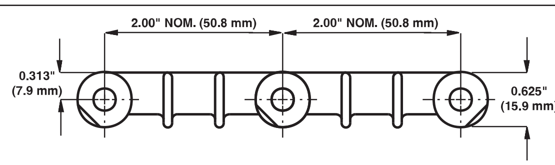
Flush Grid

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.36	9.1
Opening Size (approximate)	0.22 × 0.49	5.5 × 12.5
Open Area	33%	
Hinge Style	Closed	
Rod Retention; Rod Type	Second headed; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush Grid pattern with smooth upper surface.
- Provides excellent lateral movement of containers.
- One of the strongest S200 belt styles.
- Uses double-headed hinge rods, so the belt edge is not fully flush.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For more material selections, see S400, S900, S1100, S2200, and S4500 belt styles.
- Flights and sideguards are available.

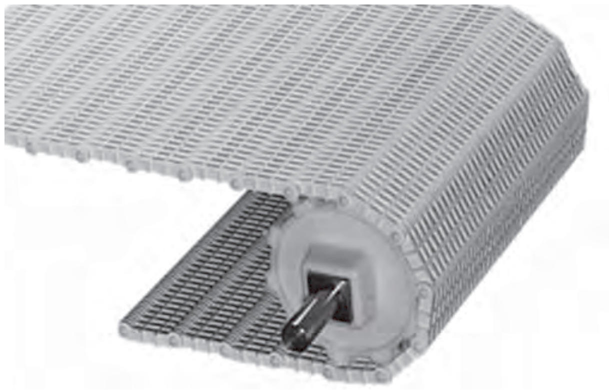




Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1800	2680	34 to 220	1 to 104	1.40	6.83
Polyethylene	Polyethylene	1200	1790	-100 to 150	-73 to 66	1.44	7.03

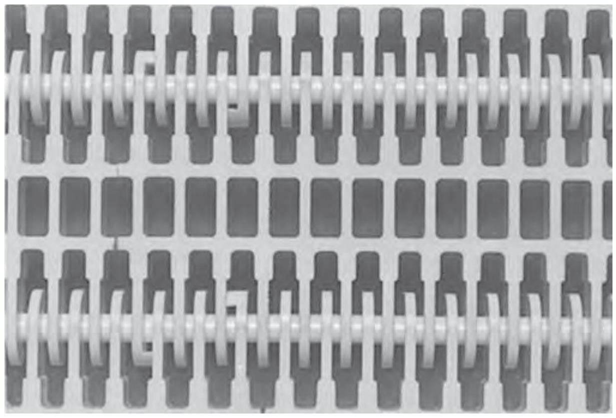
Open Hinge

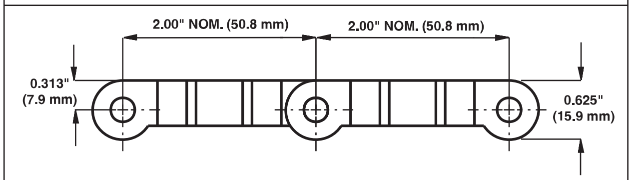
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.36	9.1
Opening Size (approximate)	0.26 × 0.48	6.7 × 12.3
Open Area	45%	
Hinge Style	Open	
Rod Retention; Rod Type	Second headed; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Provides a smooth surface and a generous open area for food handling.
- Uses double-headed hinge rods, so the belt edge is not fully flush.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Ideal where air cooling, washing, or drying is required.
- For stronger belt performance, see S800 belts.
- Flights and sideguards are available.





Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	300	450	34 to 220	1 to 104	1.04	5.08
Polyethylene	Polyethylene	200	300	-50 to 150	-46 to 66	1.12	5.47

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	3	4	3
24	610	5	4	3
30	762	5	5	4
32	813	5	5	4
36	914	5	5	4
42	1067	7	6	5
48	1219	7	7	5
54	1372	9	7	6
60	1524	9	8	6
72	1829	11	9	7
84	2134	13	11	8
96	2438	13	12	9
120	3048	17	15	11
144	3658	21	17	13
For other widths, use an odd number of sprockets at maximum 7.5 in (191 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

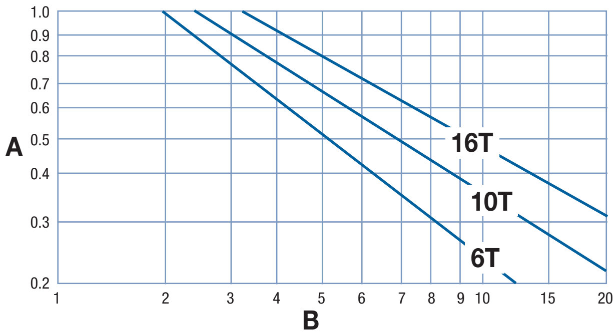
[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.36 in (9.1 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized

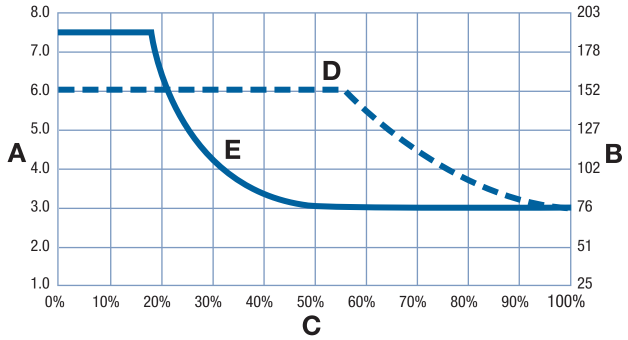
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



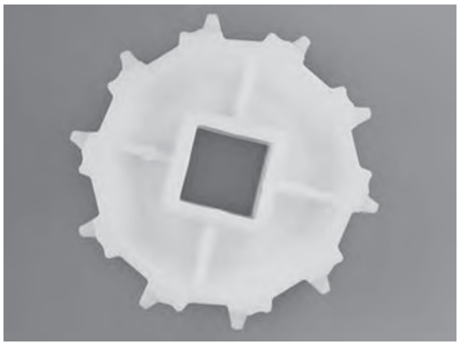
A sprocket spacing, in
B sprocket spacing, mm
C Percentage of allowable belt strength utilized
D Dashed line: double-wide sprocket
E Solid line: all other sprockets

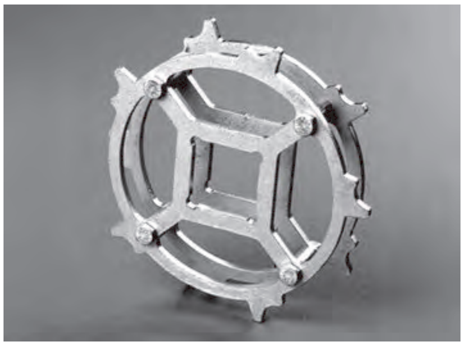
Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in	Available Bore Sizes Square in	Available Bore Sizes Round mm	Available Bore Sizes Square mm
6 (13.40%)	4.0	102	3.9	99	1.5	38		1.5		40
10 (4.89%)	6.4	163	6.4	163	2.5	64		1.5, 2.5		40, 60
16 (1.92%)	10.1	257	10.3	262	2.5	64		1.5, 2.5		40

Double Wide Rim Sprockets

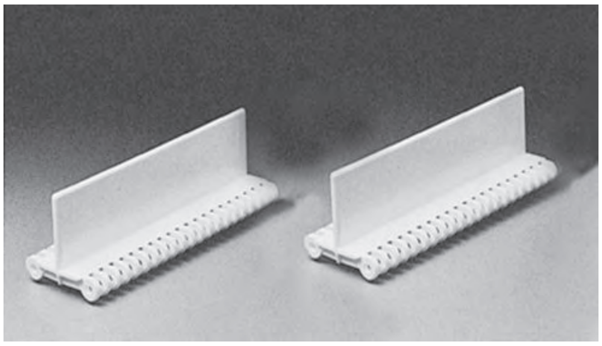
Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in	Available Bore Sizes Square in	Available Bore Sizes Round mm	Available Bore Sizes Square mm
10 (4.89%)	6.4	163	6.4	163	2.5	64		1.5		40



Metal Abrasion Resistant Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.4	163	1.1	28		1.5, 2.5		40, 60	
16 (1.92%)	10.1	257	10.3	262	1.1	28		1.5, 2.5		40, 60, 65	

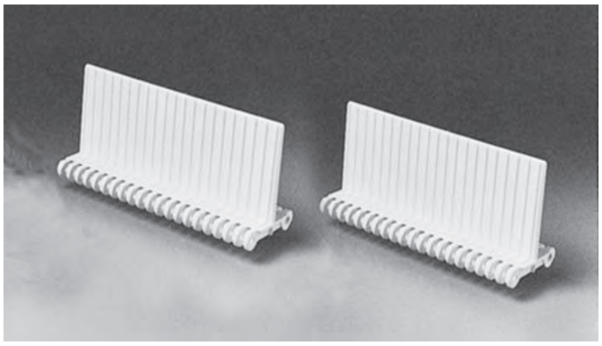
Streamline Flights		
Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene
2	51	
3	76	

- Each flight rises out of the center of its supporting Flat Top module, molded as an integral part. No fasteners are required.
- An extension can be welded at a 45-degree angle to create a bent flight. Contact Intralox Customer Service for availability.
- Can be enlarged to 6 in (152 mm) high with a welded extension.
- Minimum indent without sideguards: 0.7 in (18 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.



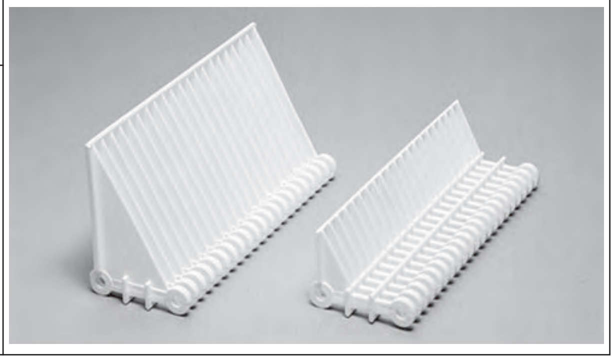
Double No-Cling Flights		
Available Flight Height		Available Materials
in	mm	
3	76	Polypropylene, polyethylene

- Vertically ribbed for product release.
- Each flight rises out of the center of its supporting Flat Top module, molded as an integral part. No fasteners are required.
- An extension can be welded at a 45-degree angle to create a bent flight. Contact Intralox Customer Service for availability.
- Can be enlarged to 6 in (152 mm) high with a welded extension.
- Minimum indent without sideguards is 0.7 in (18 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.



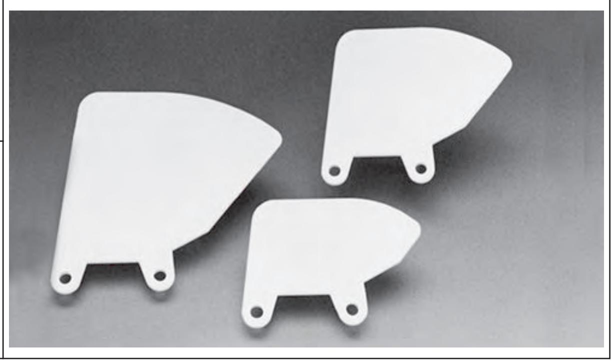
Ribbed Flights			
Available Flight Height		Available Materials	
in	mm		
1.25	32	Polypropylene, polyethylene	
3	76		

- Each flight rises out of an Open Grid module and has a triangular-shaped buttress on the back side. No fasteners are required.
- Can be enlarged to 6 in (152 mm) high with a welded extension.
- Minimum indent without sideguards: 0.7 in (18 mm).



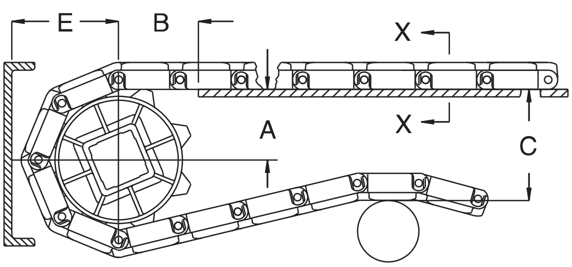
Sideguards			
Available Sizes		Available Materials	
in	mm		
2	51	Polypropylene, polyethylene	
3	76		
4	102		
6	152		

- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- Standard gap between sideguards and flight edge: 0.3 in (8 mm).
- Minimum indent: 0.7 in (18 mm).



CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



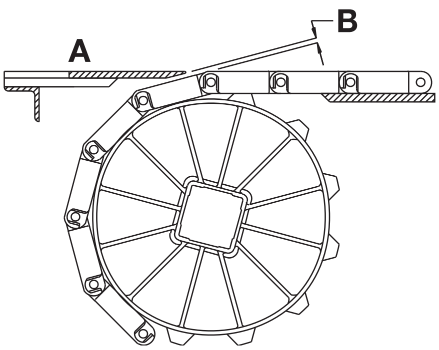
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 9: Basic dimensional requirements

S200 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid, Open Grid, Open Hinge										
4.0	102	6	1.42–1.69	36-43	2.20	56	4.10	104	2.38	60
6.4	163	10	2.77–2.92	70-74	3.00	76	6.50	165	3.61	92
10.1	257	16	4.72–4.81	120-122	3.20	81	10.20	259	5.50	140

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 10: Gap at transfer point between belt and dead plate

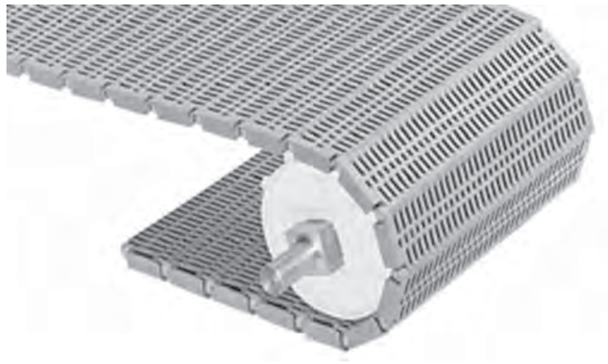
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

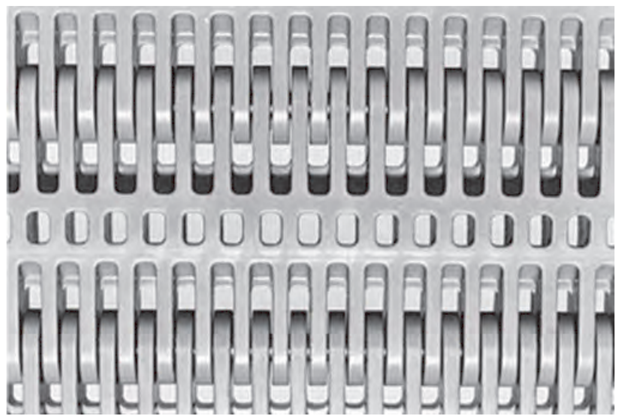
Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
4.0	102	6	0.268	6.8
6.4	163	10	0.160	4.1
10.1	257	16	0.100	2.5

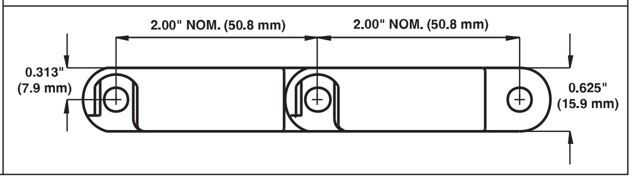
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Flush Grid

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.25 × 0.18	6.4 × 4.6
Open Area	17%	
Hinge Style	Closed	
Rod Retention; Rod Type	See *Product Notes*.	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface and straightforward design provide free product movement.
- Uses headed rods for belts without Slidelox rod retention. Uses unheaded rods for belts with Slidelox rod retention.
- Slidelox rod retention is recommended for belts 6.0 ft (1829 mm) wide and wider.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Flights and sideguards are available.

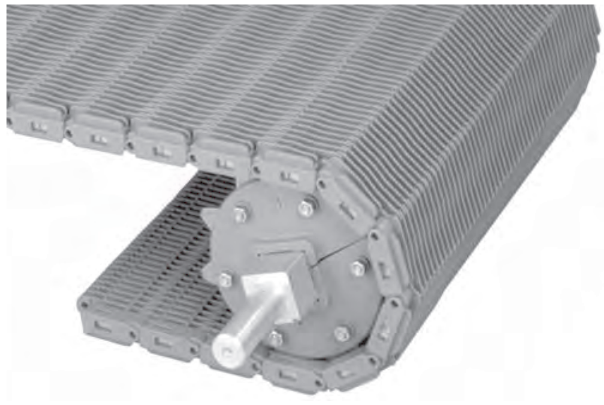
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	2400	3570	34 to 220	1 to 104	1.82	8.89
Polyethylene	Polyethylene	1800	2680	-100 to 150	-73 to 66	1.90	9.28
Acetal	Polypropylene	3200	4760	34 to 200	1 to 93	2.77	13.51
Acetal[a]	Polyethylene	3000	4460	-50 to 70	-46 to 21	2.77	13.51

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

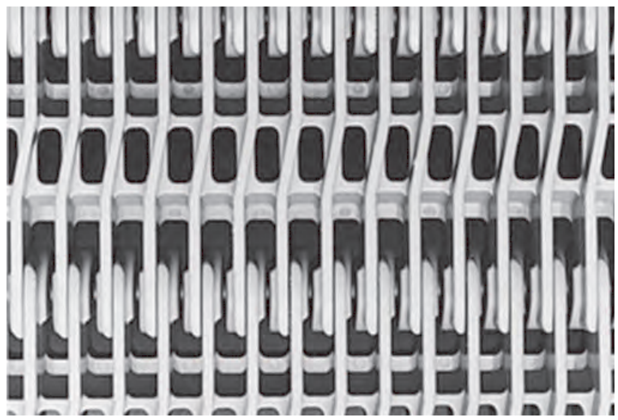
Raised Rib

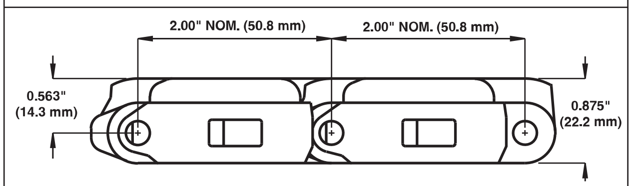
	in	mm
Pitch	2.00	50.8
Minimum Width	See *Product Notes*.	
Width Increments		
Opening Size (approximate)	0.25 × 0.24	6.4 × 6.1
Open Area	26%	
Product Contact Area	36%	
Hinge Style	Closed	
Rod Retention; Rod Type	See *Product Notes*.	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- All S400 Raised Rib polyethylene belts use headed rods.
- All S400 Raised Rib polypropylene belts use the Slidelox rod retention system and unheaded rods.
- Slidelox are glass-reinforced polypropylene. For improved chemical resistance, Slidelox are also available in polyvinylidene (PVDF) for Enduralox polypropylene belts.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Use with finger transfer plates to reduce tippage at infeed and discharge.
- For stronger belt performance, see S1900 Raised Rib.
- Raised ribs extend 0.25 in (6.4 mm) above basic module.
- Custom-built in widths from 1.8 in (47 mm) and up for polyethylene and 3.5 in (89 mm) and up for polypropylene, in 0.33 in (8.4 mm) increments.





Belt Data

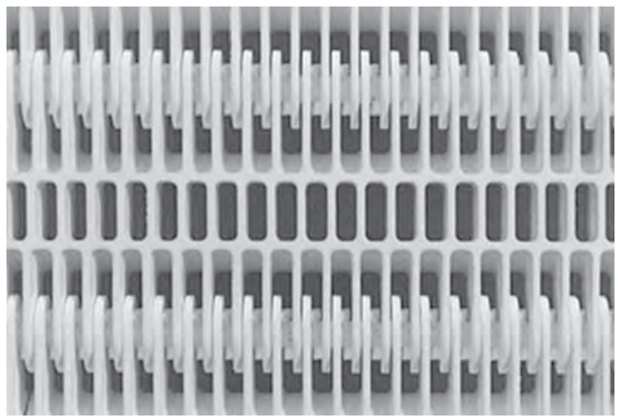
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	2400	3570	34 to 220	1 to 104	1.95	9.52
Polyethylene	Polyethylene	1800	2680	-100 to 150	-73 to 66	1.98	9.67
Enduralox polypropylene	Polypropylene	2400	3570	34 to 220	1 to 104	1.95	9.52

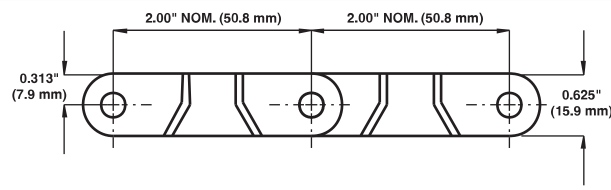
Open Hinge

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.25	6.4
Opening Size (approximate)	0.47 × 0.18	11.9 × 4.6
Open Area	30%	
Product Contact Area	40%	
Hinge Style	Open	
Rod Retention; Rod Type	Second headed; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Large, open area improves airflow, drainage, and cleanability.
- Shares heavy-duty rating with other belts in this series.
- Has double-headed hinge rods, so the belt edge is not fully flush.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Flights and sideguards are available.
- For more hygienic options, see S800 and S1600.

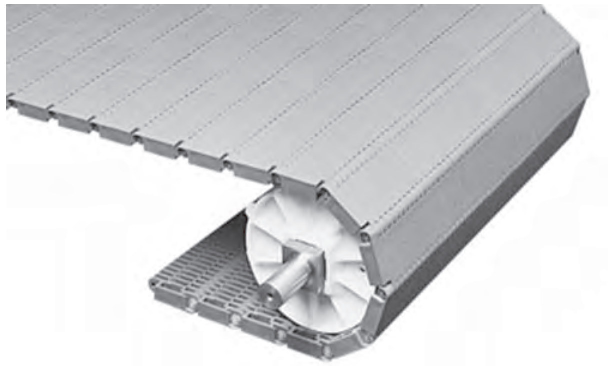




Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1550	2300	34 to 220	1 to 104	1.16	5.66
Polyethylene	Polyethylene	950	1400	-50 to 150	-46 to 66	1.24	6.06

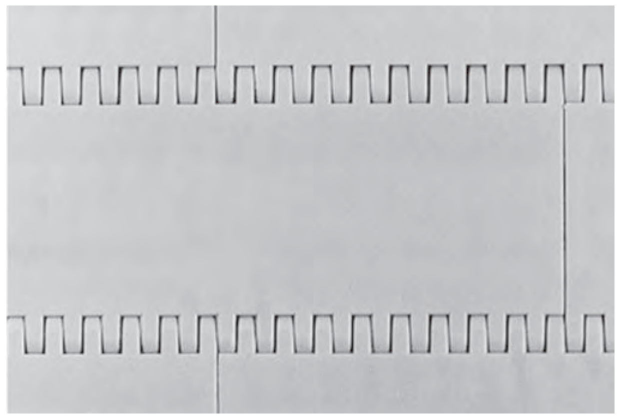
Flat Top

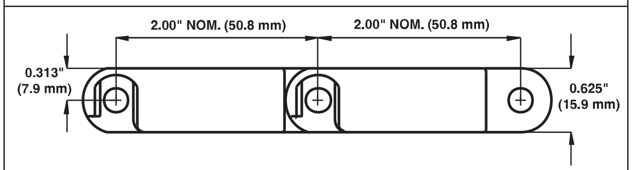
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	See Product Notes.	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface and straightforward design provide free product movement.
- All S400 Flat Top with abrasion resistant rods are available with Slidelox rod retention.
- Slidelox rod retention is recommended for belts 6.0 ft (1829 mm) wide and wider.
- Use headed rods for belts without Slidelox rod retention. Use unheaded rods with Slidelox rod retention.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Use abrasion resistant split sprockets with acetal S400 Flat Top.
- Flights and sideguards are available.
- For stronger belt performance, see Series 4500 Flat Top.





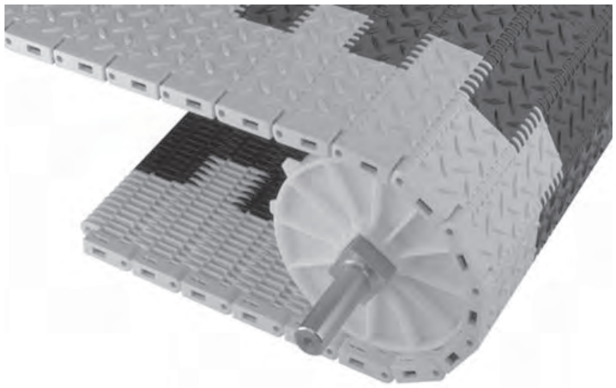
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	2400	3570	34 to 220	1 to 104	1.81	8.82
Polyethylene	Polyethylene	1800	2680	-100 to 150	-73 to 66	1.90	9.28
Acetal	Polypropylene	3200	4760	34 to 200	1 to 93	2.74	13.38
Acetal[a]	Polyethylene	3000	4460	-50 to 70	-46 to 21	2.74	13.38

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

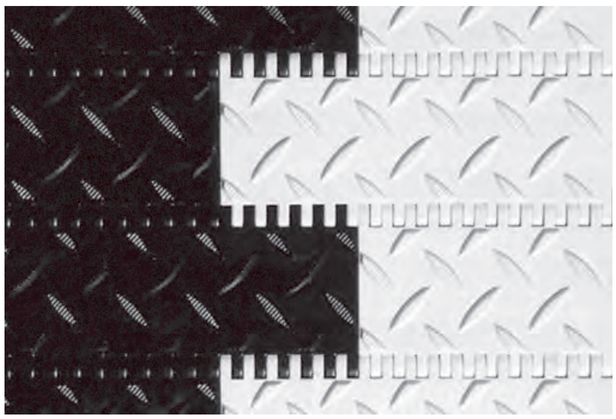
Non Skid

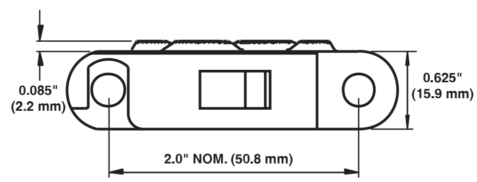
	in	mm
Pitch	2.00	50.8
Minimum Width	3.5	89
Width Increments	0.33	8.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Among highest strength rating of all Intralox belts.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For stronger belt performance, see S4500 Non Skid and S4500 Non Skid Raised Rib.
- Contact Intralox Customer Service for flight availability.

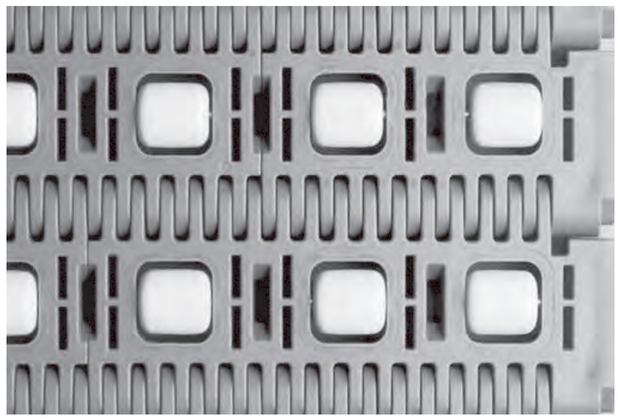


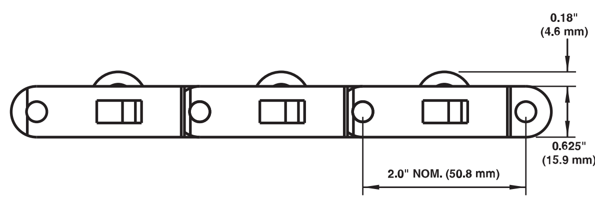


Belt Data								
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
HSEC acetal	Nylon	2720	4040	-50 to 200	-46 to 93	2.88	14.09
Polypropylene	Polypropylene	2400	3571	-34 to 220	1 to 104	1.81	8.84

Roller Top

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size	-	-
Open Area	18%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

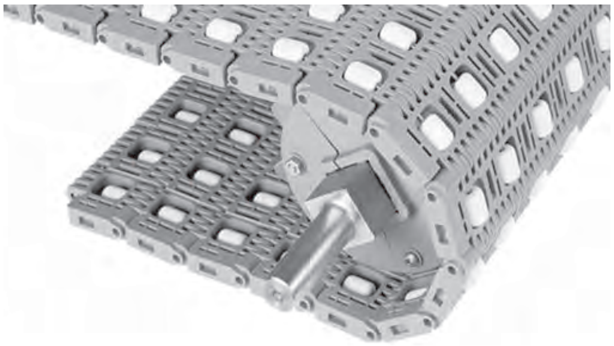
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edges.
- Uses acetal rollers.
- Uses stainless steel axles.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Allows for low back pressure accumulation.
- Roller diameter: 0.70 in (17.8 mm).
- Roller length: 0.825 in (20.9 mm).
- Standard roller indent: 0.90 in (23 mm)
- Distance to centerline of first roller: 1.3 in (33 mm)
- Spacing between first and second roller: 1.8 in (46 mm).
- Spacing between all other rollers: 2 in (50.8 mm).

Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	2.44	11.94

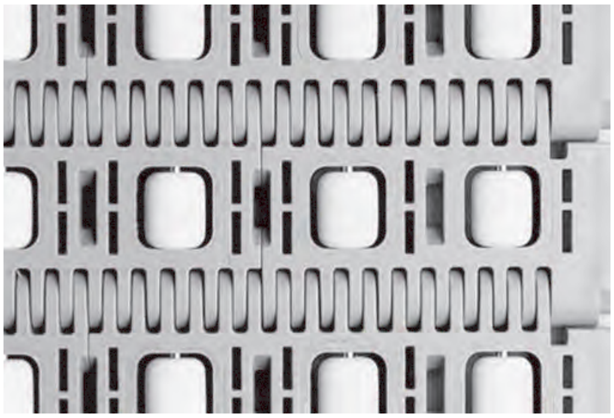
Transverse Roller Top™ (TRT™)

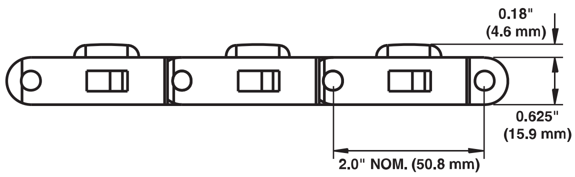
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	18%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edges.
- Uses acetal rollers.
- Stainless steel axles provide durability and long-lasting performance.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for 90-degree transfers.
- For stronger belt performance, see S4400 Transverse Roller Top.
- Roller diameter: 0.70 in (17.8 mm).
- Roller length: 0.825 in (20.9 mm).
- Roller spacing: 2 in (50.8 mm).
- Standard roller indent: 0.90 in (23 mm).
- Distance to centerline of first roller: 1.3 in (33 mm).
- Spacing between first and second roller: 1.8 in (46 mm).
- Spacing between all other rollers: 2 in (50.8 mm).



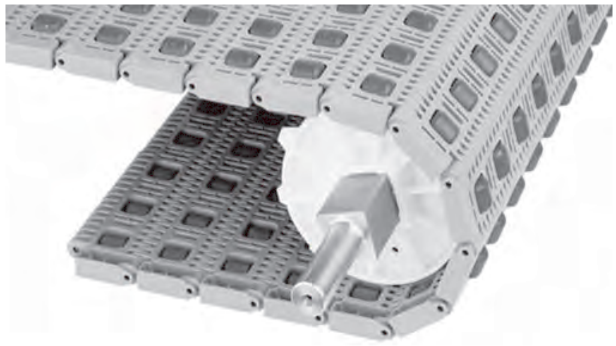


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	2.44	11.94

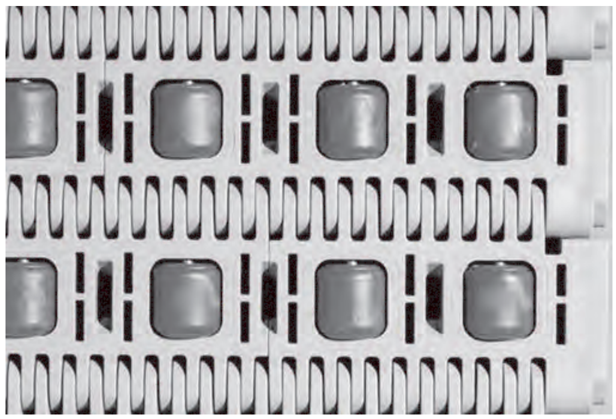
0.85-in Diameter Transverse Roller Top™ (TRT™)

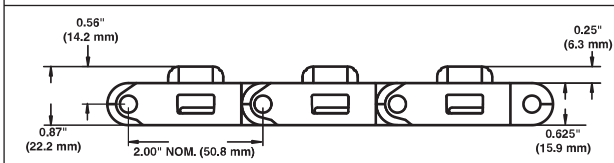
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size	-	-
Open Area	18%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers.
- Stainless steel axles provide durability and long-lasting performance.
- Slidelox flush edges.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for 90-degree transfers.
- For stronger belt performance, see S4400 Transverse Roller Top.
- Roller diameter: 0.85 in (21.6 mm).
- Roller length: 0.825 in (20.9 mm).
- Standard roller indent: 0.90 in (23 mm).
- Distance to centerline of first roller: 1.3 in (33 mm).
- Spacing between first and second roller: 1.8 in (46 mm).
- Spacing between all other rollers: 2 in (50.8 mm).

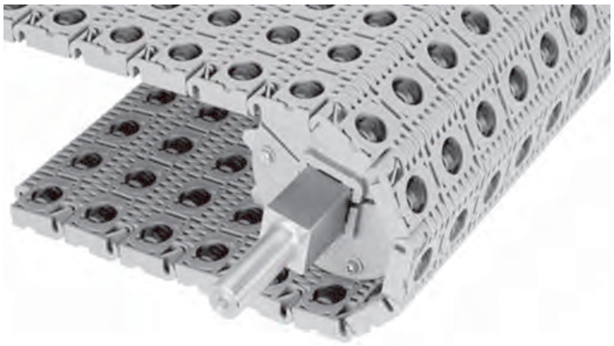




Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	2.81	13.71

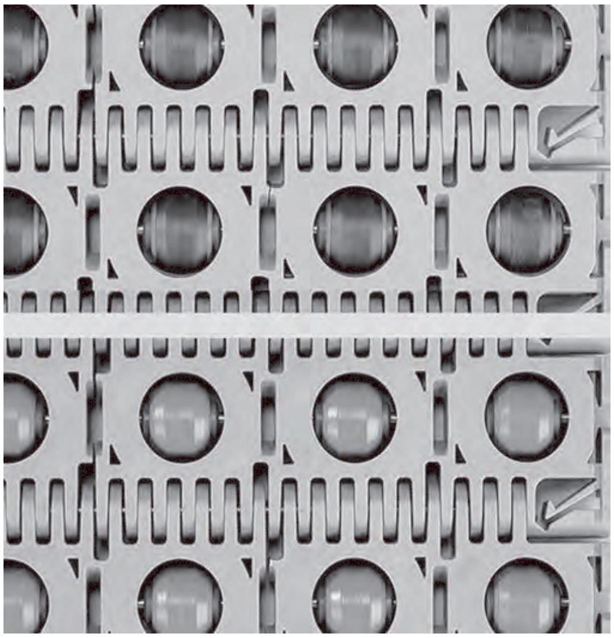
0-Degree Angled Roller™

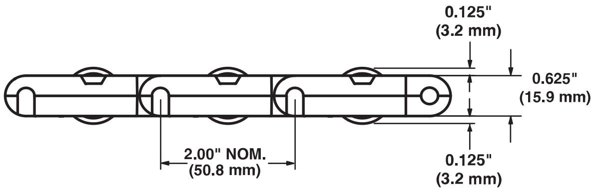
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	11%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses Activated Roller Belt™ (ARB ™) technology.
- Black or grey polyurethane rollers are available.
- Black polyurethane rollers are not recommended for product accumulations.
- All rollers have an acetal core.
- Axles are stainless steel.
- Rollers are inline with the direction of belt travel.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed to run on a flat, continuous carryway. A chevron carryway is not recommended.
- When belt rollers are in motion, product moves faster than the speed of the belt. When belt rollers are not in motion, product travels at belt speed.
- Product behavior varies depending on shape and weight of product, conveyor design, and belt speed.
- Intralox can help you reach a more accurate estimate of product behavior based on product and conveyor characteristics. Contact Intralox Customer Service for more information.
- Custom belts with any combination of 0-degree, 30-degree, 45-degree, or 60-degree angled rollers are available. Custom belts can also include rollers oriented in different directions. Contact Intralox Customer Service for more information.
- 2.0 in (50.8 mm) roller spacing.
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket or all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in or 60-mm square bores.



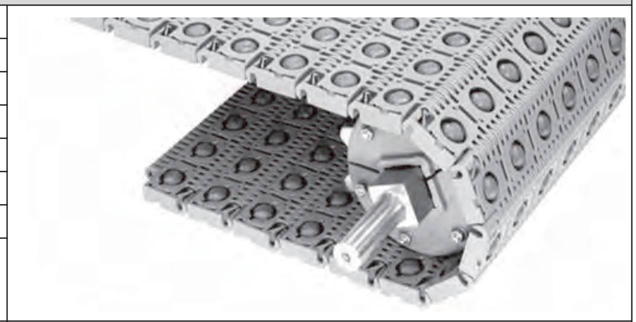


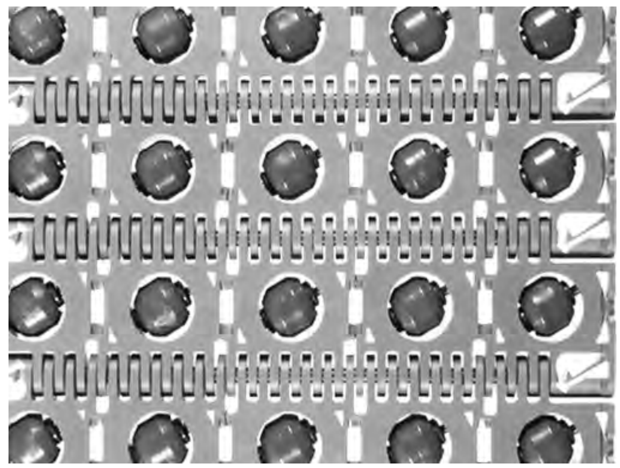
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene/black polyurethane	Nylon	1600	2381	34 to 200	1 to 93	2.65	12.94
Polypropylene/grey polyurethane	Nylon	1600	2381	34 to 120	1 to 49	2.73	13.33

30-Degree Angled Roller™

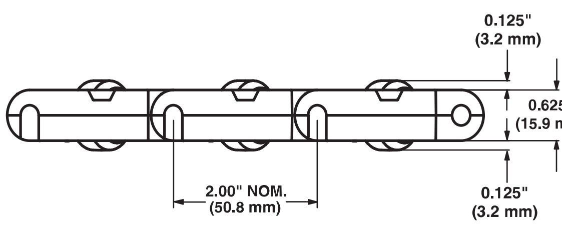
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	11%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses Activated Roller Belt (ARB) technology.
- Rollers are skewed 30 degrees from the direction of belt travel.
- Grey polyurethane rollers with an acetal core are available.
- Uses stainless steel axles.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Polyethylene belts require ultra-abrasion resistant polyurethane sprocket on the drive shaft. Any sprocket can be used on the idle shaft, except for sprockets with low back-tension teeth.
- When belt rollers are in motion, product moves faster than the speed of the belt. When belt rollers do not rotate, product travels at belt speed.
- Product behavior varies depending on shape and weight of product, conveyor design, and belt speed. Intralox can help you estimate product behavior based on product and conveyor characteristics. Contact Intralox Customer Service for more information.
- Centering configuration is possible using two belts with rollers oriented towards the center of the conveyor.
- Custom belts with any combination of 0-degree, 30-degree, 45-degree, or 60-degree angled rollers are available. Custom belts can also include rollers oriented in different directions. Contact Intralox Customer Service for more information.
- Designed to run on a flat, continuous carryway. A chevron carryway is not recommended.
- Belt can be supported using parallel wearstrips placed in between belt rollers. Contact Intralox Customer Service for more information.
- Alignment belts on a flat, continuous carryway require a side wearstrip. Install the belt to run flush along this wearstrip.
- 2 in (50.8 mm) roller spacing.
- Minimum belt width for polyethylene is 8 in (203 mm).
- Polyethylene belts between 8 in (203 mm) to 10 in (254 mm) wide must be derated to 450 lb/ft. (670 kg/m).
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket.
- Not compatible with all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in or 60 mm square bores.
- If any moisture is present, the low-temperature limit of the polyethylene belt is 34° F (1° C).

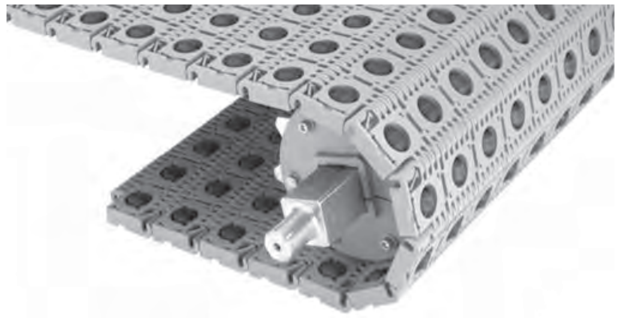


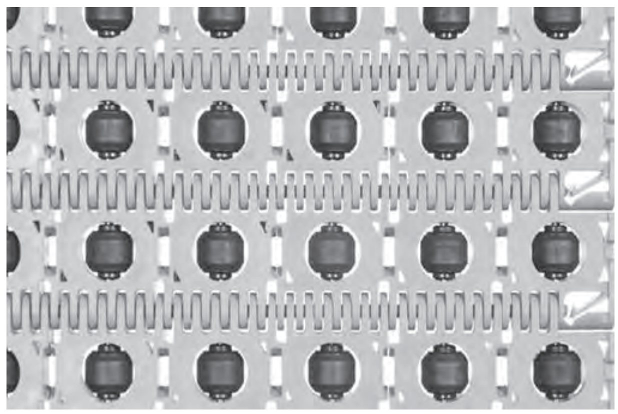
Belt Data

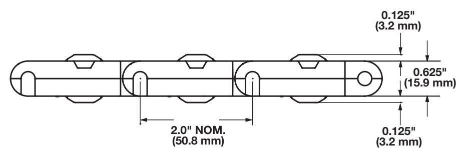
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene/grey polyurethane	Nylon	1600	2381	34 to 120	1 to 49	2.64	12.89
Polyethylene/grey polyurethane	Nylon	500	744	17 to 150	-8 to 65	2.93	14.31

90-Degree Angled Roller™

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size	-	-
Open Area	11%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	







Product Notes

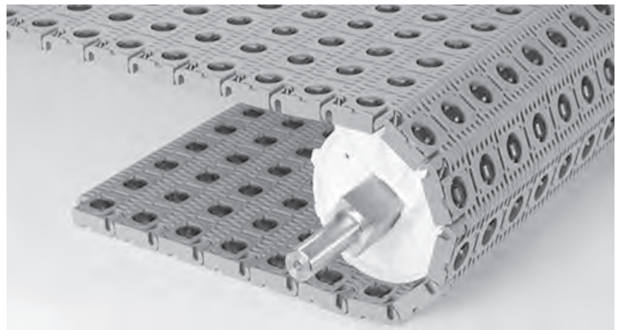
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Black polyurethane rollers with an acetal core are available.
- Black polyurethane rollers are not recommended for product accumulation conditions.
- Axles are stainless steel.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Do not allow black polyurethane rollers to contact flat, continuous carryways or chevron carryways.
- Belt can be supported using parallel wearstrips placed between belt rollers. Contact Intralox Customer Service for more information.
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket.
- Not compatible with all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in and 60-mm square bores.
- Roller spacing: 2.0 in (50.8 mm).

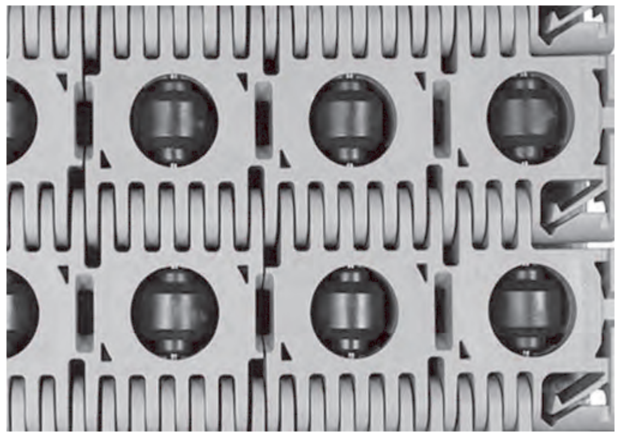
Belt Data

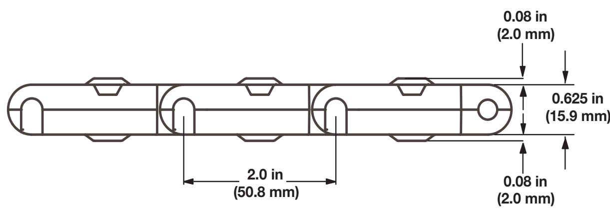
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene/black polyurethane	Nylon	1600	2381	34 to 200	1 to 93	2.65	12.94

0.78-in Diameter 90-Degree Angled Roller™

	in	mm
Pitch	2.0	50.8
Minimum Width	6	152.4
Width Increments	2.0	50.8
Opening Size	-	-
Open Area	11%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	







Product Notes

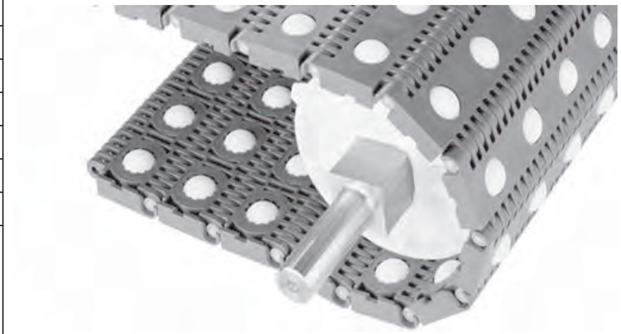
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Black acetal rollers are available.
- Axles are stainless steel.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket.
- Not compatible with all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in and (60 mm) square bores.
- Roller spacing: 2.0 in (50.8 mm).

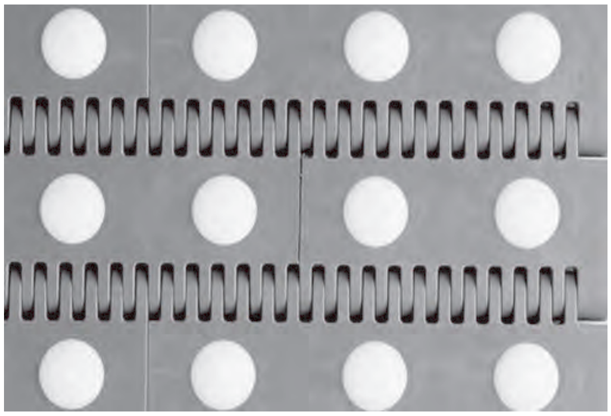
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene/black acetal	Nylon	1600	2381	34 to 200	1 to 93	2.65	12.94

Ball Belt

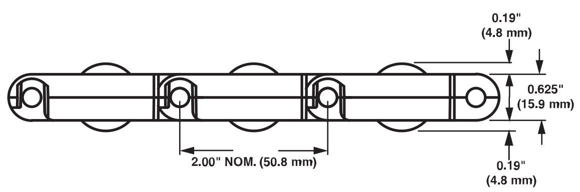
	in	mm
Pitch	2.00	50.8
Minimum Width	10	254
Width Increments	2.00	50.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Acetal balls protrude beyond top and bottom of belt. Module does not contact carryway.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Product movement is controlled by driving balls with a perpendicular secondary conveyor, underneath the main belt.
- Product moves faster than belt speed.
- Product speed varies, depending on shape and weight of product.
- A flat continuous carryway is required.
- Designed for applications that require product redirection, alignment, transfer, diverting, palletizing, orientation, accumulation, or justification.
- Install alignment configurations to run flush along the side wearstrip.
- Self-set retaining rings for locking sprockets are not recommended.
- Ball diameter: 1.0 in (25.4 mm).
- Distance between balls: 2 in (50.8 mm).
- Standard ball indent: 1.1 in (27.9 mm).
- Rod centerline to top or bottom of module: 0.313 in (7.9 mm).
- Rod centerline to top or bottom of ball: 0.50 in (12.7 mm).



Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	2400	3571	34 to 200	1 to 93	3.71	18.11
Polypropylene	Polypropylene	1600	2381	34 to 200	1 to 93	2.78	13.57

SERIES 400

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing[d]	Maximum 12 in (305 mm) centerline spacing.

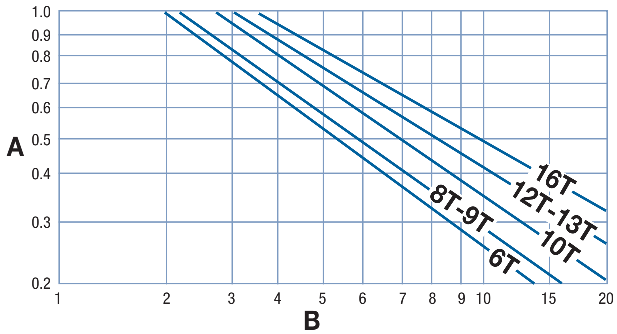
[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Flat Top, Flush Grid, and Raised Rib belts are available in 0.33 in (8.4 mm) increments beginning with a minimum width of 2 in (51 mm). The increment for Open Hinge belts is 0.25 in (6 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

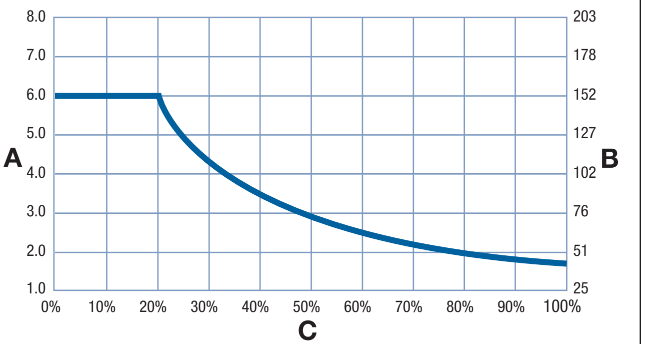
[d] Ball Belt and some Angled Roller belts require a flat continuous carryway.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

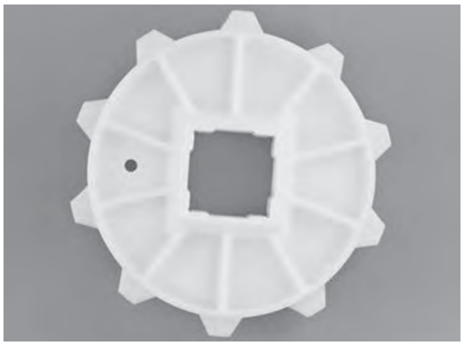


A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Molded Sprocket

This sprocket is compatible with all belts except Flush Grid acetal.

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
6 (13.40%)	4.0	102	3.6	91	1.5	38		1.5		40
8 (7.61%)	5.2	132	5.0	127	1.5	38		1.5, 2.5		40, 60
10 (4.89%)	6.4	163	6.3	160	1.5	38	2.0	1.5, 2.5	82	40, 60, 70
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5, 2.5		40, 60
16 (1.92%)	10.1	257	10.2	259	1.5	38		1.5, 2.5, 3.5		40, 60, 90



[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967(R1989) and metric key sizes conform to DIN standard 6885.

Split Low Back Tension Ultra Abrasion Resistant Polyurethane Sprocket[a]											
Available for all belts except Flush Grid acetal, Open Hinge, and roller belts											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5, 2.5		40	
12 (3.41%)	7.8	198	7.7	196	1.5	38		2.5			
16 (1.92%)	10.1	257	10.2	259	1.5	38		2.5			

[a] When using these sprockets, the maximum belt strength for all styles and materials is 1000 lb/ft (1490 kg/m). The sprocket temperature range is -40°F to 160°F (-40°C to 71°C).

Split Ultra Abrasion Resistant Polyurethane Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5, 2.5		40	

[a] When using these sprockets, the maximum belt strength for all styles and materials is 1000 lb/ft (1490 kg/m), and the temperature range is -40°F to 160°F (-40°C 71°C).

Molded Tooth Plate Split Low Back Tension Polyurethane Composite Sprockets[a]											
Available for all belts except Open Hinge and Roller belts.											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.70	43		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5, 2.5		40, 60	
16 (1.92%)	10.1	257	10.2	259	1.5	38	3.5	1.5, 2.5, 3.5		90	

[a] Recommended for use on drive shafts only. There is very little belt tension when a belt engages the idle sprockets. In some applications, the belt does not have enough tension to engage the added low back tension teeth, causing the belt to disengage on the idle sprockets.

Molded Tooth Plate Split Polyurethane Composite Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.7	43		1.5		40	
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5		40	
16 (1.92%)	10.1	257	10.2	259	1.5	38	4.0	3.5		90	

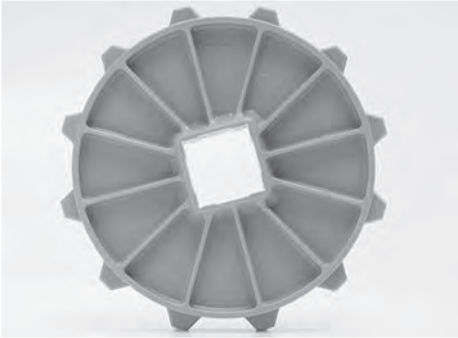
Split Metal with Polyurethane (FDA) Joining Plates Reduced Clearance Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
8 (7.61%)	5.2	132	5.0	127	1.5	38		1.5		40	
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5, 2.5		40, 60	

HR Nylon Split Sprockets[a]

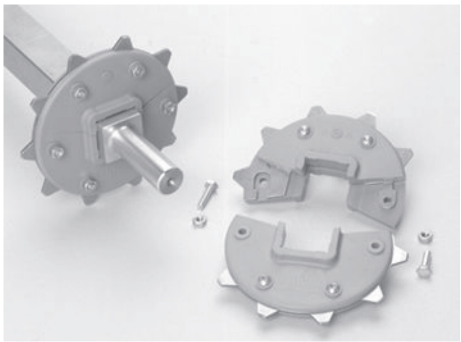
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	10.1	257	10.2	196	2.0	51		2.5		60	

[a] For wet applications, contact Intralox Customer Service.

HR Nylon Sprockets

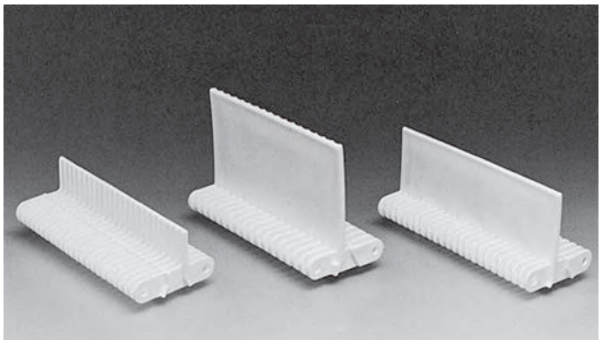
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5, 2.5			
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5, 2.5		40, 60	
16 (1.92%)	10.1	257	10.2	259	1.5	38		1.5, 2.5, 3.5		60, 90	

[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

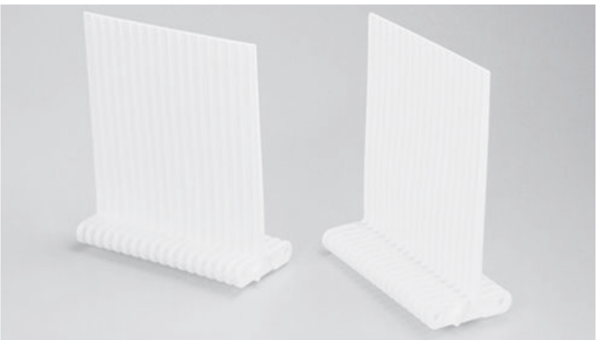
Split Metal Sprocket											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
6 (13.40%)	4.0	102	3.6	91	1.5	38		1.5		40	
8 (7.61%)	5.2	132	5.0	127	1.5	38	1, 1-3/16, 1-1/4, 1-7/16	1.5	20, 30, 40	40, 60	
10 (4.89%)	6.4	163	6.3	160	1.5	38	1, 1-3/16, 1-1/4, 1-3/8, 1-7/16, 1-1/2, 1-15/16	1.5, 2.5	20, 40	40, 60	
12 (3.41%)	7.8	198	7.7	196	1.5	38	1-7/16, 1-15/16	1.5, 2.5	40	40, 60	
16 (1.92%)	10.1	257	10.2	259	1.5	38	1-7/16, 1-15/16	1.5, 2.5, 3.5		40, 60, 90	

[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967(R1989) and metric key sizes conform to DIN standard 6885.

Split Support Wheel						
Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
6.4	163	1	1.5, 2.5			

Flush Grid Base Flights (Streamline/No-Cling)			
Available Flight Height		Available Materials	
in	mm		
1	25	Polypropylene, polyethylene	
2	51		
3	76		

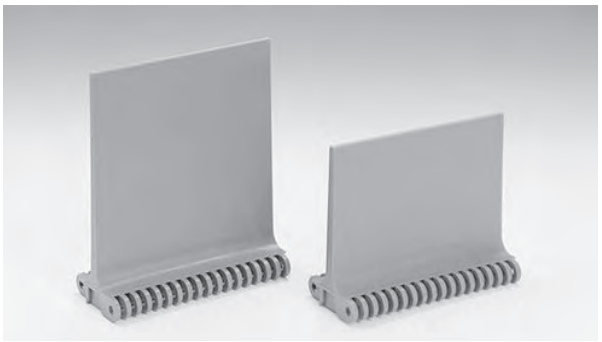
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- The Streamline side of the flight is smooth and the No-Cling side is vertically ribbed.
- An extension can be welded at a 45-degree angle for a bent flight.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.8 in (20 mm) and the minimum indent for a Slidelox edge (without sideguards) is 1.4 in (36 mm).

Flush Grid Base Flights (Double No-Cling)			
Available Flight Height		Available Materials	
in	mm		
6	152	Polypropylene, polyethylene	

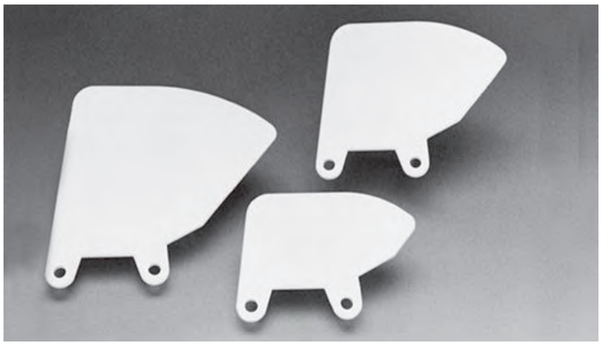
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.8 in (20 mm).
- Minimum indent for a Slidelox edge without sideguards: 1.4 in (36 mm).
- 45-degree bent flights are available in polypropylene with a 3 in (76 mm) tall base and with a 1 in (25 mm) or 2 in (51 mm) extension.

Open Hinge Base Flights (Streamline/No-Cling)			
Available Flight Height		Available Materials	
in	mm		
1	25	Polypropylene, polyethylene	
2	51		
3	76		

- Each flight rises out of the center of a supporting module, molded as one part. No fasteners are required.
- Streamline/No-Cling flights are smooth on one side and vertically ribbed on one side.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Flights can be extended to 6 in (152 mm) high (welded extension). The extension can also be welded at a 45-degree angle for a bent flight.
- Minimum indent without sideguards: 0.6 in (15 mm).

Flat Top Base Flights (Streamline)			
Available Flight Height		Available Materials	
in	mm		
4	102	Polypropylene, polyethylene, acetal	
6	152		

- Streamline flights are smooth on both sides.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flat Top base flights cannot be used with Flush Grid belts.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.8 in (20 mm) Minimum indent for a Slidelox edge without sideguards: 1.4 in (36 mm).

Sideguards			
Available Sizes		Available Materials	
in	mm		
2	51	Polypropylene, polyethylene	
3	76		
4	102		
6	152		

- Sideguards use a standard overlapping design and are an integral part of the belt.
- Fastened by the hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6- and 8-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when going around the 10-, 12- and 16-tooth sprockets.
- Standard gap between sideguards and flight edge: 0.4 in (10 mm).
- Minimum indent: 0.8 in (20 mm).

Hold Down Tabs

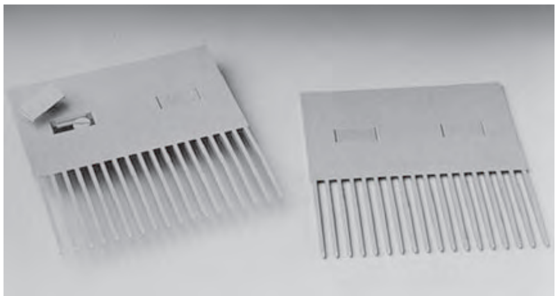
- Available on Non Skid and Flat Top belts.
- Carryway wearstrips or rollers that engage the tabs are only required at the transition between the horizontal sections and angled sections. This approach reduces initial system cost as well as ongoing maintenance cost and effort.
- Ensure that adequate lead-in radii and/or angles are used to prevent the possibility of snagging the tab on the frame.
- Design the conveyor with a carryway radius at the transition between horizontal sections and angled sections. This radius must be at least 48 in (1.22 m) for belts that are loaded near the belt strength rating. This radius is one of the most important factors to consider when designing highly loaded conveyors that utilize hold down tabs.
- Tabs can be spaced along the length of the belt at either4 in (101.6 mm) or 6 in (152.4 mm). Due to the potential for mistracking, avoid tab spacings greater than 6 in (152.4 mm).
- Strength rating for each hold down tab: 100 lb (45.4 kg) of force perpendicular to the hold down surface.

Insert Nuts					
Available Base Belt Style; Material			Sizes		
Flat Top; acetal, polypropylene			5/16 in–18 in (8 mm–1.25 mm)		
Belt Material	Maximum Fixture Weight		Fastener Torque Specification		
	lb/nut[a]	kg/nut[a]	in-lb	N-m	
Acetal	200	91	120	13.5	
Polypropylene	175	79	65	7.3	

- Insert nuts allow easy attachment of fixtures to the belt.
- Ensure attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- For attachment bases that extend across multiple rows, ensure reduced backbend is considered during design.
- Do not place sprockets in-line with insert nuts.
- All nut placement dimensions are referenced from the edge of the belt when placing an order. Contact Intralox Customer Service for nut location options available for application.
- See S4500 Flat Top with Insert Nuts as an alternate option.
- Minimal indent from the edge of the belt: 2 in (50 mm).
- Minimal distance between nuts across the width of the belt: 1.33 in (34 mm).
- Spacing along the length of the belt: 2 in (50 mm) increments.

[a] Fixture weight only. Product weight need not be included.

Finger Transfer Plates				
Available Widths		Number of Fingers	Available Materials	
in	mm			
6	152	18	Polypropylene	



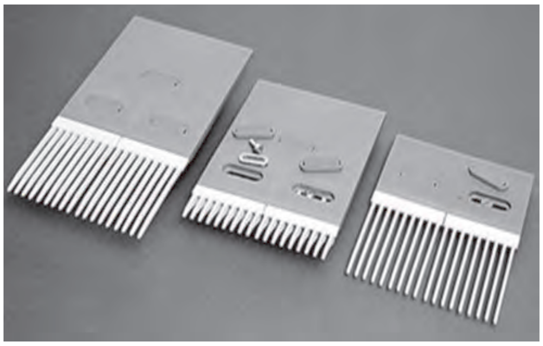
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs, allowing a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts. Caps easily snap into place over the bolts, and keep foreign materials out of the slots.
- The finger transfer plates for Series 400 are the same for Series 1200.

Two-Material Finger Transfer Plates

Available Widths in	Available Widths mm	No. of Fingers	Available Materials
6	152	18	Glass-filled thermoplastic fingers, acetal backplate

Available Configurations

Standard	Standard Extended Back	Glass-Handling
Long fingers with a short backplate	Long fingers with an extended backplate	Short fingers with extended backplate
		short fingers with short backplate[a]
		mid-length fingers with a short backplate
		mid-length fingers with extended backplate

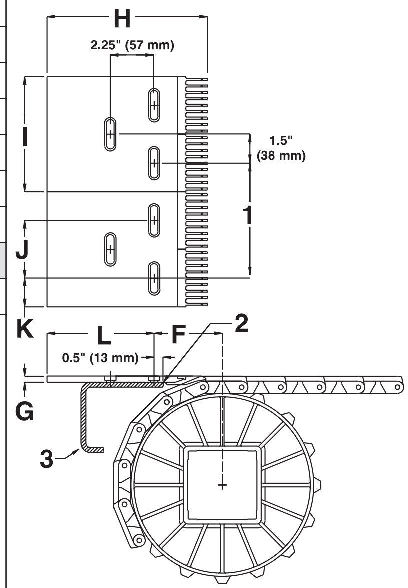


- Provides high-strength fingers combined with a low-friction backplate.
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs, allowing smooth, continuous product flow as the belt engages the sprockets.
- Low-friction backplate is permanently attached to the two high-strength finger inserts.
- Plastic shoulder bolts and bolt covers are included for installing the standard two-material finger transfer plates (FTPs).
- Mounting hardware for the glass-handling two-material FTPs is sold separately. Mounting hardware consists of stainless steel oval washers and bolts, which give more secure fastening for tough, glass applications.
- For applications that require better chemical resistance, Introlox offers a single-material polypropylene standard FTP. Mounting hardware for this finger transfer plate includes plastic shoulder bolts and snap-cap bolt covers.
- Long fingers provide good support for unstable products like PET containers and cans. Short fingers are sturdy enough for harsh, broken-glass applications. These fingers are designed to resist breaking, but if confronted with deeply embedded glass, the individual fingers yield and break off, preventing belt or frame damage.
- Short backplate has two attachment slots and the extended backplate has three attachment slots.
- S400 and S1200 use the same FTPs.
- For best product transfer with the glass-handling finger transfer plates, use 10.1 in (257 mm) PD, 16-tooth sprockets.

[a] Contact Intralox Customer Service for lead times.

Dimensional Requirements for Finger Transfer Plate Installation

	Two-Material							
	Standard Long Fingers				Glass-Handling Short Fingers		Glass- Handling Mid-Length Fingers	
	Short Back		Extended Back		Extended Back		Extended Back	
	in	mm	in	mm	in	mm	in	mm
F	3.50	89	3.50	89	3.50	89	3.50	89
G	0.31	8	0.31	8	0.31	8	0.31	8
H	7.2	183	10.75	273	8.26	210	9.04	230
I	5.91	150	5.91	150	5.91	150	5.91	150
J	3.00	76	3.00	76	3.00	76	3.00	76
K	1.45	37	1.45	37	1.45	37	1.45	37
L	2.00	51	5.50	140	5.50	140	5.50	140
Spacing at Ambient Temperature								
PP	5.952 in		151.2 mm					
PE	5.933 in		150.7 mm					



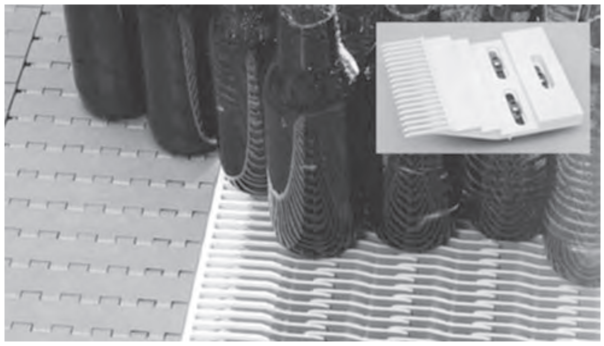
1 spacing
2 0.5 in (13 mm) radius on leading edge of frame member
3 frame member

Figure 11: Two-material finger transfer plates

Self-Clearing Finger Transfer Plates[a]

Available Width		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic

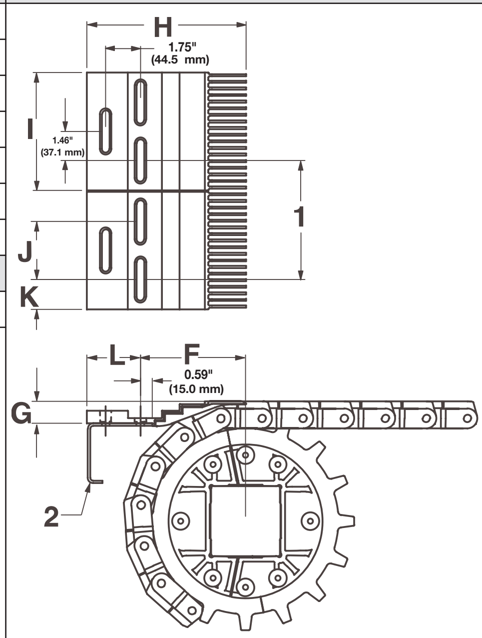
- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs for belt support in heavy side-loading conditions.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Intralox Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with the belt expansion and contraction.
- Stainless steel hardware is sold separately.



[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Dimensional Requirements for Self-Clearing Finger Transfer Plate[a] Installations

	in	mm
F	5.25	133.4
G	1.15	29.2
H	8.05	204.5
I	5.89	149.6
J	2.92	74.2
K	1.51	38.4
L	2.71	68.8
Spacing at Ambient Temperature		
PP	5.952 in	151.2 mm
PE	5.933 in	150.7 mm

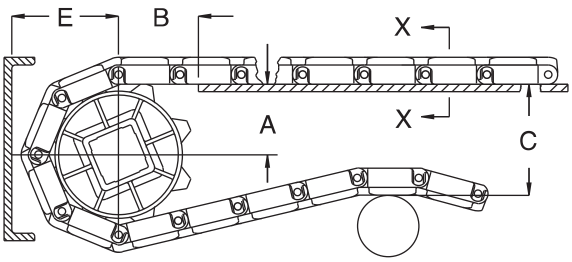


1 spacing
2 frame member

[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 12: Basic dimensional requirements

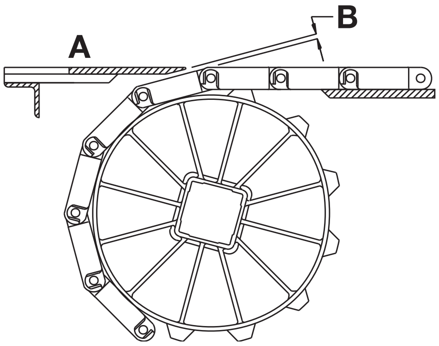
S400 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid, Open Hinge										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.38	60
5.2	132	8	2.10-2.30	53-58	2.60	66	5.30	135	2.99	76
5.8	147	9	2.44-2.61	62-66	2.70	69	5.95	151	3.49	89
6.4	163	10	2.77-2.92	70-74	2.77	70	6.50	165	3.61	92
7.8	198	12	3.42-3.55	87-90	3.00	76	7.90	201	4.24	108
8.4	213	13[1]	3.75-3.87	95-98	3.22	82	8.46	215	4.74	120
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.50	140
Raised Rib										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.75	70
5.2	132	8	2.10-2.30	53-58	2.60	66	5.30	135	3.24	82
6.4	163	10	2.77-2.92	70-74	2.77	70	6.50	165	3.99	101
7.8	198	12	3.42-3.55	87-90	3.00	76	7.90	201	4.49	114
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.88	149
Non Skid										
4.0	102	6	1.42-1.69	36-43	1.60	41	4.09	104	2.46	62
5.2	132	8	2.10-2.30	53-58	1.98	50	5.31	135	3.07	78
5.8	147	9	2.43-2.61	62-66	2.31	59	5.93	151	3.38	86
6.4	163	10	2.77-2.92	70-74	2.26	57	6.56	167	3.70	94
7.8	198	12	3.42-3.55	87-90	2.60	66	7.81	198	4.32	110
8.4	213	13	3.74-3.87	95-98	2.84	72	8.44	214	4.64	118
10.1	257	16	4.71-4.81	120-122	2.97	75	10.34	263	5.59	142

S400 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Roller Top, Transverse Roller Top										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.56	65
5.2	132	8	2.10-2.30	53-58	2.60	66	5.30	135	3.17	81
6.4	163	10	2.77-2.92	70-74	2.77	70	6.50	165	3.79	96
7.8	198	12	3.42-3.55	87-90	3.00	76	7.90	201	4.42	112
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.68	144
0.85-in Diameter Transverse Roller Top										
4.0	102	6	1.27-1.54	32-39	1.72	44	3.96	101	2.48	63
5.2	132	8	1.95-2.15	50-55	2.13	54	5.18	132	3.09	78
6.4	163	10	2.62-2.77	67-70	2.43	62	6.42	163	3.71	94
7.8	198	12	3.27-3.40	83-86	2.78	71	7.68	195	4.34	110
10.1	257	16	4.56-4.66	116-118	3.20	81	10.20	259	5.60	142
Angled Roller (0-, 30-, 45-, 60-, and 90-degree)[a]										
4.0	102	6	1.29-1.56	33-40	1.70	43	4.00	102	2.50	64
5.2	132	8	1.98-2.18	50-55	2.11	53	5.23	133	3.11	79
6.4	163	10	2.64-2.80	67-71	2.40	61	6.47	164	3.74	95
7.8	198	12	3.29-3.43	84-87	2.75	70	7.73	196	4.36	111
10.1	257	16	4.59-4.69	117-119	3.16	80	10.25	260	5.63	143
Ball Belt[a]										
4.0	102	6	1.23-1.50	31-38	1.75	44	4.00	102	2.56	65
5.2	132	8	1.91-2.11	49-54	2.16	55	5.23	133	3.18	81
6.4	163	10	2.58-2.74	65-69	2.47	63	6.47	164	3.80	96
7.8	198	12	3.23-3.36	82-85	2.82	72	7.73	196	4.43	112
10.1	257	16	4.53-4.63	115-117	3.25	82	10.25	260	5.69	144

[a] To establish dimensions, use the top of the roller as the top of the belt and the bottom of the roller as the bottom of the belt.

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 13: Gap at transfer point between belt and dead plate

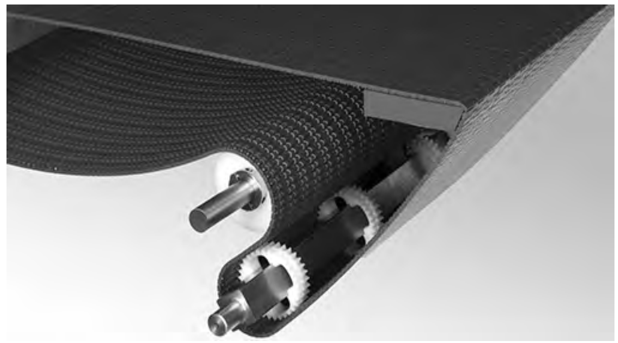
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter				
in	mm	Number of Teeth	in	mm
4.0	102	6	0.268	6.8
5.2	132	8	0.200	5.1
5.8	147	9	0.178	4.5
6.4	163	10	0.160	4.1
7.8	198	12	0.130	3.3
8.4	213	13	0.121	3.1
10.1	257	16	0.100	2.5

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

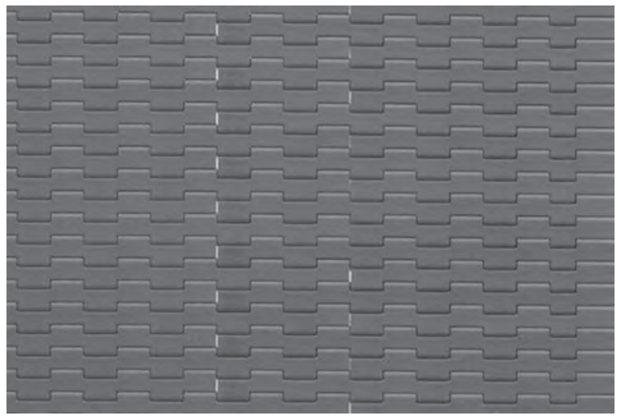
Tight Transfer Flat Top

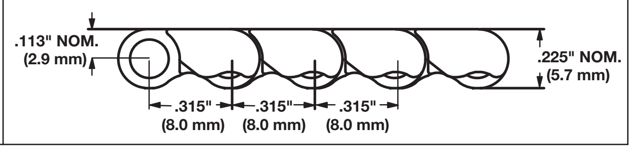
	in	mm
Pitch	0.315	8.0
Minimum Width	8	203.2
Width Increments	1	25.4
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners.
- Standard stainless steel retainer rings are recommended for use with 2.4 in and 3.2 in PD sprockets; corresponding heavy-duty retainer rings can also be used.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for orientation-sensitive transfers.
- Reduced noise at higher speeds, when compared to S1100 Flat Top in acetal and S1500 Flush Grid in acetal.
- Conveys product over 0.25 in (6.4 mm) diameter nosebar.
- Back tension required: 12 lb./ft. of belt width (17.9 kg/m).





Belt Data

Base Belt Material	Standard Rod Material, Diameter 0.14 in (3.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	150	220	-50 to 200	-46 to 93	1.10	5.37
HHR nylon	Nylon	85	126	-50 to 240	-46 to 116	0.85	4.15

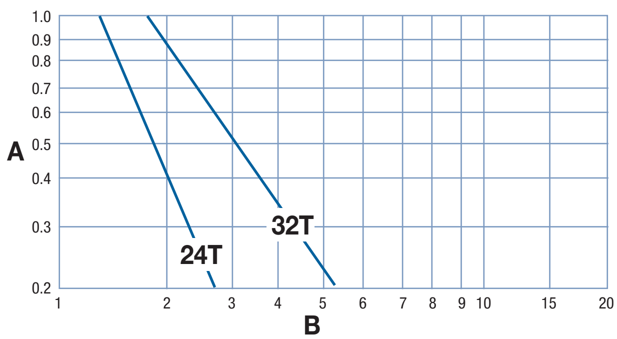
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
8	203	3	3	3
9	229	3	3	3
10	254	4	3	3
11	279	4	4	3
12	305	4	4	3
13	330	4	4	4
14	356	4	4	4
15	381	5	4	4
16	406	5	5	4
17	432	5	5	4
18	457	5	5	4
19	483	5	5	5
20	508	6	5	5
24	610	6	6	5
30	762	8	7	6
36	914	9	9	7
42	1067	10	10	8
48	1219	11	11	9
54	1372	12	12	10
60	1524	14	13	11
66	1676	15	15	12
72	1829	16	16	13
78	1981	17	17	14
84	2134	18	18	15
90	2286	20	19	16
96	2438	21	21	17
120	3048	26	25	21
156	3962	33	33	27
For other widths, use an odd number of sprockets[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.0 in (25.4 mm) increments beginning with a minimum width of 8 in (203.2 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

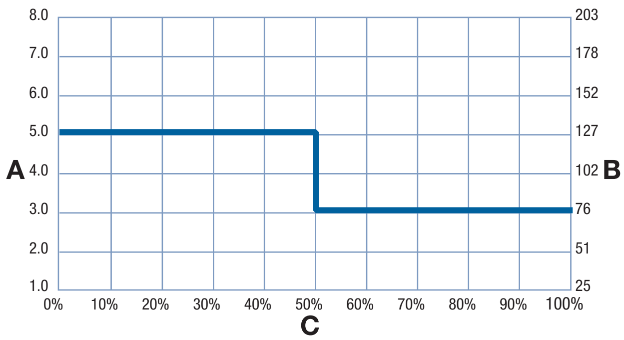
[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.



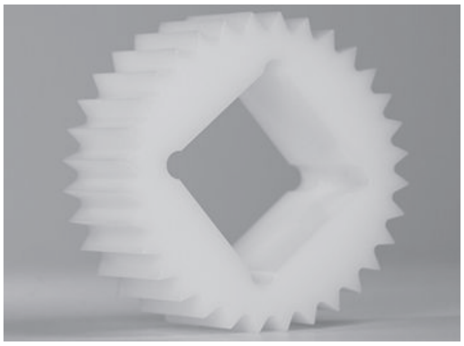
A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

EZ Clean™ Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm	Square mm
24 (0.86%)	2.4	61	2.4	61	1	25	1	1	25	
32 (0.48%)	3.2	81	3.2	81	1	25		1.5		40

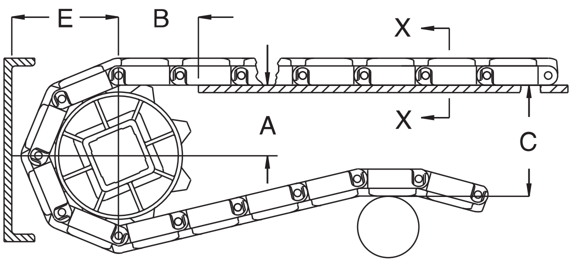
[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967(R1989) and metric key sizes conform to DIN standard 6885.

Non-Tracking Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
24 (0.86%)	2.4	61	2.4	61	1.48	38	1	1	25	
32 (0.48%)	3.2	81	3.2	81	1.48	38		1.5		40



CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



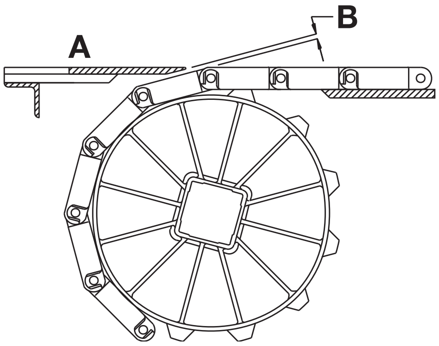
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 14: Basic dimensional requirements

S550 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Tight Transfer Flat Top										
2.4	61	24	1.09	28	1.27	32	2.41	61	1.38	35
3.2	81	32	1.49	38	1.51	38	3.21	82	1.78	45

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 15: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
2.4	61	24	0.028	0.7
3.2	81	32	0.021	0.5

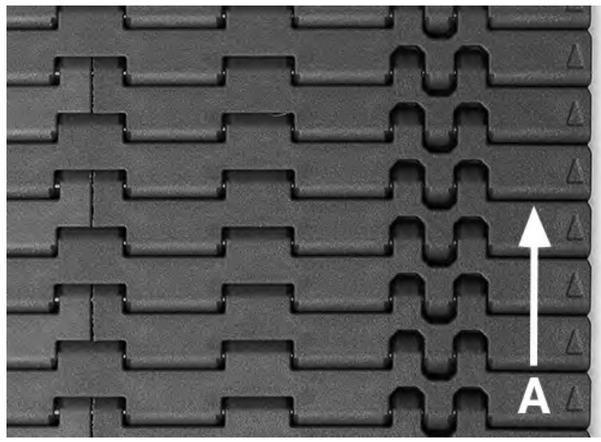
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Flat Top

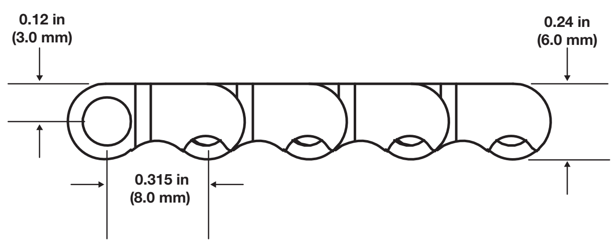
	in	mm
Pitch	0.315	8.0
Minimum Width	4	101.6
Maximum Width	62	1575
Width Increments	1.00	25.4
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Rod diameter: 0.140 in (3.6 mm).
- Designed for 0.236 in (6 mm) diameter nosebars.



A preferred run direction

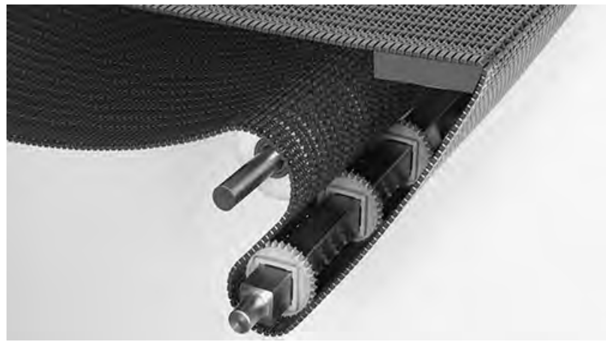


Belt Data

Belt Material	Standard Rod Material, Diameter 0.14 in (3.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	375	560	-50 to 200	-46 to 93	1.08	5.27
Acetal	LMAR	325	480	-50 to 200	-46 to 93	0.91	4.4426
LMAR	LMAR	275	410	-50 to 290	-46 to 143	0.87	4.2473
PK	PK	300	450	-40 to 200	-40 to 93	0.85	4.1497
PK	Acetal	300	450	-40 to 200	-40 to 93	0.88	4.2962
Detectable MX	Detectable MX	300	450	-50 to 200	-46 to 93	1.24	3.6127

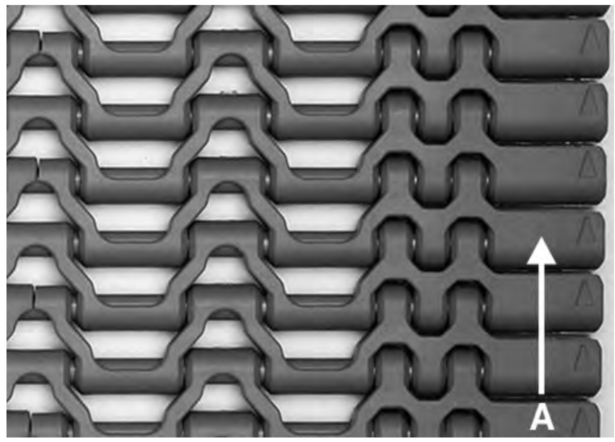
Flush Grid

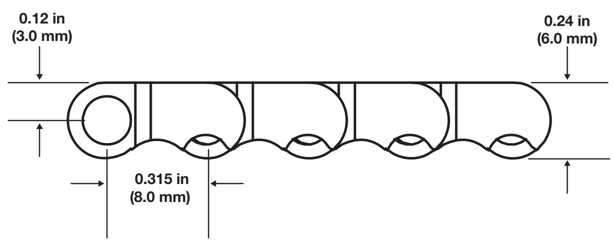
	in	mm
Pitch	0.315	8.0
Minimum Width	4.0	101.6
Maximum Width	62	1575
Width Increments	1.0	25.4
Opening Size (approximate)	0.4 x 0.14	10.2 x 3.5
Open Area	32%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, upper surface with fully flush edges.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for orientation-sensitive transfers.
- Rod diameter: 0.140 in (3.6 mm).
- Designed for 0.236 in (6 mm) diameter nosebars.



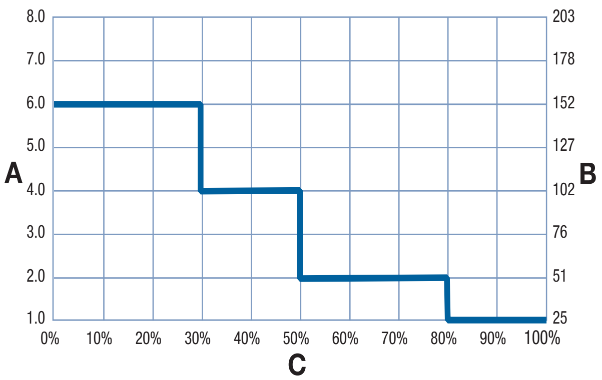


Belt Data							
	Standard Rod Material, Diameter 0.14 in (3.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
Belt Material		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	300	450	-50 to 200	-46 to 93	0.87	4.25
Acetal	LMAR	250	370	-50 to 200	-46 to 93	0.84	4.10
LMAR	LMAR	200	300	-50 to 290	-46 to 143	0.72	3.52
PK	PK	200	300	-40 to 200	-40 to 93	0.71	3.4662
PK	Acetal	275	410	-40 to 200	-40 to 93	0.74	3.6127

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
4	102	2	2	2
6	152	2	2	2
8	203	3	3	3
12	305	3	3	3
18	457	4	4	4
24	610	5	4	4
30	762	6	5	5
36	914	7	6	6
42	1067	8	7	7
48	1219	10	8	8
54	1372	11	9	9
60	1524	12	10	10
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c, d]			Maximum 6 in (152 mm) centerline spacing	Maximum 6 in (152 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.0 in (25.4 mm) increments beginning with a minimum width of 4 in (101.6 mm). If the actual width is critical, contact Intralox Customer Service.
[b] This number is a minimum. Heavy-load applications can require additional sprockets.
[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.
[d] For drive shafts, use an odd number of sprockets at maximum of 4.0 in (102 mm) centerline spacing.

Sprocket Spacing as a Function of Belt Strength Utilized



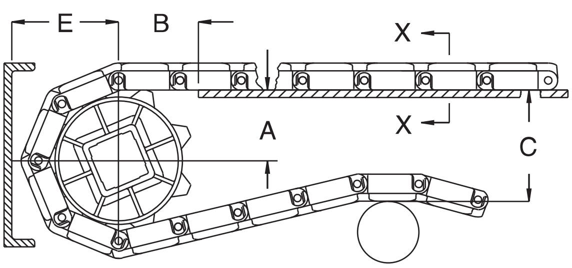
A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Molded Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
24 (0.86%)	2.4	61	2.5	64	1	25	1	1	25	25
32 (0.48%)	3.2	81	3.3	84	1	25		1.5		40

Machined Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
18 (1.52%)	1.8	46	1.9	48	1	25	1	0.75	25	20
36 (0.38%)	3.6	91	3.7	94	1	25		1.5		40

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



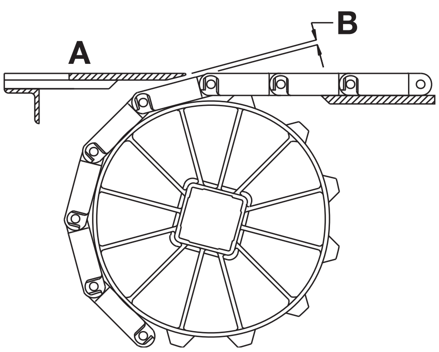
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 16: Basic dimensional requirements

S560 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
Flat Top, Flush Grid											
1.8	46	18	0.78	20	1.15	29	1.81	46	1.09	28	
2.4	61	24	1.08	27	1.35	34	2.41	61	1.39	35	
3.2	81	32	1.48	38	1.57	40	3.21	82	1.79	45	
3.6	91	36	1.68	43	1.67	42	3.61	92	1.99	51	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 17: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

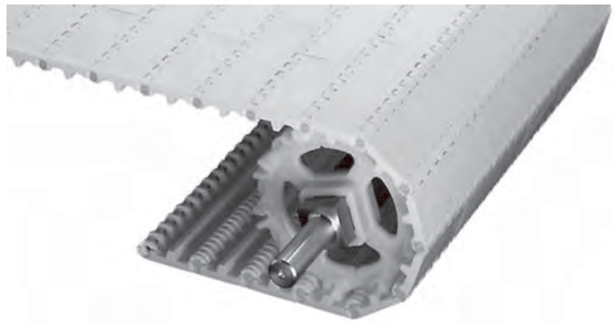
Sprocket Description			Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
1.8	46	18	0.014	0.4
2.4	61	24	0.010	0.3
3.2	81	32	0.008	0.2
3.6	91	36	0.007	0.2

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

SERIES 560

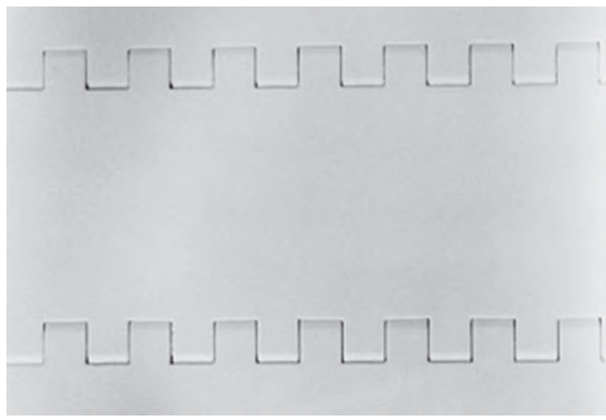
Flat Top

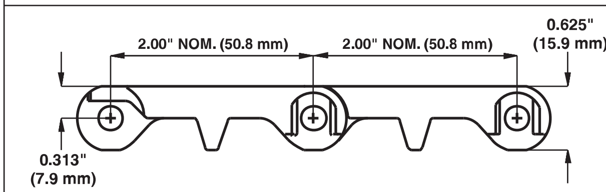
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact-resistant belt designed for tough, meat-industry applications.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Flights and sideguards are available.



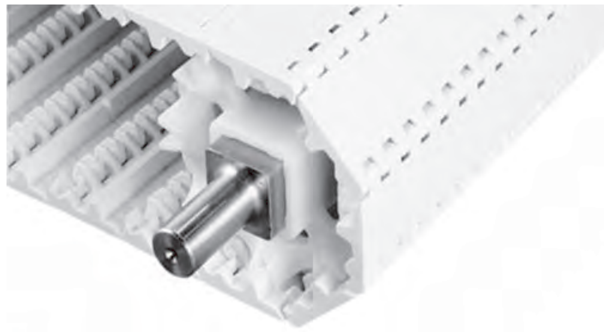


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.77	8.66
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	1.87	9.13
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.75	13.43
Nylon	Polyethylene	1200	1780	-50 to 150	-46 to 66	2.32	11.33
Detectable polypropylene A22	Polyethylene	650	967	34 to 150	1 to 66	2.21	10.79

Open Hinge Flat Top

	in	mm
Pitch	2.00	50.8
Minimum Width	4	102
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners, so there are no pockets or sharp corners to catch and hold debris.
- Cam-link designed hinges expose more hinge and rod area as the belt goes around the sprocket. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Compatible with S800 Flat Top. Can be spliced directly into S800 Flat Top, using the same sprockets and accessories.
- Streamlined flights are available. Standard height is 6 in (152.4 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.

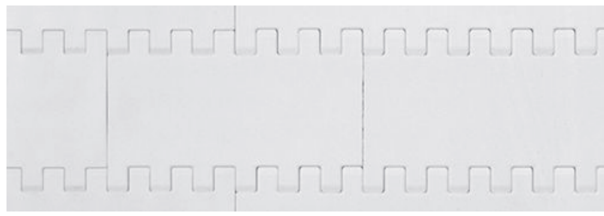


Figure 18: Top surface

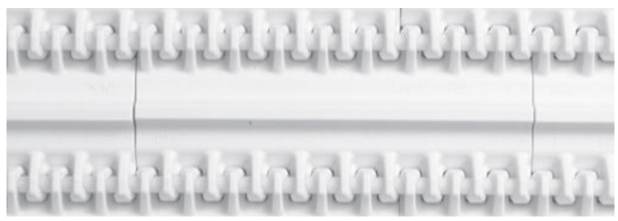
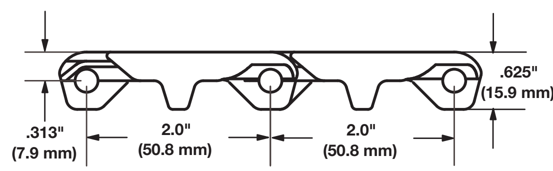


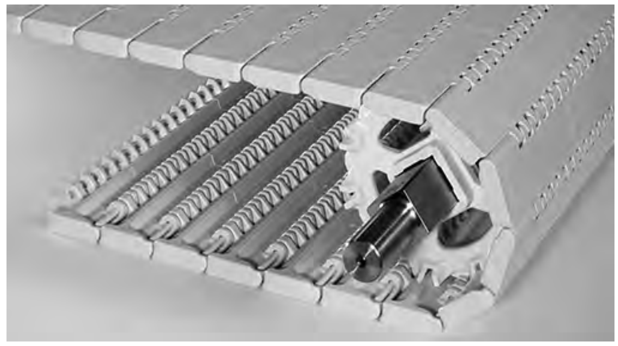
Figure 19: Bottom surface



Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	900	1340	34 to 220	1 to 104	1.63	7.96
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	1.70	8.30
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.52	12.3
PK	PK	900	1340	-40 to 200	-40 to 93	2.26	12.01
X-ray detectable acetal	X-ray detectable acetal	900	1339	-50 to 200	-46 to 93	3.06	11.03

Open Hinge Flat Top with Heavy-Duty Edge

	in	mm
Pitch	2.00	50.8
Minimum Width	10	254.0
Width Increments	0.66	16.8
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact-resistant belt designed for tough, meat-industry applications.
- Closed flush edge provides belt robustness and no catchpoints.
- Fully sculpted and radiused corners, with no pockets or sharp corners that can catch and hold debris.
- Like S1600 and S1800, the drive bar on the underside of this belt style channels water and debris to the outside of the belt for easier, faster cleanup. The drive bar sweeps into the closed edge to further aid in washing away debris. Drive bar effectiveness is proven both in-house and in field tests.
- Available with Clean Release variation. Clean Release allows tool-free belt removal and installation and eliminates foreign material contamination caused by belt or rod damage when opening or closing belts.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Also available in 6 in (152 mm) and 8 in (203 mm) mold to width.
- Streamlined flights are available.
- For flight options, contact Intralox Customer Service.

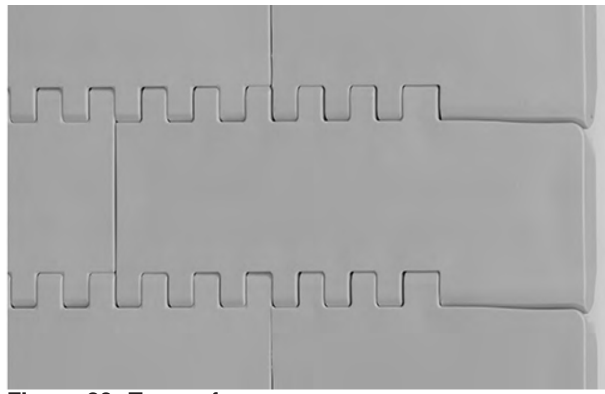


Figure 20: Top surface

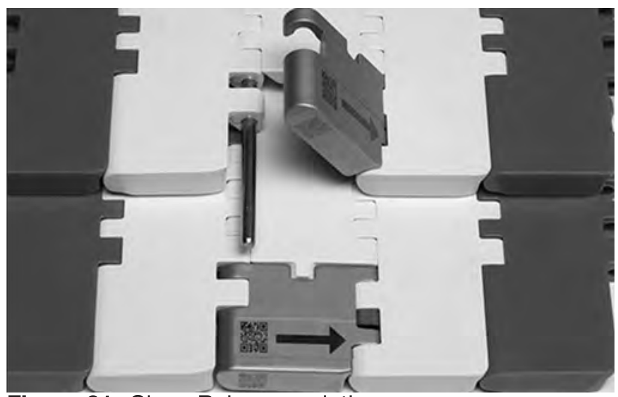
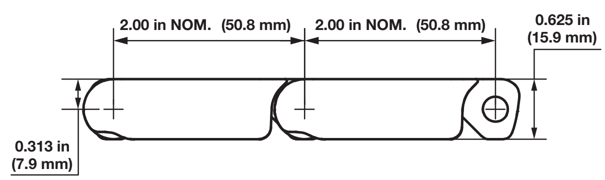


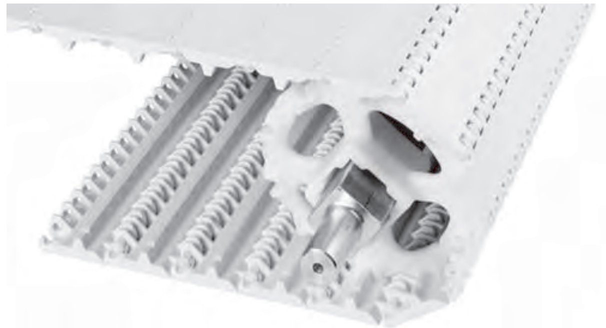
Figure 21: Clean Release variation



Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
PK	PK	900	1340	-40 to 200	-40 to 93	2.46	12.01
X-ray detectable PK	X-ray detectable PK	900	1339	-40 to 200	-40 to 93	2.93	14.31

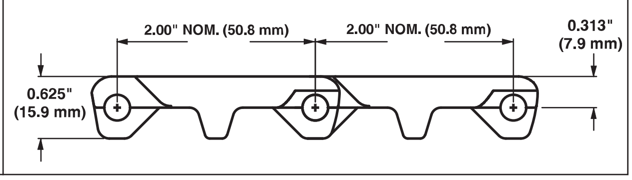
SeamFree™ Open Hinge Flat Top

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Cam-link designed hinges expose more hinge and rod area as the belt goes around the sprocket. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Fully sculpted and radiused corners, so there are no pockets or sharp corners to catch and hold debris.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Compatible with S800 Flat Top. Can be spliced directly into S800 Flat Top, using the same sprockets and accessories.
- Belts over 36 in (914 mm) are built with more than one module per row, but seams are minimized.
- Blue polyethylene belts over 18 in (457 mm) are built with more than one module per row.
- Streamlined flights are available. Standard height is 6 in (152.4 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.

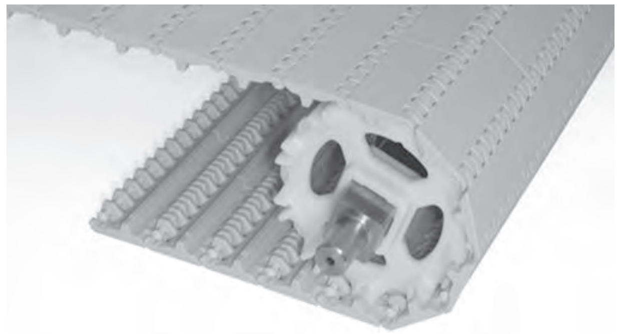


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	1.70	8.30
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.52	12.3

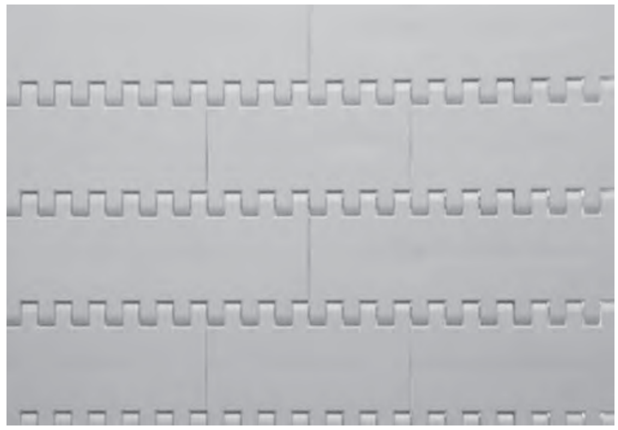
Tough Flat Top

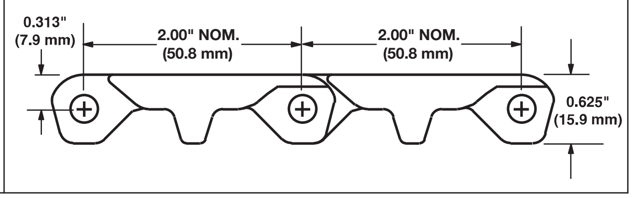
	in	mm
Pitch	2.00	51.0
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Cam-link designed hinges expose more hinge and rod area as the belt goes around the sprocket. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- White and grey material is fully Food and Drug Administration (FDA) and EU MC compliant.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Withstands extreme impact in food processing applications.
- Compatible with S800 Flat Top and S800 Open Hinge. Can be spliced directly into either style, using the same sprockets and accessories.
- Easy retrofit from S1800 without extensive conveyor frame changes for most meat industry applications since the A, B, C, and E dimensions are within 0.25 in (6 mm) of S1800.
- A molded-in indent 1.3 in (33 mm) from the edge is available.
- Streamlined Tough flights are available. Standard height is 4 in or (101.6 mm) or 6 in (152.4 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.



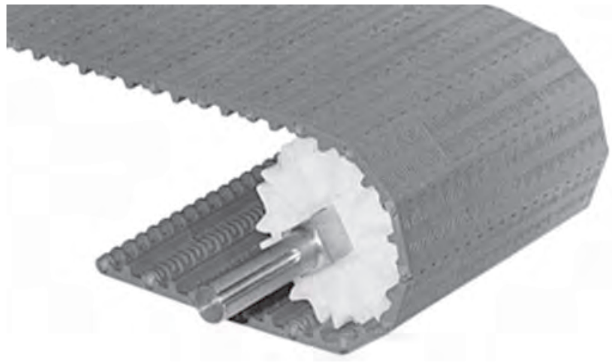


SERIES 800

Belt Data								
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Hi-Impact	PK	500	744	0 to 120	-18 to 49	2.26	11.03
Hi-Impact	Polyethylene	450	670	0 to 120	-18 to 49	2.26	11.03

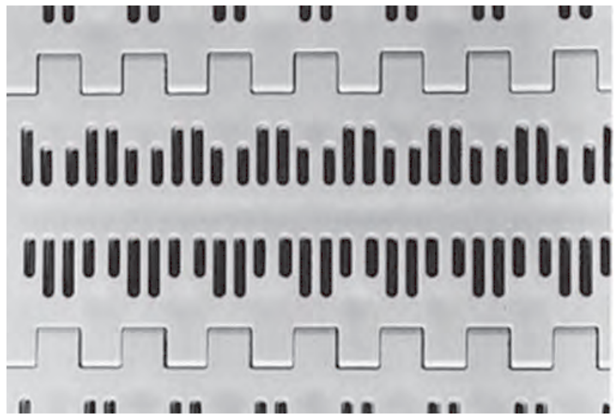
Perforated Flat Top

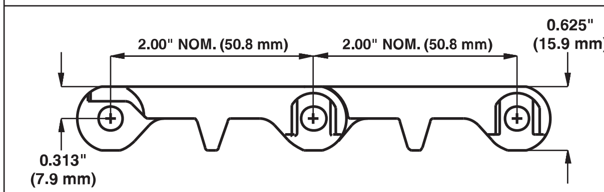
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Minimum Opening Size (approximate)	0.29 × 0.08	7.4 × 1.9
Maximum Opening Size (approximate)	0.44 × 0.08	11.1 × 1.9
Open Area	18%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Perforated version of S800 Flat Top.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Flights and sideguards are available.



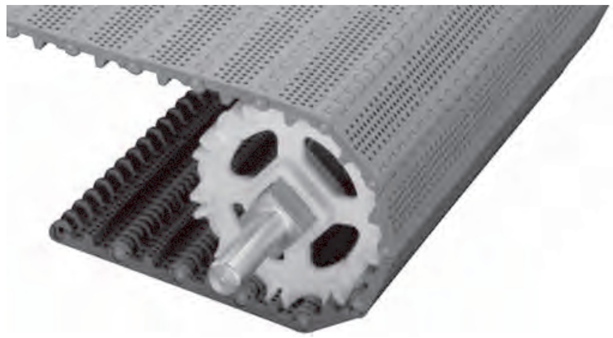


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.54	7.25
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	1.59	7.76
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.28	11.15

Perforated Flat Top Round Hole

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size	See photos on right.	
Open Area	See photos on right.	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Round hole versions of Series 800 Perforated Flat Top.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Stainless steel split sprockets are not recommended.
- For abrasive applications, use with Series 800 polyurethane sprockets.

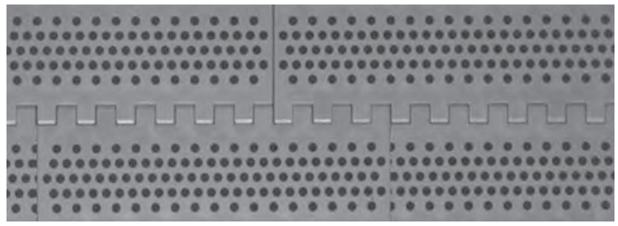


Figure 22: 5/32 in (4 mm) - 20% open area

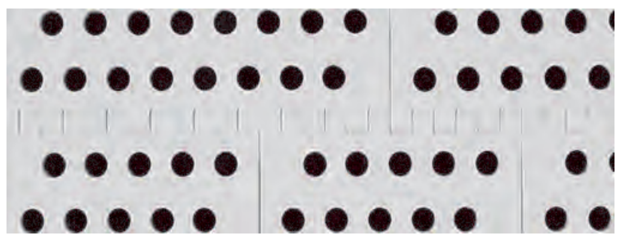
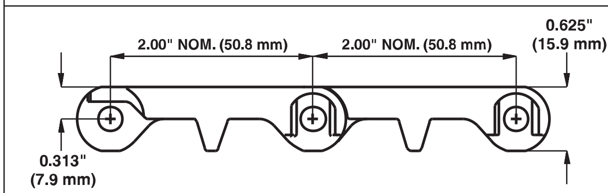


Figure 23: 11/32 in (8.7 mm) - 14% open area



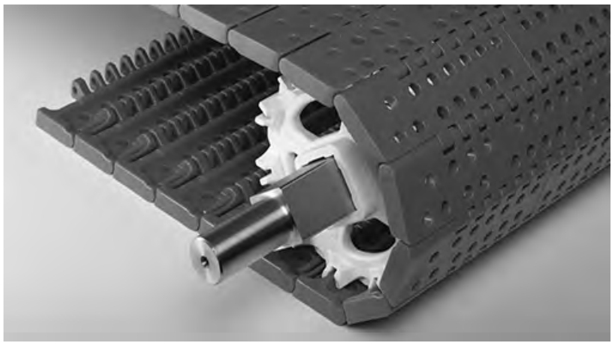
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1488	34 to 220	1 to 104	1.54	7.52
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	1.59	7.76
Acetal	Polyethylene	900	1339	-50 to 150	-46 to 66	2.28	11.15
ChemBlox[a]	ChemBlox	900	1339	0 to 150	-18 to 66	2.87	14.01
PK[a]	PK	900	1339	-40 to 200	-40 to 93	2.05	10.01

[a] Only available in 11/32 in (8.73 mm).

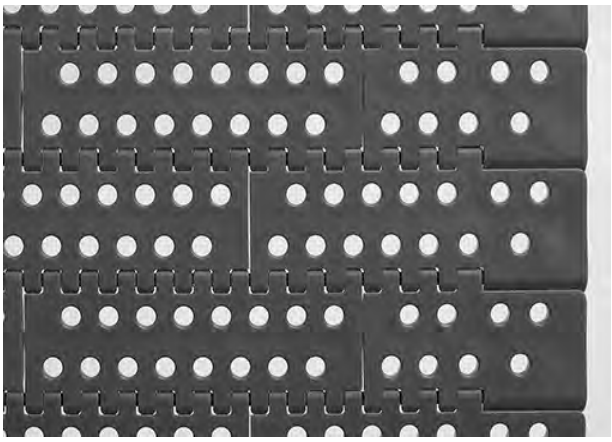
Perforated Flat Top 11/32 in Round Hole with Heavy-Duty Edge

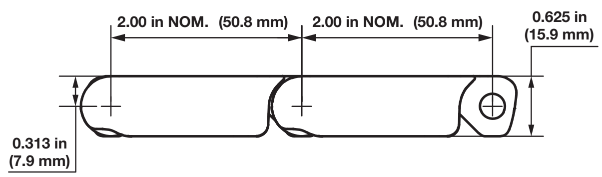
	in	mm
Pitch	2	50.8
Minimum Width	10	254.0
Width Increments	0.66	16.8
Opening Size (approximate)	11/32	8.75
Open Area	14%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Closed flush edge design provides a robust belt with no catchpoints.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. The drive bar sweeps into the closed edge to further aid in washing away debris. Drive bar effectiveness is proven both in-house and in field tests.
- Impact-resistant belt designed for tough, meat-industry applications.
- Detailed material information is provided at the beginning of Section 2: Product Line.





Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
PK	PK	900	1340	-40 to 200	-40 to 93	2.22	10.84

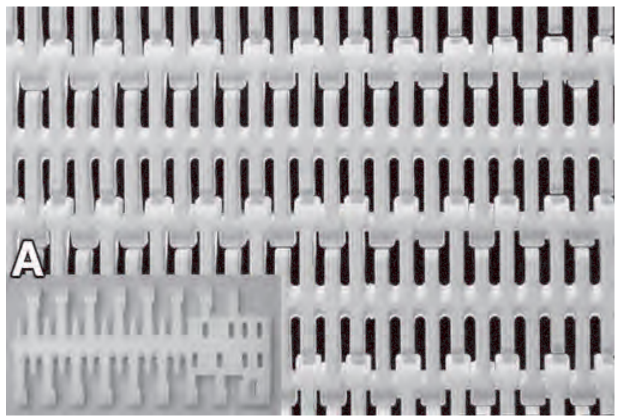
SERIES 800

Flush Grid

	in	mm
Pitch	2.00	50.8
Minimum Width	4.6	117
Width Increments	0.66	16.8
Opening Size (approximate)	0.15 × 0.90	3.8 × 22.9
Open Area	27%	
Product Contact Area	73%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Open slots improve drainage and cleanability.
- Perforations on polyethylene edge modules are slightly different. See inset photo on right.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Provides excellent drainage during production and cleanup. Hole design eliminates water collecting on belt surface and being carried throughout processing line.
- Bi-directional belt design allows sprockets to drive or idle belt in both directions. Reduces chances of installation error.
- Complete range of accessories available, including round-top flights, flights with drainage bases, and sideguards.



A Inset: polyethylene edge module

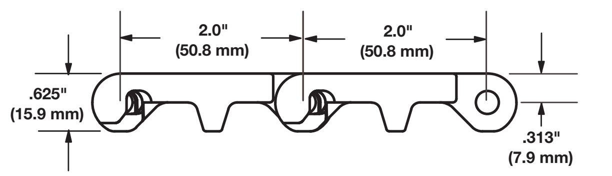


Figure 24: Polyethylene belts

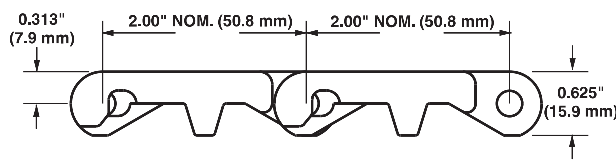


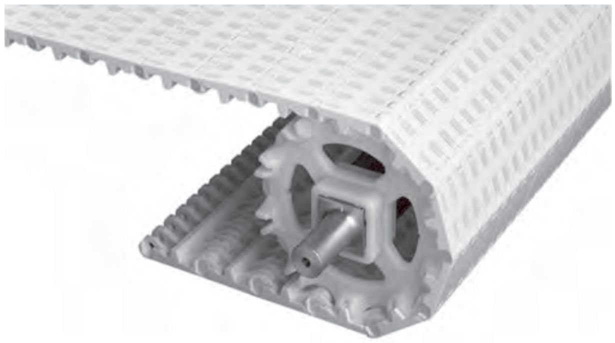
Figure 25: All other materials

Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	800	1190	34 to 220	1 to 104	1.45	7.08
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	1.63	7.96
Acetal	Polyethylene	1000	1490	-50 to 150	-46 to 66	2.25	10.99
Acetal	Polypropylene	1000	1490	34 to 200	1 to 93	2.25	10.99
Detectable polypropylene A22	Polypropylene	500	744	34 to 150	1 to 66	1.71	8.35
ChemBlox	ChemBlox	1000	1488	0 to 150	-18 to 66	2.83	13.82

Mesh Top

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size (approximate)	0.50 × 0.04	12.7 × 1.0
Open Area	9%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Flights are available.
- Not compatible with sideguards.

Figure 26: Top surface

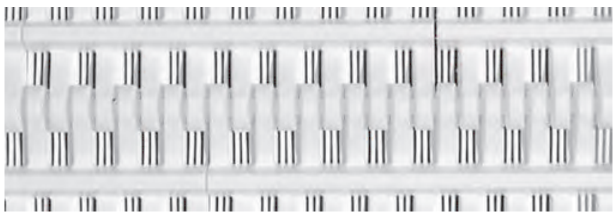


Figure 27: Underside surface

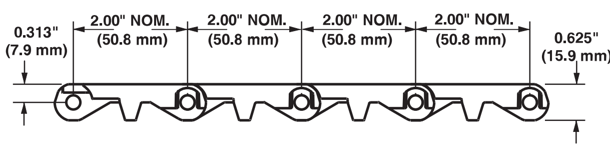


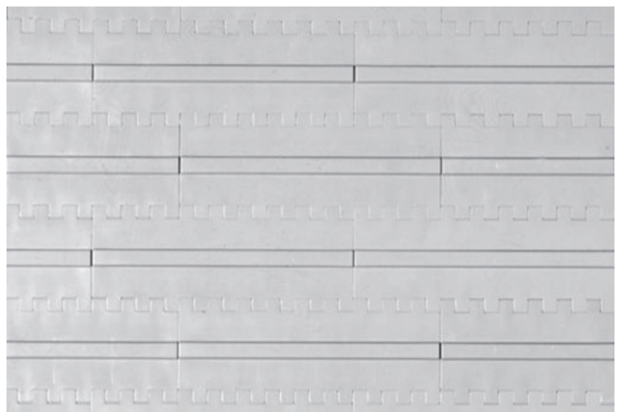
Figure 28: Dimensions

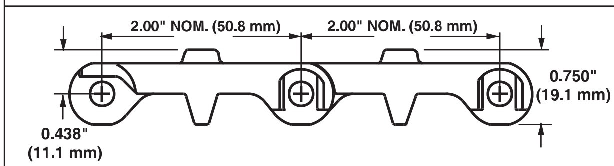
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.60	7.86

Mini Rib

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

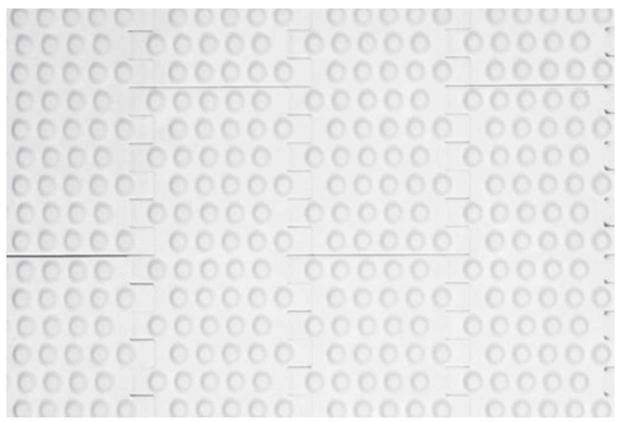
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed surface with fully flush edges.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Impact resistant belt designed for tough meat industry applications.
- Not recommended for product accumulation conditions. If values are required, contact Intralox Customer Service.
- 0.125 in (3 mm) Mini Rib on surface accommodates gradual inclines and declines.

Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.77	8.66
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	1.87	9.13
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.92	14.26

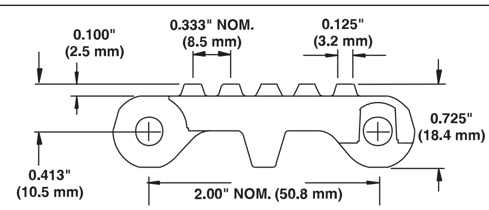
Nub Top

	in	mm
Pitch	2.00	50.8
Minimum Width	4	102
Width Increments	0.66	16.8
Open Area	0%	
Product Contact Area	15%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

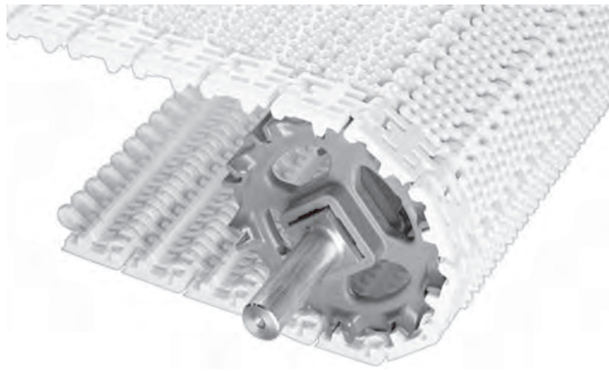
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Not recommended for product accumulation conditions. If values are required, contact Intralox Customer Service.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Standard flights and sideguards (without nubs) are available.
- Standard nub indent: 1.3 in (33.0 mm).



Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.90	9.26
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	2.01	9.80
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.95	14.40

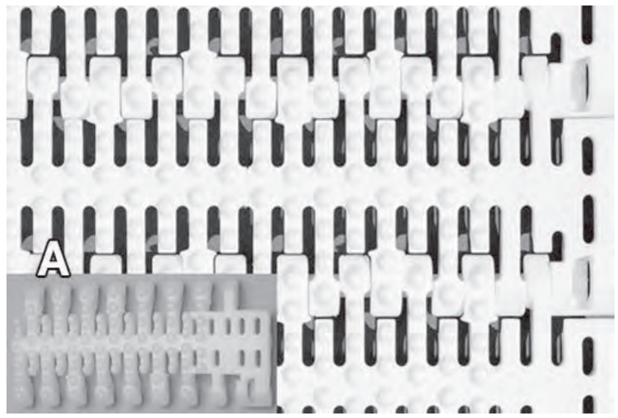
Flush Grid Nub Top

	in	mm
Pitch	2.00	50.8
Minimum Width	4.6	117
Width Increments	0.66	16.8
Opening Size (approximate)	0.15 × 0.90	3.8 × 22.9
Open Area	27%	
Product Contact Area	15%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge, unheaded	

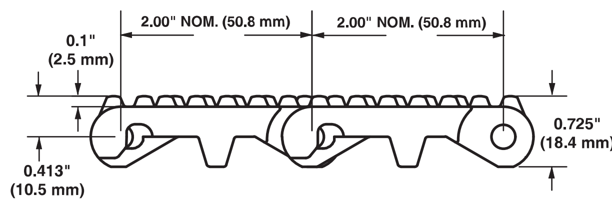


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Perforations on polyethylene edge modules are slightly different. See inset photo.
- Nub pattern reduces contact between belt surface and product.
- Nub pattern is continuous over the surface of the belt, even over the hinges.
- Available in acetal and polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Recommended for products large enough to span the distance between the nubs.
- Compatible with S800 Flush Grid flights only.
- Standard nub indent: 1.3 in (33.0 mm).



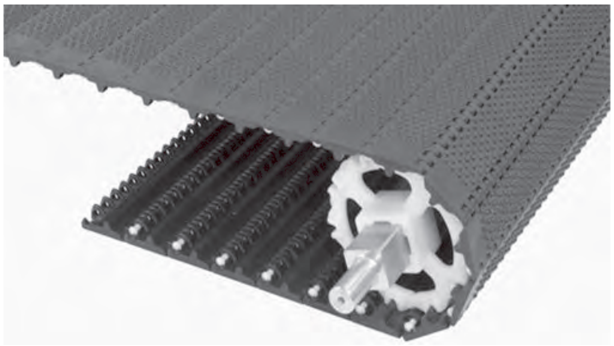
A Inset: polyethylene edge module

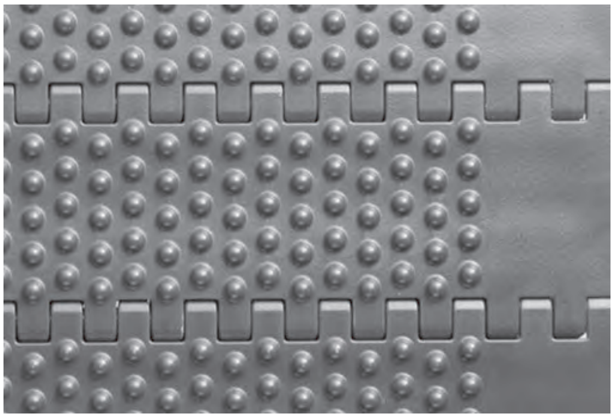


Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	800	1190	34 to 220	1 to 104	1.56	7.62
Acetal	Polyethylene	1000	1490	-50 to 150	-46 to 66	2.36	11.52
Acetal	Polypropylene	1000	1490	34 to 200	1 to 93	2.36	11.52
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	1.85	9.03

SeamFree™ Open Hinge Nub Top™

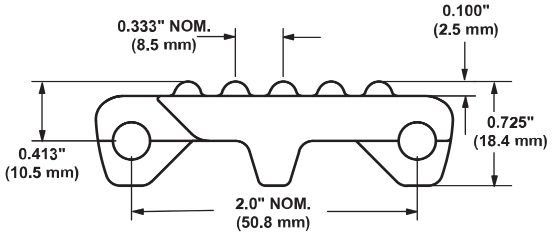
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners, with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Nub height: 0.100 in (2.5 mm).
- Nub spacing: 0.333 in (8.5 mm).
- Standard nub indent: 1.3 in (33.0 mm).

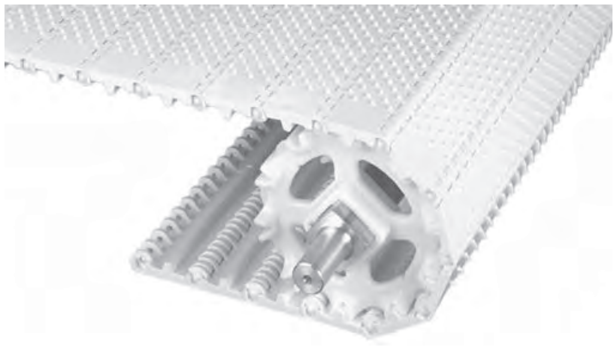


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.72	13.26

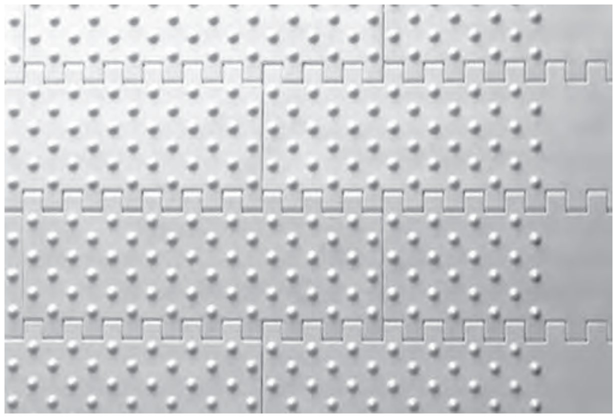
Cone Top™

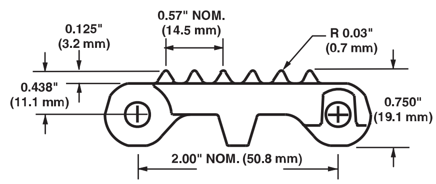
	in	mm
Pitch	2.00	50.8
Minimum Width	4	102
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. If values are required, contact Intralox Customer Service.
- Standard flights and sideguards (without cones) are available.
- Standard cone indent: 1.3 in (33.0 mm).



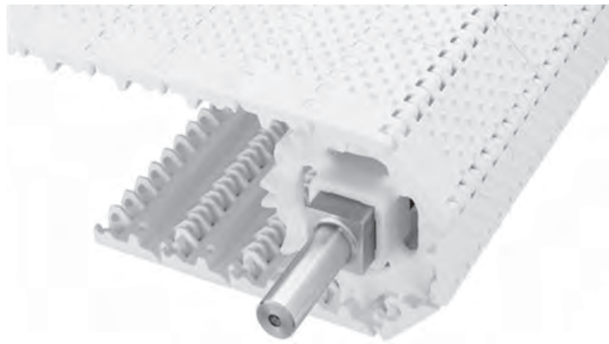


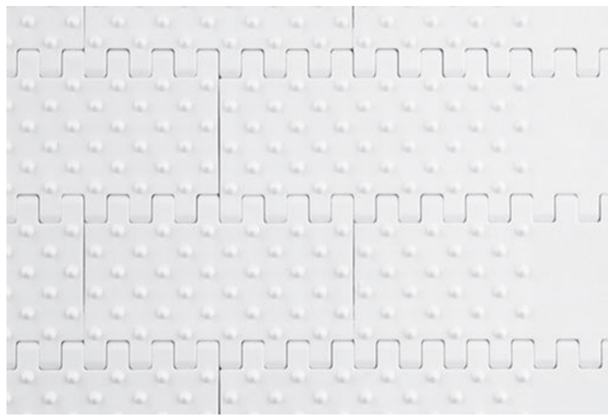
Belt Data

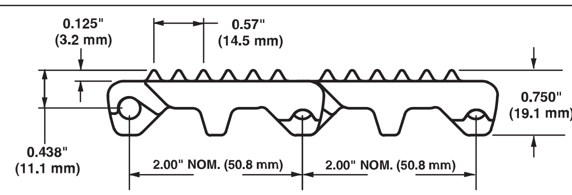
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.84	13.89

Open Hinge Cone Top™

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

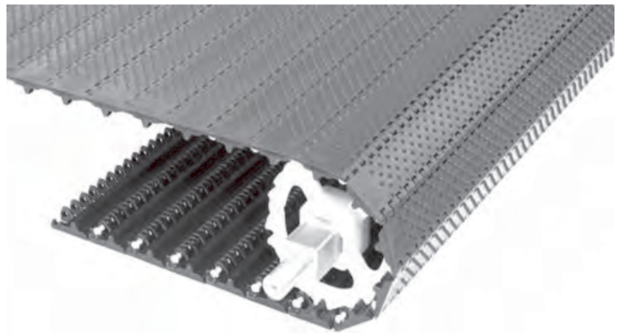
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners, with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Standard cone indent: 1.3 in (33.0 mm).
- Standard flights and sideguards (without cones) are available.

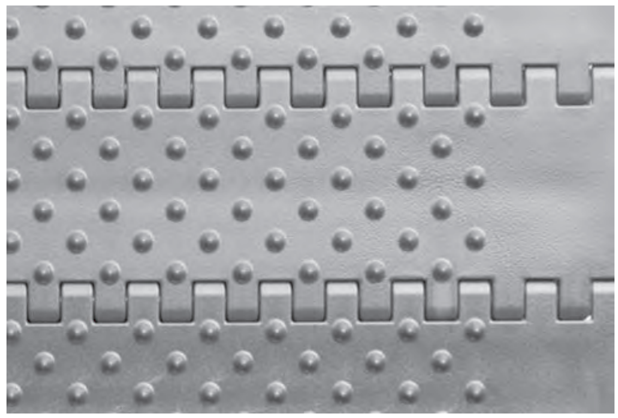
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	900	1340	34 to 220	1 to 104	1.63	7.96
Polyethylene	Polyethylene	500	744	-50 to 150	-46 to 66	1.70	8.30
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.52	12.3

SeamFree™ Open Hinge Cone Top™

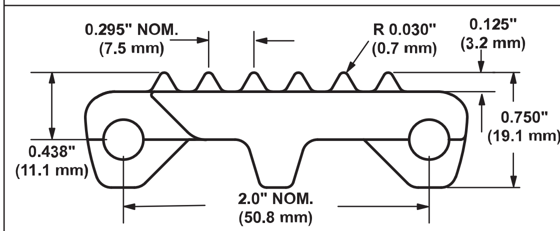
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

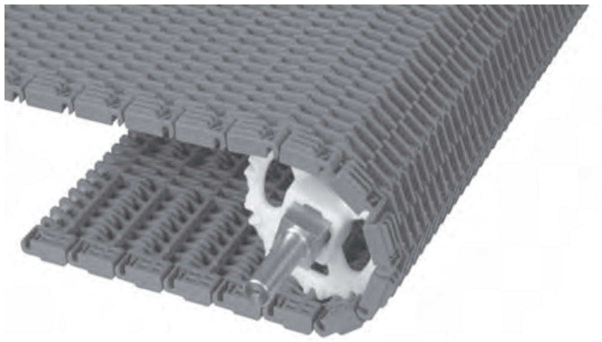
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Cone height: 0.125 in (3.2 mm).
- Cone spacing: 0.295 in (7.5 mm).
- Standard cone indent: 1.3 in (33 mm).



Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.61	12.72

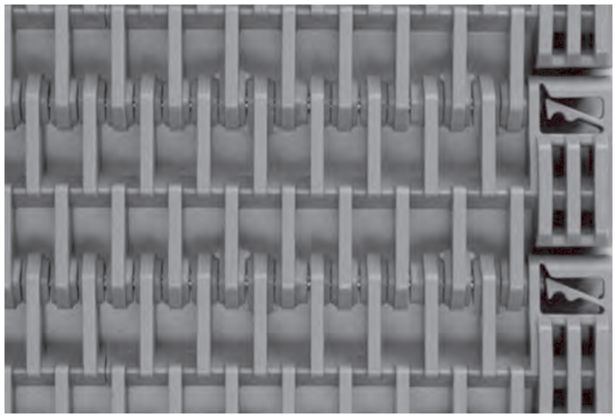
Raised Rib

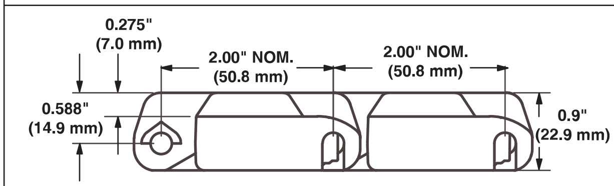
	in	mm
Pitch	2.00	50.8
Minimum Width	14	356
Width Increments	2.00	50.8
Opening Size (approximate)	0.51 x 0.49	12.9 x 12.4
Open Area	40%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open slots improve drainage and cleanability.
- Cam-link design hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Fully compatible with S800 EZ Clean™ angled sprockets.
- Finger transfer plates are available.
- Raised ribs extend 0.275 in (7.0 mm) above basic module with fully flush edges.

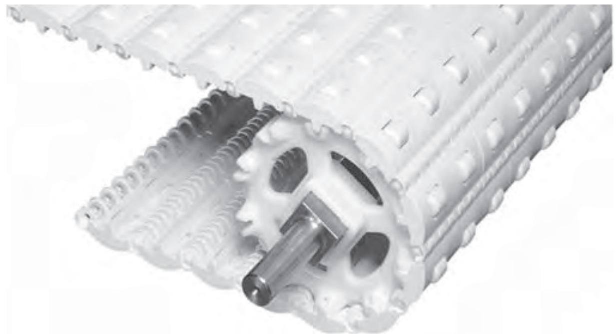




Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.48	7.23
Enduralox PP	Polypropylene	1000	1490	34 to 220	1 to 104	1.48	7.23

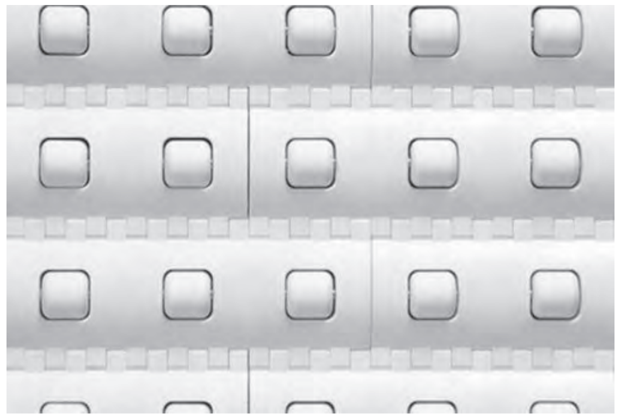
Roller Top

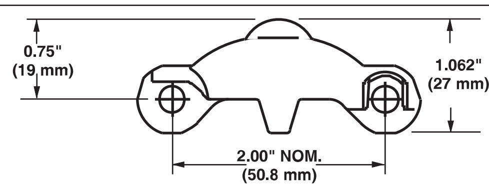
	in	mm
Pitch	2.00	50.8
Minimum Width	See Product Notes	
Width Increments		
Opening Size	-	-
Open Area	3%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Has fully flush edges.
- Uses acetal rollers.
- Uses stainless steel axles.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Impact resistant belt designed for tough box and package, low back-pressure applications.
- Product accumulation load is 5%–10% of product weight.
- Roller diameter: 0.70 in (17.8 mm). Roller length - 0.825 in (20.9 mm).
- Roller spacing: 2.0 in (50.8 mm).
- Standard roller indent: 0.60 in (15 mm).
- Custom widths of 4 in (102 mm) and 6 in (152 mm) and from 10 in (254 mm) and up, in 2.00 in (50.8 mm) increments.



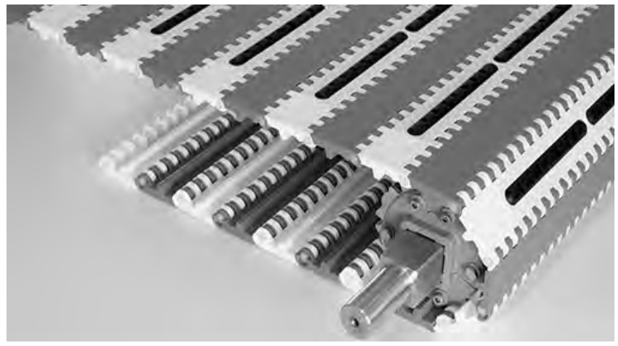


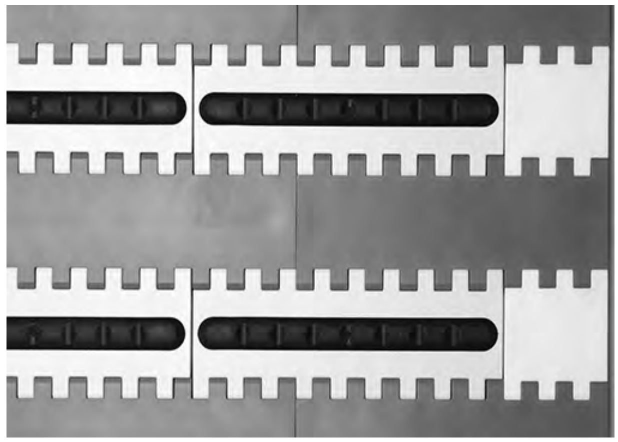
Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1000	1490	34 to 200	1 to 93	2.93	14.34
Polyethylene	Acetal	500	744	-50 to 150	-46 to 66	2.99	14.62
Acetal	Acetal	900	1340	-50 to 200	-46 to 93	4.11	20.10

SERIES 800

Rounded Friction Top

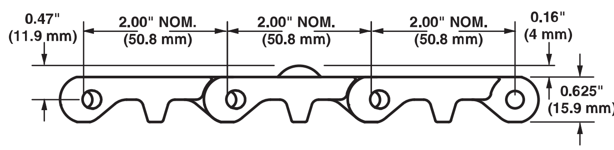
	in	mm
Pitch	2.00	50.8
Minimum Width	8	203
Width Increments	0.66	16.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- The Rounded Friction Top module is black rubber on a white PP composite base module.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- No mistracking or stick-slip effect, even on long runs. Belt is positively tracked by the sprocket drive system instead of unreliable friction rollers.
- Thermally bonded rubber does not peel off. Friction Top surface is co-molded (thermally bonded) with the plastic base instead of glued on or mechanically fastened.
- Rounded Friction Top module can be used with other S800 styles. Use the belt strength rating of the accompanying modules.
- Easy to maintain and repair: Intralox reusable unheaded rods are quickly removed and installed with only minimal tools, so one can replace individual modules in minutes.
- No tensioning required, which eliminates expensive tensioning systems.
- Lower construction cost: Intralox sprocket drive requires far less space than a friction roller system, allowing shallow, less expensive trench construction.
- Lower wearstrip replacement cost: Flat Top edge modules prevent premature wearstrip erosion. The smooth surface spans 1.5 in (38.1) mm from the outer edge.



Belt Data									
Base Belt Material	Base/ Friction Top	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²	
Polypropylene composite	White/ black	Acetal	2500	3713	-50 to 150	-29 to 66	2.3	11.25	–

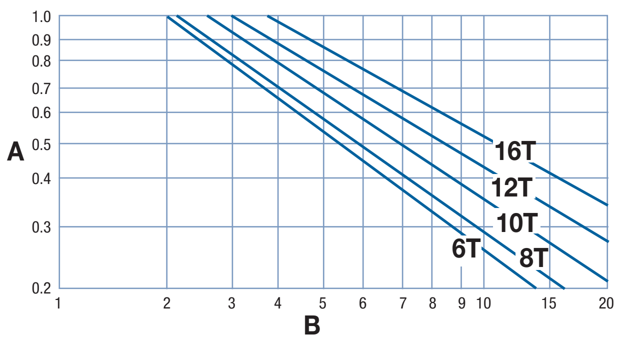
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.66 in (16.8 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets. Polyurethane sprockets require a maximum 4 in (102 mm) centerline spacing.

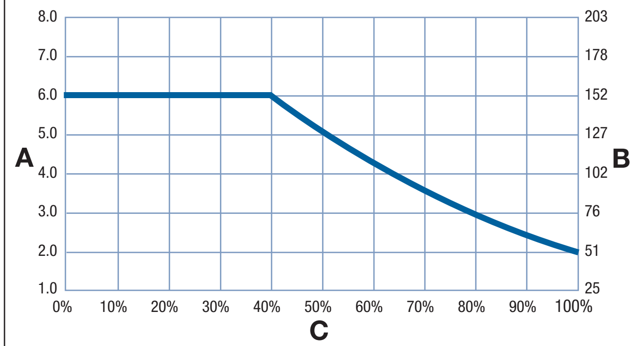
[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

EZ Clean™ Sprocket[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[b]	Square in	Round mm[b]	Square mm
6 (13.40%)	4.0	102	3.8	97	1.5	38	1.0	1.5	30	40
8 (7.61%)	5.2	132	5.0	127	1.5	38	1.0	1.5	30	40
10 (4.89%)	6.5	165	6.2	157	1.5	38		1.5		40
12 (3.41%)	7.7	196	7.5	191	1.5	38		1.5		40
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5		40

[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

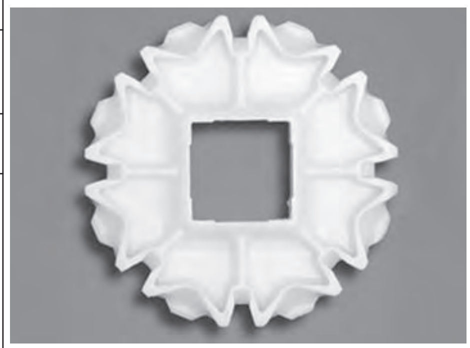
[b] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Split Ultra Abrasion Resistant Polyurethane (FDA) Sprockets[a]										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[b]	Square in	Round mm[b]	Square mm
10 (4.89%)	6.5	165	6.2	157	1.5	38		1.5		40
12 (3.41%)	7.7	196	7.5	191	1.5	38	1.5, 2.5	1.5, 2.5	1.5, 2.5	40, 60
16 (1.92%)	10.3	262	10.1	257	1.5	38				40, 60

[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets. These sprockets are FDA-compliant.

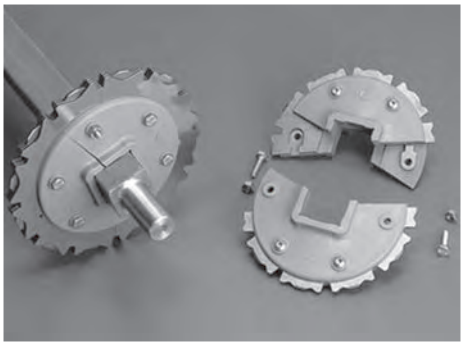
[b] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Molded Sprocket[a]										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
8 (7.61%)	5.2	132	5.0	127	1.5	38		1.5		40
10 (4.89%)	6.5	165	6.2	157	1.5	38		1.5, 2.0, 2.5		40, 60
12 (3.41%)	7.7	196	7.5	191	1.5	38		1.5, 2.5		40, 60
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5, 2.5		40, 60

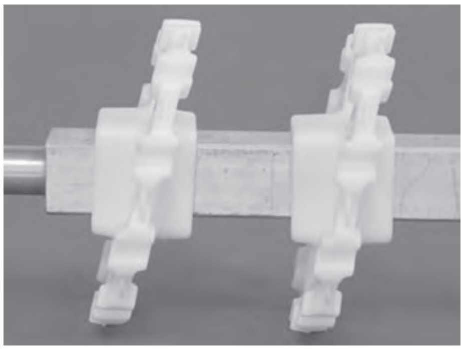


[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

Abrasion Resistant Split Metal Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
8 (7.61%)	5.2	132	5.0	127	1.7	43		1.5, 2.5		40, 60
10 (4.89%)	6.5	165	6.2	157	1.7	43		1.5, 2.5		40, 60
12 (3.41%)	7.7	196	7.5	191	1.7	43		1.5, 2.5		40, 60
16 (1.92%)	10.3	262	10.1	257	1.7	43		1.5, 2.5		40, 60



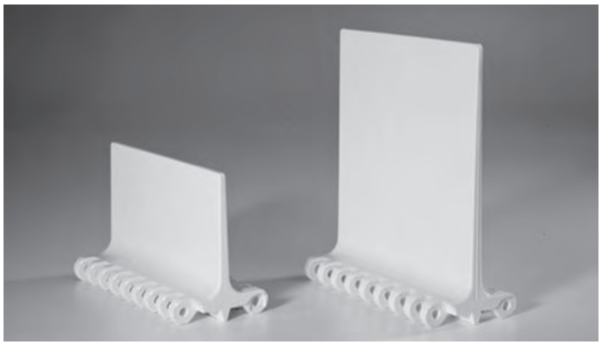
Angled EZ Clean™ Sprocket[a]										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
6 (13.40%)	4.0	102	3.8	97	2.0	50.8		1.5		40
8 (7.61%)	5.2	132	5.0	127	2.0	50.8		1.5		40
10 (4.89%)	6.5	165	6.2	157	2.0	50.8		1.5		40
12 (3.41%)	7.7	196	7.5	191	2.0	50.8		1.5		40
16 (1.92%)	10.3	262	10.1	257	2.0	50.8		1.5, 2.5		40, 60



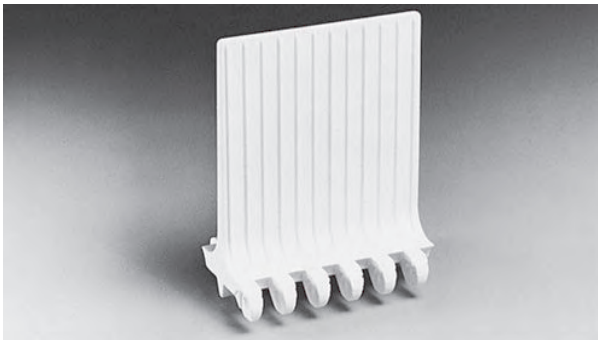
[a] Do not use Angled EZ Clean sprockets with S800 Mesh Top.

Streamline Flights[a]		
Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene, acetal, nylon
2	51	
3	76	
4	102	
6	152	

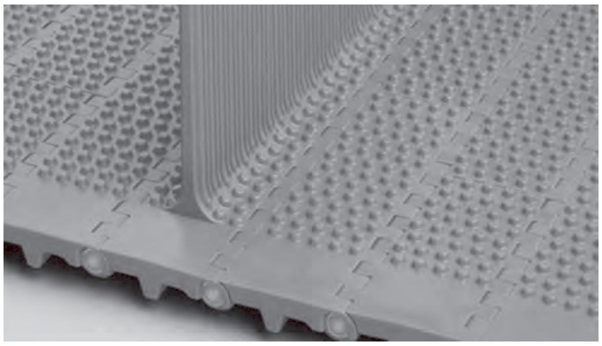
- Streamline flights are smooth on both sides.
- Each flight rises out of the center of a supporting module, molded as one part. No fasteners are required.
- An extension can be welded at a 45-degree angle to create a bent flight.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).



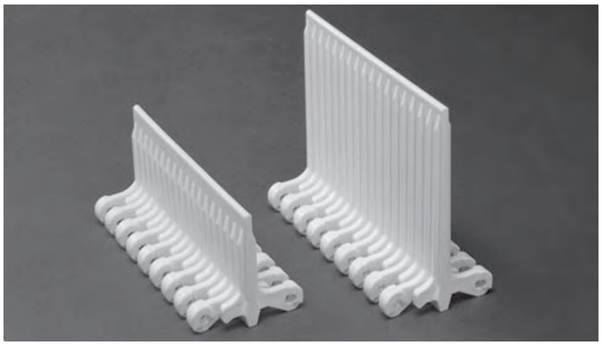
[a] Contact Intralox Customer Service for availability.

Flat Top Base Flights (No-Cling)			
Available Flight Height		Available Materials	
in	mm		
4	102	Polypropylene, polyethylene, acetal	

- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

Nub Top Base Flights (Double No-Cling)			
Available Flight Height		Available Materials	
in	mm		
4	102	Polypropylene, polyethylene, acetal	

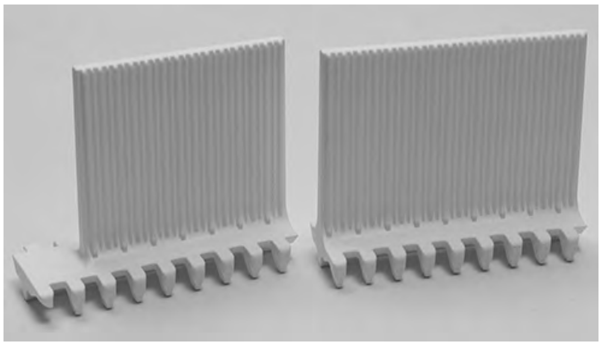
- No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

Flush Grid Base Flights (No-Cling)			
Available Flight Height		Available Materials	
in	mm		
2	51	Polypropylene, polyethylene, acetal, ChemBlox™, detectable polypropylene A22	
4	102		

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- These flights cannot be used with the S800 Perforated Flat Top (slotted version with 18% open area).
- Molded 1.3 in (33 mm) indent available.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

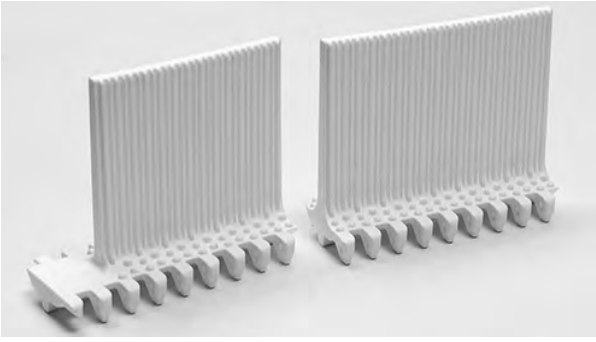
No-Cling Impact Resistant Open Hinge Flights			
Available Flight Height		Available Materials	
in	mm		
4	102	Acetal, polypropylene, polyethylene	

- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Available with a 1.3 in (33 mm) molded indent.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).



No-Cling Impact Resistant Open Hinge Nub Top Flights			
Available Flight Height		Available Materials	
in	mm		
4	102	Acetal, polypropylene	

- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Available with a 1.3 in (33 mm) molded indent.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).

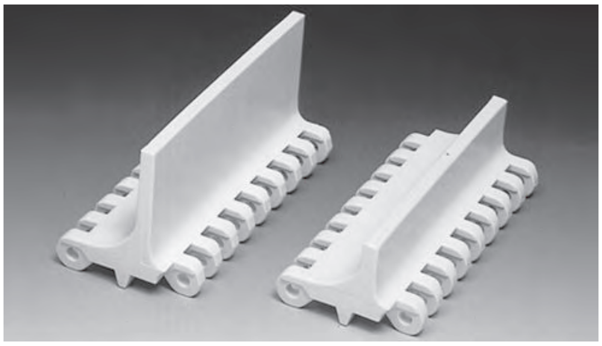


Heavy-Duty Edge Flights			
Available Flight Height		Available Materials	
in	mm		
4	102	PK	

- Available with 1.3 in (33 mm) and 2 in (51 mm) molded indent.
- Flights can be cut down to custom heights. Minimum height: 1.0 in (25.4 mm).
- Streamline flights are smooth on both sides.

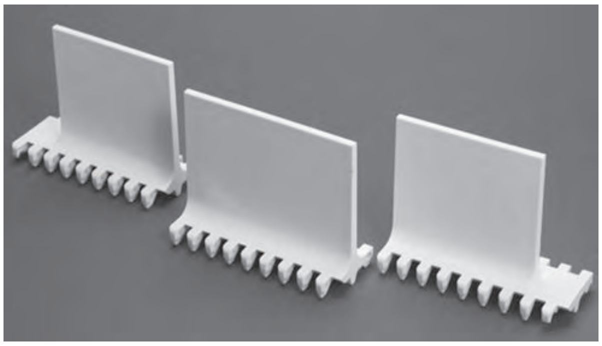
Impact Resistant Flights		
Available Flight Height		Available Materials
in	mm	
1	25	Acetal, X-ray detectable acetal
2	51	
3	76	
4	102	

- Each flight rises out of its supporting module, molded as an integral part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 1.3 in (33 mm).



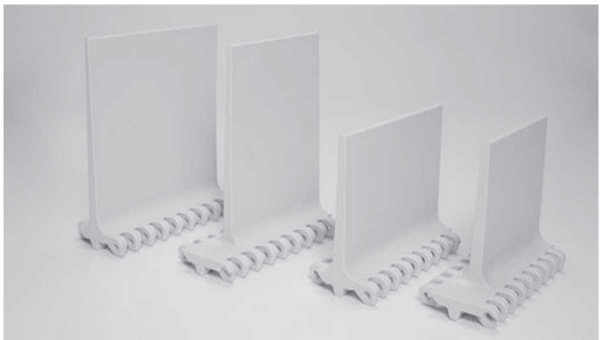
Open Hinge Impact Resistant Flights		
Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal, X-ray detectable acetal, ChemBlox™, PK
6	152	

- Each flight rises out of the center of its supporting module. No fasteners are required.
- Standard 4 in (102 mm) height can be cut to suit application.
- Available with 1.3 in (33 mm) and 2 in (51 mm) molded indent.
- Minimum indent without sideguards: 1.3 in (33 mm).



Tough Flights		
Available Flight Height		Available Materials
in	mm	
4	102	Hi-Impact
6	152	

- Each flight rises out of the center of its supporting module. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Molded 2 in (51 mm) indent available.
- Minimum indent without sideguards: 1.3 in (33 mm).



SERIES 800

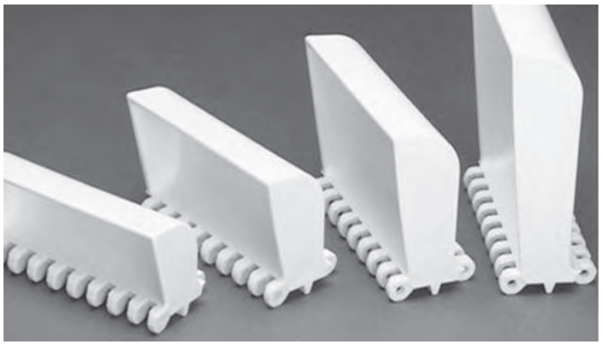
SERIES 800

Scoop Flights[a]			
Available Flight Height		Available Materials	
in	mm		
3	76	Acetal, polyethylene, polypropylene, ChemBlox™, nylon, PK	
4	102		
6	152		

- Each flight rises out of its supporting module, molded as an integral part. No fasteners are required.
- Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards:1.3 in (33 mm).

[a] Contact Intralox Customer Service for availability.

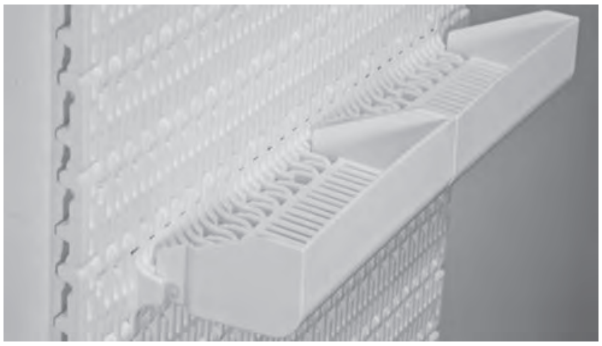
Bucket Flights[a]			
Available Flight Height		Available Materials	
in	mm		
2.25[b]	57[b]	Polypropylene, polyethylene, acetal	
3	76		
4	102		
6	152		



- Each flight rises out of its supporting module, molded as an integral part. No fasteners are required.
- Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards:1.3 in (33 mm).

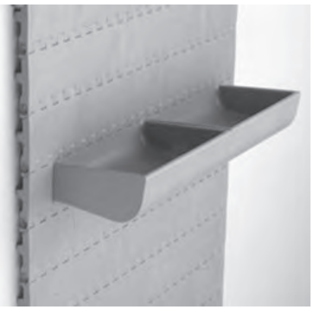
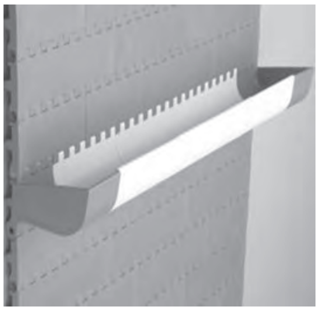
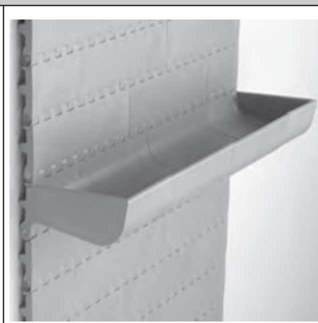
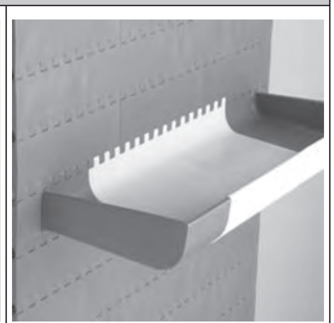
[a] Contact Intralox Customer Service for availability.
[b] 0.25 in (57 mm) bucket flight only available in polypropylene.

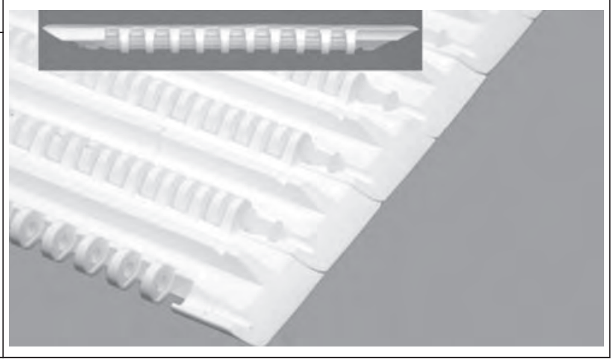
3-Piece Perforated Bucket and Scoop Flights			
Available Flight Height		Available Materials	
in	mm		
4	102	Polypropylene, polyethylene[a], acetal[a]	

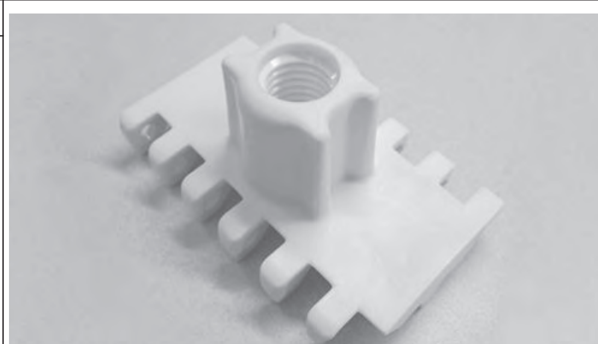


- Flights consist of 3 pieces: the base module, the attachment, and the rod.
- Open slots improve drainage for inclines.
- Flight surface has 30% open area.
- Belt surface has 0% open area. Base module is S800 Flat Top Open Hinge.
- Flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Do not use with S800 Perforated Flat Top (slotted version with 18% open area) or S800 Flush Grid Nub Top.
- Bucket profile has a 0.27 in (6.9 mm) gap between the belt top surface and the bottom surface of bucket side panel.
- Approximate flight surface opening size: 0.130 in (3.3 mm) × 2.40 in (70.0 mm).
- Minimum indent without sideguards:2.00 in (50.8 mm).

[a] Contact Intralox Customer Service for availability.

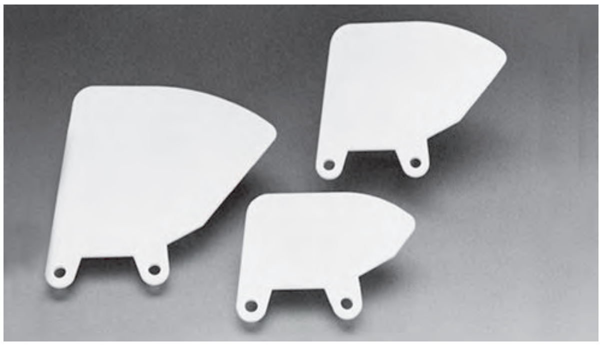
Combining Bucket Flights and Scoop Flights			
			
6 in (152 mm) bucket flights with indent	3 in (76 mm) bucket flight and scoop flights, no indent	4 in (102 mm) bucket flight and scoop flights, no indent	6 in (152 mm) bucket flight and scoop flights with indent
Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.			

Tapered Edge	
Available Materials	
Polypropylene, acetal	
• Compatible with S800 Flat Top and S800 Mesh Top. • Designed to accept headed plastic rods. • Steel rods can be retained with plastic rodlets.	

Threaded Barrel Attachments	
Available Materials	
Acetal	
• Attaches to S800 Open Hinge Flat Top modules–4 in (102 mm) wide. • 3/4 in-10 thread. • Commonly used on poultry cone assemblies for the manual deboning process.	

Sideguards

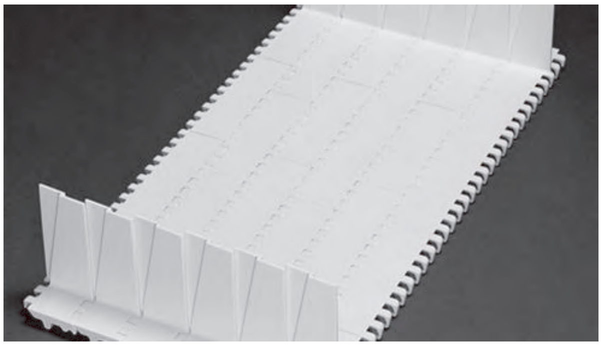
Available Sizes		
in	mm	Available Materials
2	51	Polypropylene, polyethylene, acetal
3	76	
4	102	
6	152	



- Sideguards use a standard overlapping design and are an integral part of the belt.
- Fastened by the hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6- and 8-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when going around the 10-, 12- and 16-tooth sprockets.
- Standard gap between sideguards and flight edge: 0.3 in (8 mm).
- Minimum indent: 0.7 in (18 mm) except for Flush Grid which is 1.3 in (33 mm).

Molded-in Sideguards

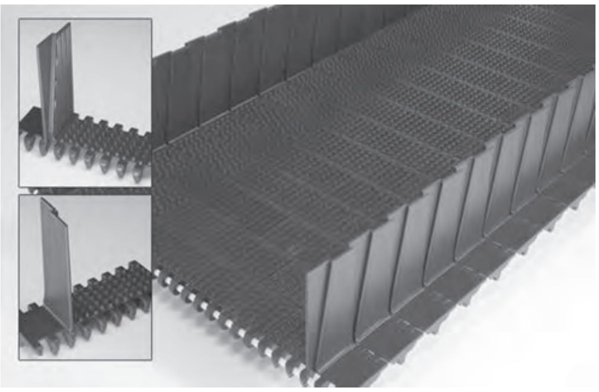
Available Sizes		
in	mm	Available Materials
4	102	Polypropylene, polyethylene, acetal



- Molded as an integral part of the belt, with no fasteners required.
- Part of the Intralox EZ Clean product line.
- Overlapping sideguards fully open when wrapping around sprocket, allowing greater access during cleaning. Sideguards partially open on forward bends of elevating conveyors.
- Sideguards can be spliced into all S800 belts, except Flat Top, Perforated Flat Top (18% open area) and Flush Grid Nub Top.
- Standard 4 in (102 mm) height can be cut to suit application.
- Molded indent: 1.3 in (33 mm).
- Minimum backbend radius: 12 in (305 mm).

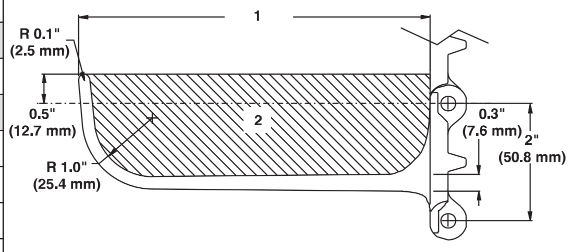
Nub Top Molded-In Sideguards

Available Sizes		
in	mm	Available Materials
4	102	Acetal, polypropylene



- Molded as an integral part of the belt, with no fasteners required.
- Part of the Intralox EZ Clean product line.
- Nub Top design and No-Cling rib feature provide a non-stick conveying surface that delivers superior product release and cleanability.
- Overlapping sideguards fully open when wrapping around sprocket, allowing greater access during cleaning. Sideguards partially open on forward bends of elevating conveyors.
- Sideguards can be spliced into all Series 800 belts, except Series 800 Perforated Flat Top (18% open area) and Series 800 Flush Grid Nub Top.
- Standard 4 in (102 mm) height can be cut to suit application.
- Molded indent: 1.3 in (33 mm).
- Minimum backbend radius:10 in (254 mm).

Scoop/Bucket Flight Cross-Sectional Area for Vertical Incline			
in	mm	sq in	sq mm
Scoop Height		Area	
3	76	4.3	2774
4	102	6.0	3871
6	152	9.5	6129
Bucket Height		Area	
2.25	57	2.3	1484
3.00	76	4.3	2774
4.00	102	6.0	3871
6.00	152	9.5	6129
Minimum row spacing: 6 in (152 mm) for 6 in (152 mm) scoops and buckets, and 4 in (102 mm) for all other sizes.			



1 height
2 area

Intralox Rod Removers		
	U.S. Units	Metric Units
Length	6.5 in	165.1 mm
Width	2.2 in	55.9 mm
Height	1.1 in	27.9 mm
Weight	0.54 lb	1.2 kg

- Designed to minimize belt and rod damage when inserting or removing headed and unheaded rods.
- Eliminates foreign material contamination caused by belt or rod damage.
- Etched QR code on the tool links to an instructional video.
- Intuitive design for sanitation and maintenance users.
- Compatible with:
  - S800 Flat Top
  - S800 Open Hinge Flat Top
  - S800 Open Hinge Flat Top with Heavy-Duty Edge
  - S800 Perforated Flat Top
  - For up-to-date compatibility with other belts, contact Intralox Customer Service.

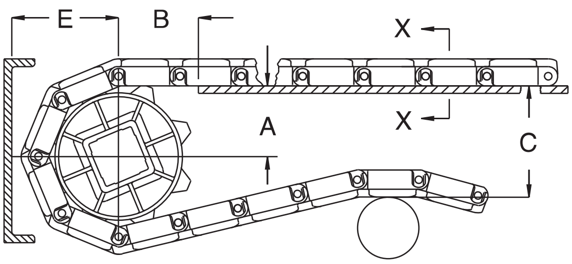
SERIES 800

Intralox Belt Puller Set		
Single Belt Puller	**U.S. Units**	**Metric Units**
Length	14.4 in	365.8 mm
Width	4.2 in	106.7 mm
Height	0.5 in	12.7 mm
Weight	2 lb	0.9 kg
Belt Puller Set		
Weight	6 lb	2.7 kg

- Can be used in carryways and returnways to install, close, or open compatible belts.
- Improves worker safety.
- Reduces the number of people required to install or remove large or inclined belts.
- Reduces the risk of belt damage that can lead to foreign material contamination.
- Set includes two belt pullers and one Intralox ratchet strap.
- Solid metal construction with dedicated metal rod that locks into the belt puller.
- Etched QR code on the tool links to an instructional video.
- Compatible with S800 and S1800 belts. For up-to-date compatibility information, contact Intralox Customer Service.

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

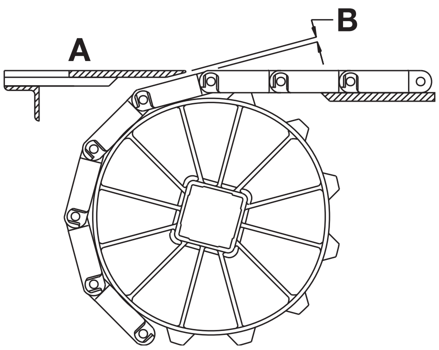
Figure 29: Basic dimensional requirements

S800 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid, Mesh Top, Open Hinge Flat Top, Open Hinge Flat Top with Heavy-Duty Edge, SeamFree Open Hinge Flat Top, Tough Flat Top, Perforated Flat Top (all styles)										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.00	102	2.38	60
5.2	132	8	2.09-2.29	53-58	2.00	51	5.20	132	2.98	76
6.5	165	10	2.78-2.94	71-75	2.16	55	6.50	165	3.63	92
7.7	196	12	3.41-3.54	87-90	2.45	62	7.70	196	4.23	107
10.3	262	16	4.74-4.84	120-123	2.84	72	10.30	262	5.53	140

S800 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (bottom to top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
Mini Rib											
4.0	102	6	1.42-1.69	36-43	1.73	44	4.13	105	2.50	64	
5.2	132	8	2.09-2.29	53-58	2.00	51	5.33	135	3.10	79	
6.5	165	10	2.78-2.94	71-75	2.16	55	6.63	168	3.75	95	
7.7	196	12	3.41-3.54	87-90	2.45	62	7.83	199	4.35	110	
10.3	262	16	4.74-4.84	120-123	2.84	72	10.43	265	5.65	144	
Flush Grid Nub Top, Nub Top, SeamFree Open Hinge Nub Top											
4.0	102	6	1.42-1.69	36-43	1.73	44	4.10	104	2.48	63	
5.2	132	8	2.10-2.30	53-58	1.98	50	5.33	135	3.09	78	
6.5	165	10	2.77-2.92	70-74	2.18	55	6.57	167	3.71	94	
7.7	196	12	3.42-3.55	87-90	2.43	62	7.83	199	4.34	110	
10.3	262	16	4.72-4.81	120-122	2.88	73	10.35	263	5.60	142	
Cone Top, Open Hinge Cone Top, SeamFree Open Hinge Cone Top											
4.0	102	6	1.42-1.69	36-43	1.73	44	4.13	105	2.50	64	
5.2	132	8	2.10-2.30	53-58	1.98	50	5.35	136	3.11	79	
6.5	165	10	2.77-2.92	70-74	2.18	55	6.60	168	3.74	95	
7.7	196	12	3.42-3.55	87-90	2.43	62	7.85	199	4.36	111	
10.3	262	16	4.72-4.81	120-122	2.88	73	10.38	264	5.63	143	
Roller Top											
4.0	102	6	1.42-1.69	36-43	1.73	44	4.44	113	2.81	71	
5.2	132	8	2.10-2.30	53-58	1.98	50	5.66	144	3.43	87	
6.5	165	10	2.77-2.92	70-74	2.18	55	6.91	176	4.05	103	
7.7	196	12	3.42-3.55	87-90	2.43	62	8.17	207	4.68	119	
10.3	262	16	4.72-4.81	120-122	2.88	73	10.69	272	5.94	151	
Raised Rib											
4.0	102	6	1.42-1.69	36-43	1.73	44	4.28	109	2.65	67	
5.2	132	8	2.09-2.29	53-58	2.00	51	5.48	139	3.25	83	
6.5	165	10	2.78-2.94	71-75	2.16	55	6.78	172	3.90	99	
7.7	196	12	3.41-3.54	87-90	2.45	62	7.98	203	4.50	114	
10.3	262	16	4.74-4.84	120-123	2.84	72	10.58	269	5.80	147	
Round Friction Top											
4.0	102	6	1.42-1.69	36-43	1.74	44	4.16	106	2.53	64	
5.2	132	8	2.09-2.29	53-58	2.00	51	5.36	136	3.13	80	
6.5	165	10	2.78-2.94	71-75	2.17	55	6.66	169	3.78	96	
7.7	196	12	3.40-3.54	86-90	2.45	62	7.86	200	4.38	111	
10.3	262	16	4.74-4.84	120-123	2.84	72	10.46	266	5.68	144	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 30: Gap at transfer point between belt and dead plate

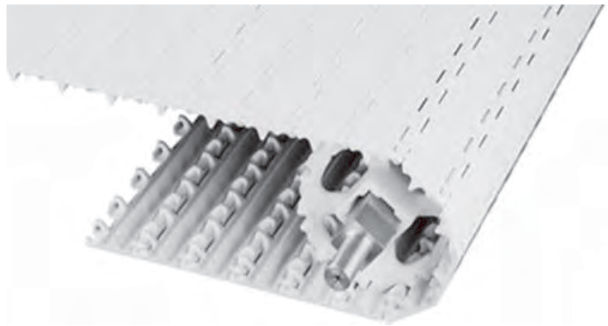
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
4.0	102	6	0.268	6.8
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4
10.3	262	16	0.098	2.5

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

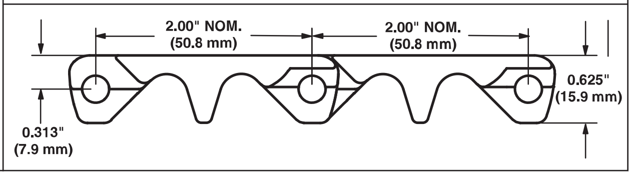
SeamFree™ Minimum Hinge Flat Top

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Designed for use with S800 Angled EZ Clean sprockets. Also fully compatible with standard S800 EZ Clean sprockets.
- Belts over 36 in (914 mm) are built with multiple modules per row, but seams are minimized.

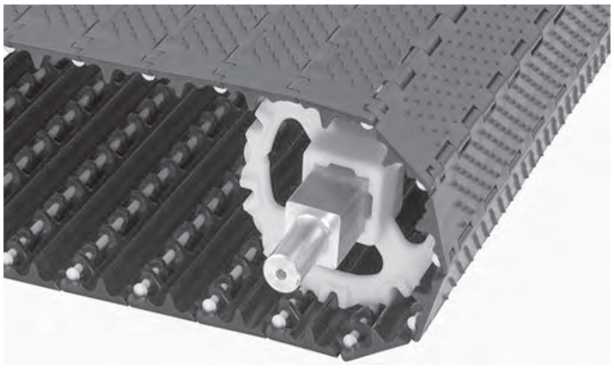


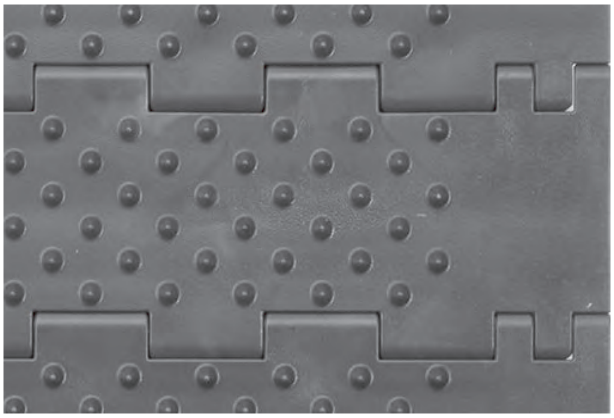
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	275	409	-50 to 200	-46 to 93	2.19	10.68
Acetal	Polypropylene	250	372	34 to 200	1 to 93	2.13	10.41
Acetal	Polyethylene	150	223	-50 to 150	-46 to 66	2.13	10.40
Polyethylene	Acetal	200	298	-50 to 150	-46 to 66	1.50	7.32
Polyethylene	Polyethylene	150	223	-50 to 150	-46 to 66	1.44	7.05

SeamFree™ Minimum Hinge Cone Top™

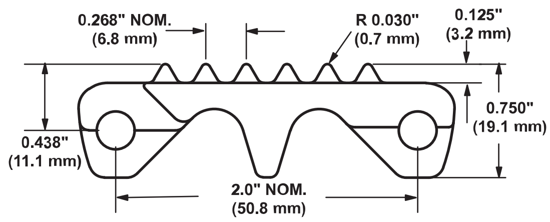
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Maximum Width	36	914
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Cone height: 0.125 in (3.2 mm).
- Cone spacing: 0.268 in (6.88 mm).
- Standard cone indent: 1.3 in (33 mm).



Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	275	409	-50 to 200	-46 to 93	2.28	11.13
Acetal	Polypropylene	250	372	34 to 200	1 to 93	2.22	10.84
Acetal	Polyethylene	150	223	-50 to 150	-46 to 66	2.22	10.84
Polyethylene	Acetal	200	298	-50 to 150	-46 to 66	1.56	7.62
Polyethylene	Polypropylene	150	223	-50 to 150	-46 to 66	1.50	7.32

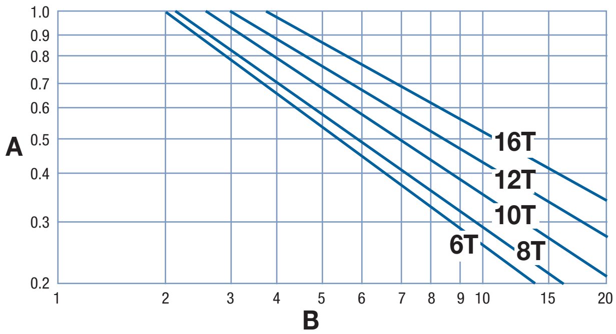
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.0 in (25.4 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets. Polyurethane sprockets require a maximum 4 in (102 mm) centerline spacing.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

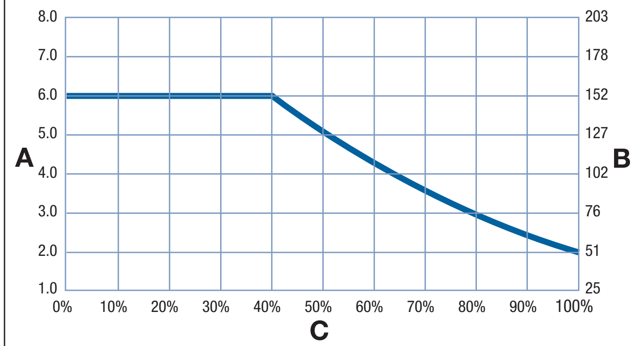
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

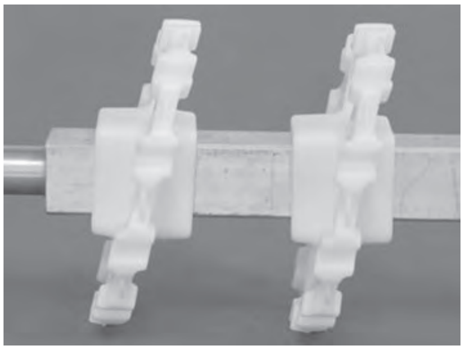
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Angled EZ Clean™ Sprocket[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
6 (13.40%)	4.0	102	3.8	97	2.0	50.8		1.5		40
8 (7.61%)	5.2	132	5.0	127	2.0	50.8		1.5		40
10 (4.89%)	6.5	165	6.2	157	2.0	50.8		1.5		40
12 (3.41%)	7.7	196	7.5	191	2.0	50.8		1.5		40
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5, 2.5		40, 60

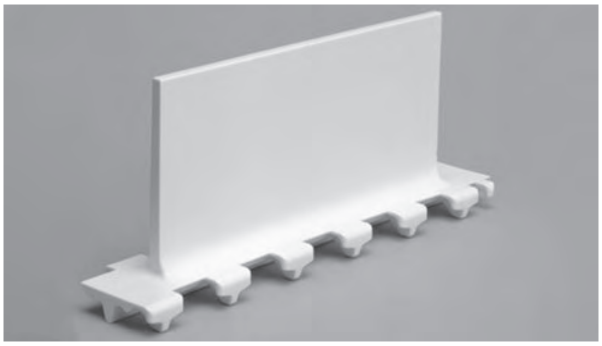


[a] Do not use Angled EZ Clean sprockets with Series 800 Mesh Top.

Streamline Flights

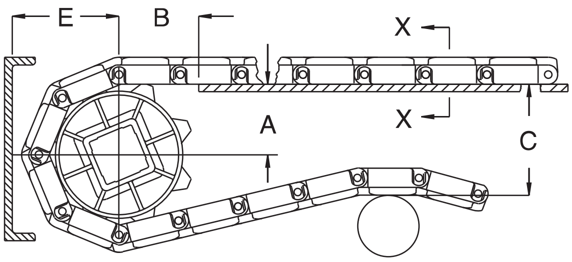
Available Flight Height		Available Materials
in	mm	
4	102	Acetal

- Streamline flights are smooth on both sides.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- SeamFree flights are available in 12 in (304 mm) widths. Flighted belts greater than 12 in (304 mm) wide are available with seams minimized.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Molded-in, 1.3 in (33 mm) indent from each edge.



CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



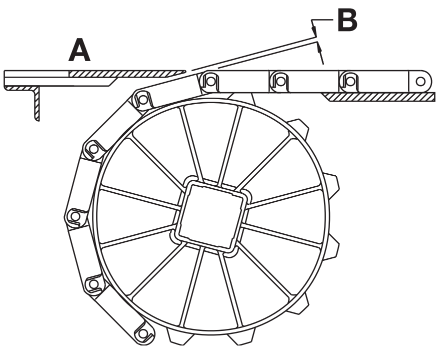
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 31: Basic dimensional requirements

S850 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
SeamFree Minimum Hinge Flat Top											
4.0	102	6	1.42-1.69	36-43	1.73	44	4.00	102	2.38	60	
5.2	132	8	2.09-2.29	53-58	2.00	51	5.20	132	2.98	76	
6.5	165	10	2.78-2.94	71-75	2.16	55	6.50	165	3.63	92	
7.7	196	12	3.41-3.54	87-90	2.45	62	7.70	196	4.23	107	
10.3	262	16	4.74-4.84	120-123	2.84	72	10.30	262	5.53	140	
SeamFree Minimum Hinge Cone Top											
4.0	102	6	1.42-1.69	36-43	1.73	44	4.13	105	2.50	64	
5.2	132	8	2.10-2.30	53-58	1.98	50	5.35	136	3.11	79	
6.5	165	10	2.77-2.92	70-74	2.18	55	6.60	168	3.74	95	
7.7	196	12	3.42-3.55	87-90	2.43	62	7.85	199	4.36	111	
10.3	262	16	4.72-4.81	120-122	2.88	73	10.38	264	5.63	143	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 32: Gap at transfer point between belt and dead plate

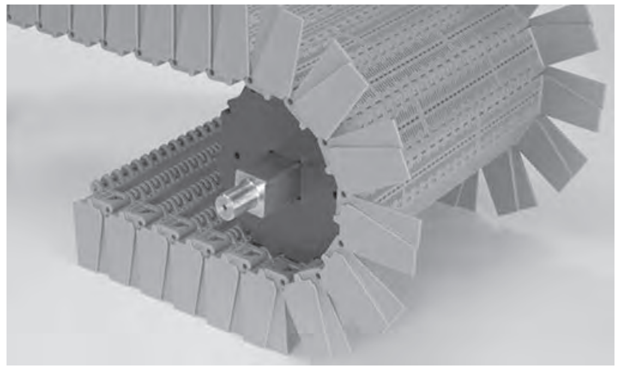
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

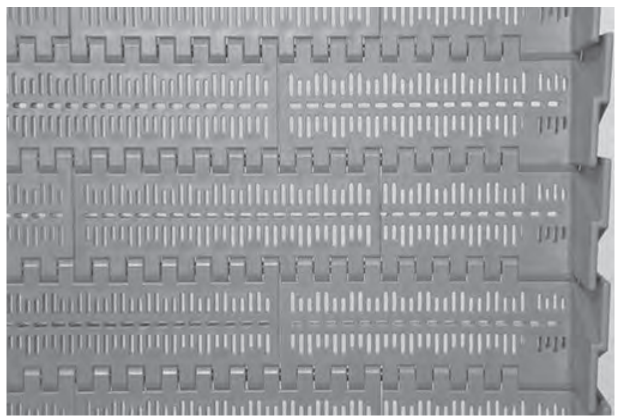
Sprocket Description			Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Medium Slot

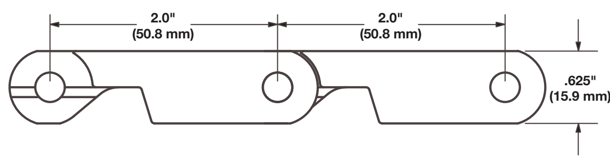
	in	mm
Pitch	1.99	50.5
Minimum Width	6.0	152
Width Increments	0.66	17
Slot Size, Linear	0.08 x 0.40	2.0 x 10.2
Slot Size, Transverse	0.09 x 0.24	2.3 x 6.1
Open Area	20%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available with or without molded-in sideguards. Specify sideguards when ordering.
- Molded-in sideguards are flush with belt edges to provide maximum use of belt surface.
- Barn door style rod retention system simplifies installation and routine maintenance.
- Enduralox polypropylene material increases resistance to chemical and temperature cycling.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Drive system requires less back-tension and is less sensitive to belt elongation.
- Robust design reduces contamination risks.
- For belts with molded-in sideguards, provide a minimum backbend radius of 7.0 in (180 mm).

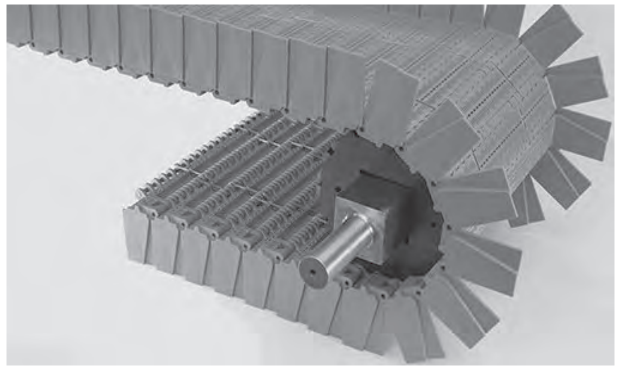


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	303/304 stainless steel	1500	2230	34 to 220	1 to 104	2.4	11.7

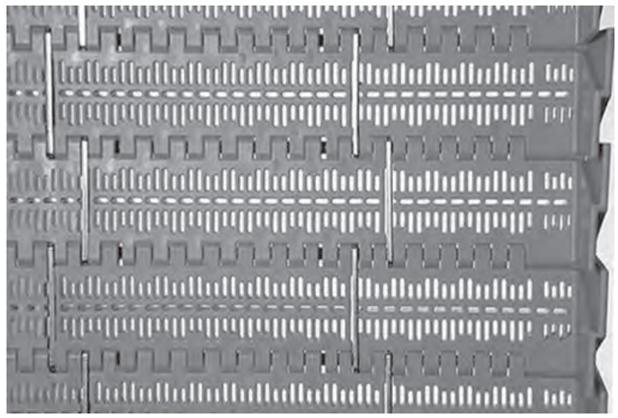
Medium Slot Stainless Steel Link (SSL)

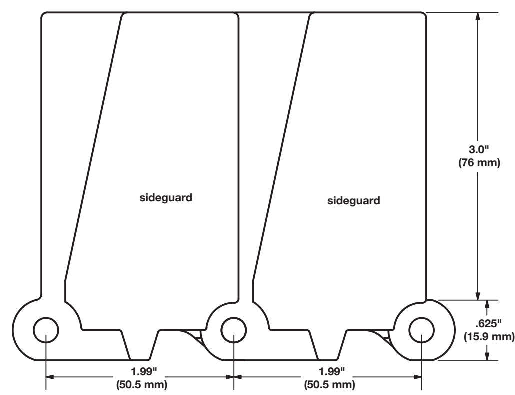
	in	mm
Pitch	1.99	50.5
Minimum Width	11.3	288
Width Increments	0.66	17
Slot Size, Linear	0.08 x 0.40	2.0 x 10.2
Slot Size, Transverse	0.09 x 0.24	2.3 x 6.1
Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available with or without molded-in sideguards. Specify sideguards when ordering.
- Molded-in sideguards are flush with belt edges to provide maximum use of the belt surface.
- Stainless steel links (SSL) are integrated into the belt design to manage high loads and thermal expansion associated with temperature variations.
- Barn door style rod retention system simplifies installation and routine maintenance.
- Enduralox polypropylene material increases resistance to chemical and temperature cycling.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Drive system requires less back tension and is less sensitive to belt elongation.
- Robust design reduces contamination risks.
- For belts with molded-in sideguards, provide a minimum backbend radius of 7 in (180 mm).



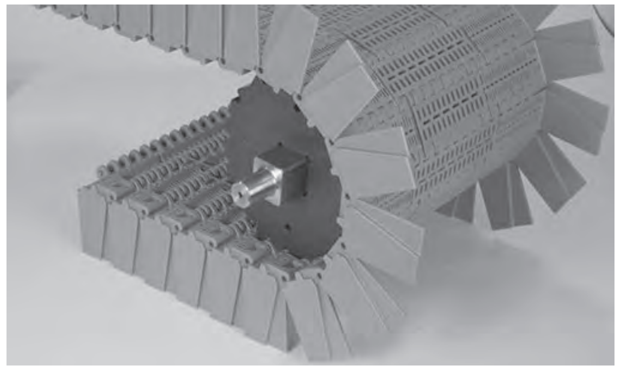


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	Wear-resistant stainless steel	2000	3000	34 to 220	1 to 104	2.6	12.7

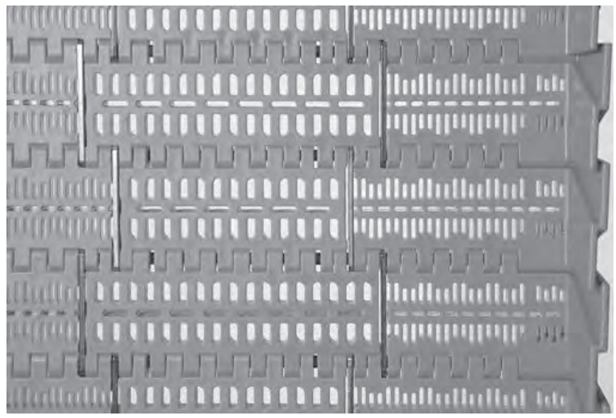
Large Slot Stainless Steel Link (SSL)

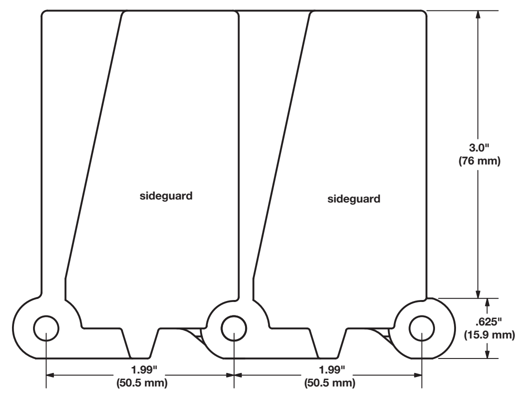
	in	mm
Pitch	1.99	50.5
Minimum Width	16.0	406
Width Increments	0.66	17
Slot Size, Linear	0.16 x 0.39	4.1 x 9.9
Slot Size, Transverse	0.12 x 0.50	3.0 x 12.7
Open Area	22%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available with or without molded-in sideguards. Specify sideguards when ordering.
- Molded-in sideguards are flush with belt edges and provide maximum use of belt surface.
- Barn door style rod retention system simplifies installation and routine maintenance.
- Stainless steel links (SSL) are integrated into the belt design to manage high loads and thermal expansion associated with temperature variations.
- Proven Enduralox polypropylene material increases resistance to chemical and temperature cycling.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Proven drive system requires less back tension and is less sensitive to belt elongation.
- Robust design reduces contamination risks.
- For belts with molded-in sideguards, provide a minimum backbend radius of 7 in (180 mm).



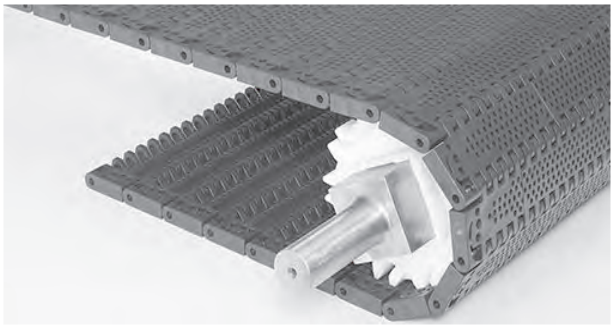


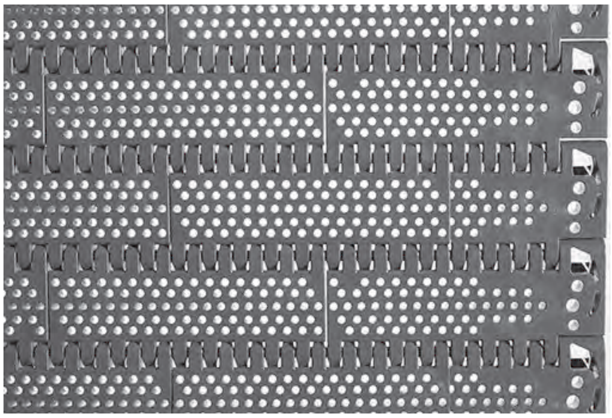
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	Wear-resistant stainless steel	2000	3000	34 to 220	1 to 104	2.6	12.7

Round Hole Enhanced

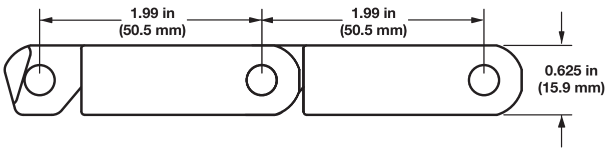
	in	mm
Pitch	1.99	50.5
Minimum Width	6	152.4
Width Increments	0.66	16.8
Opening Size	5/32 (0.156)	4
Open Area	20%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Enhanced design and hole pattern of S800 Perforated Flat Top.
- Improved hole pattern and more open hinge design provides better airflow and drainage.
- S888 sprocket design requires all sprockets to be retained in position on the drive and idle shaft.
- To maintain proper tracking, design conveyors to use tracking shoes or similar devices.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimum sprocket indent: 2.0 in (50 mm) to the sprocket edge.
- Maximum clearance between the sprocket and the retainer rings or collars: no greater than 0.125 in (3 mm) for all sprockets on the shafts.



Belt Data

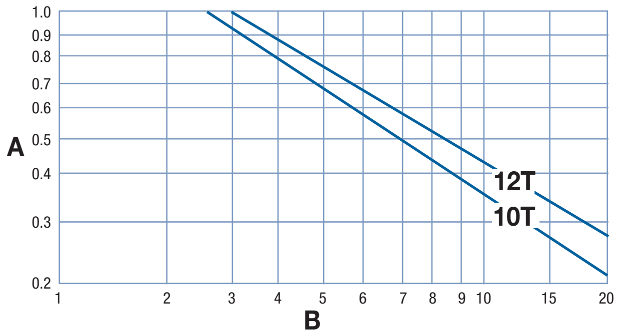
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	304 stainless steel	1500	2200	-50 to 200	-46 to 93	3.10	15.14
X-ray detectable acetal	Stainless steel	1500	2232	-50 to 200	-46 to 93	3.1	15.14

Sprocket and Support Quantity Reference							
Medium Slot, Round Hole Enhanced			Medium Slot SSL, Large Slot SSL			Wearstrips Medium Slot and Large Slot SSL	
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Belt Width Range[a]		Maximum Number of Sprockets Per Shaft[b]		
in	mm		in	mm		Carryway	Returnway
6	152	2	22.6-28.0	575-711	6	2	2
8	203	2	28.6-30.6	727-778	7	2	2
10	254	2	31.3-35.3	795-897	8	3	2
12	305	3	36.0-40.6	914-1032	9	3	2
14	356	3	41.3-46.0	1049-1167	10	3	3
16	406	3	46.6-48.0	1184-1218	11	3	3
18	457	3	48.6-52.6	1235-1336	12	3	3
20	508	5	53.3-58.6	1353-1489	13	4	3
24	610	5	59.3-64.6	1506-1641	14	4	3
30	762	5	65.3-66.6	1658-1692	15	5	4
32	813	7	67.3-72.6	1709-1844	16	5	4
36	914	7	73.3-79.9	1861-2030	17	5	4
42	1067	7	80.6-84.6	2047-2148	18	6	5
48	1219	9	85.3-87.9	2165-2233	19	7	5
54	1372	9	88.6-91.9	2250-2335	20	7	6
60	1524	11	92.6-95.2	2351-2419	21	8	6
72	1829	13	95.9-98.6	2436-2504	22	9	7
84	2134	15	99.2-103.2	2521-2622	23	11	8
96	2438	17	103.9-109.2	2639-2774	24	12	9
120	3048	21	109.9-118.6	2791-3011	25	15	11
144	3658	25	119.2-119.9	3028-3045	26	17	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing			To avoid sprocket interference with stainless steel links, see the sprocket installation instructions or belt maintenance and installation guidelines.			Maximum 12 in (305 mm) centerline spacing	

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.66 in (16.8 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] Lock all sprockets. Use appropriate locking collars to restrict axial movement.

Strength Factor

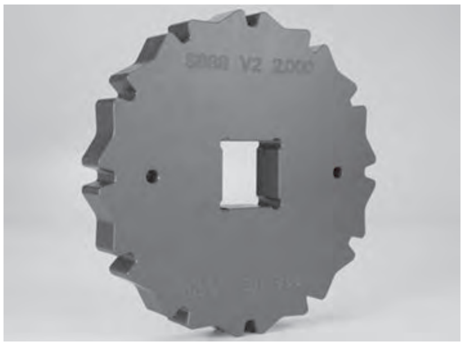


A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Nylon Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.70%)	6.5	165	6.2	157	1.0	25	Available as a custom order.		50, 60, 70, 80, 90, 100	Available as a custom order.
12 (3.29%)	7.78	196	7.5	191	1.0	25			50, 60, 70, 80, 90, 100	50, 60, 70, 80, 90



- U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
- Lock all sprockets in place on the shaft.

Buildup Resistant Acetal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.89%)	6.5	165	6.2	157	1.5	38		2.5		60[a]

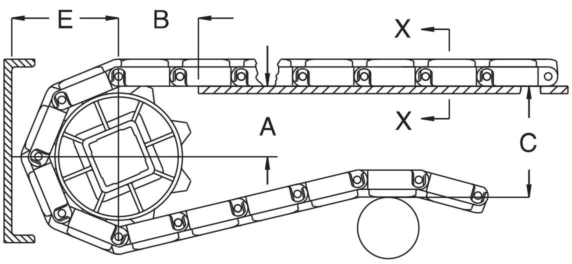
- Designed to work with the Round Hole Enhanced belt in freezer tunnel applications. Contact Intralox Customer Service before using in other applications.
- Ensure all sprockets are locked in place on the shaft.

[a] Available as standard 60-mm square bore or available with four retention notches.

Universal Sideguards			
Available Height		Available Materials	
in	mm		
2	51	Blue polypropylene	
3	76	Blue polypropylene	
4	102	Blue polypropylene	
6	152	Blue polypropylene	
• Part of the Intralox EZ Clean product line. • Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides. • Minimum indent at edges: 2.0 in (51 mm). • Minimum back bend radius: 4.5 in (115 mm).			

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



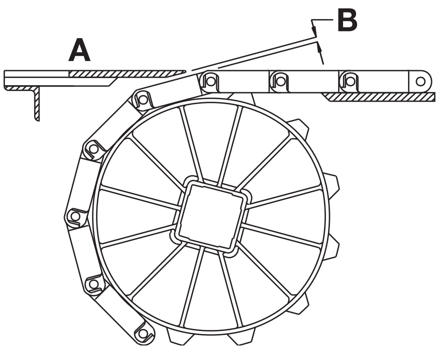
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 33: Basic dimensional requirements

S888 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
S888 Medium Slot, Medium Slot SSL, Large Slot SSL, Round Hole Enhanced										
6.5	165	10	2.77-2.925	70-74	3.00	76	6.5	165	3.61	92
7.7	196	12	3.42-3.55	87-90	3.00	76	7.9	201	4.24	108

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 34: Gap at transfer point between belt and dead plate

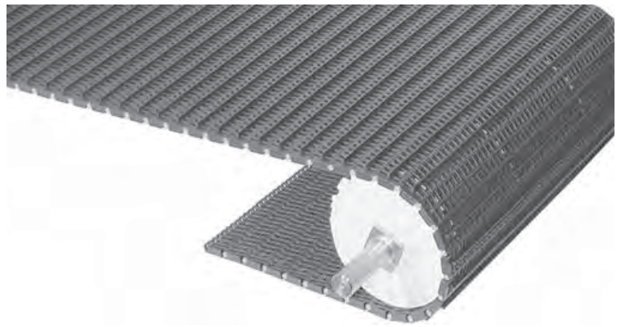
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

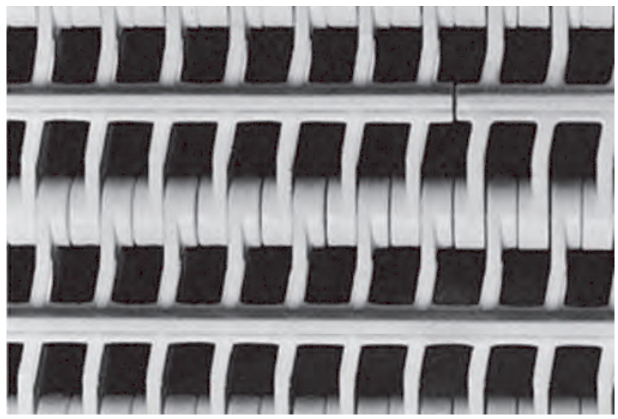
Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4

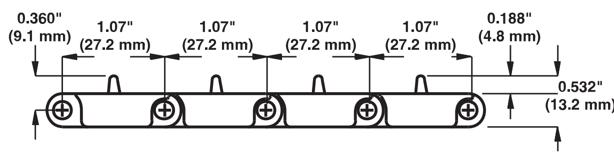
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Open Grid

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Large, open area provides excellent drainage.
- Low-profile transverse ridges help move product up inclines and down declines.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for more information.
- Transverse ridge height: 0.188 in (4.8 mm).
- Normal ridge indent: 0.25 in (6.4 mm).

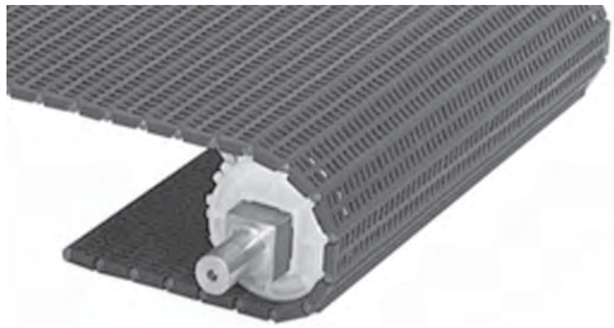
Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.81	3.95
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	0.84	4.09
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.26	6.14
Acetal[a]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.26	6.14

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

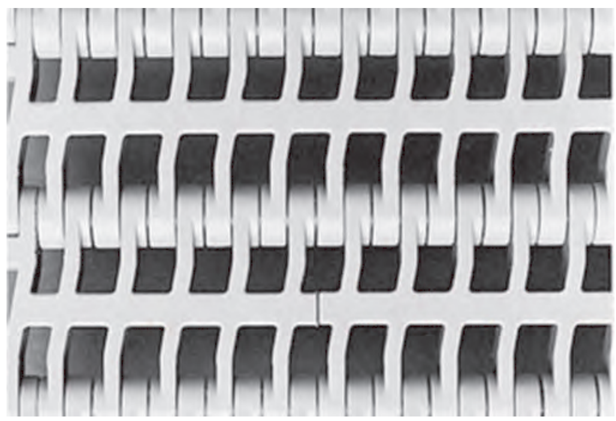
Flush Grid

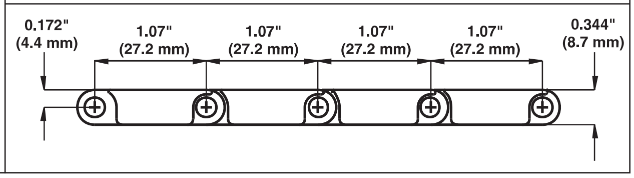
	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open pattern with smooth upper surface and fully flush edges.
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Provides excellent lateral movement of containers.
- Flights and sideguards are available.



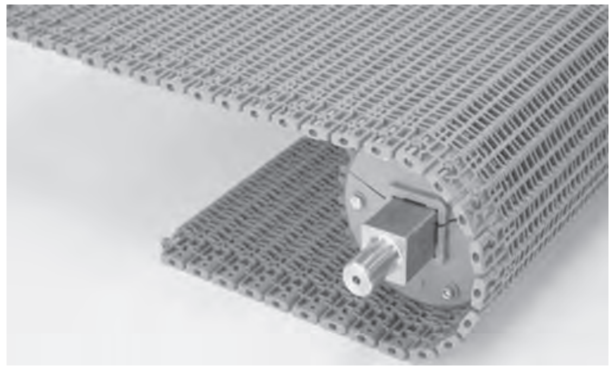


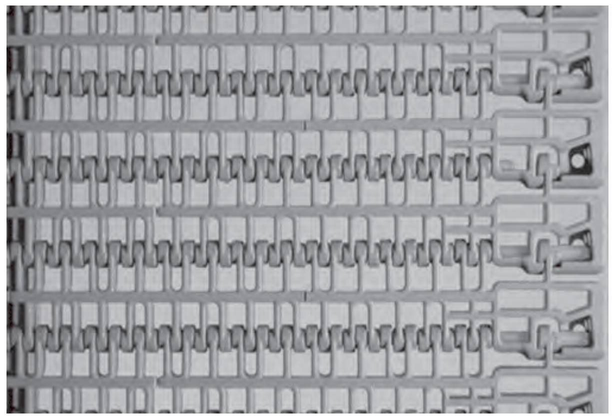
Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.76	3.70
Enduralox polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.76	3.70
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	0.81	3.96
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.15	5.62
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.15	5.62
Hi-Temp	Hi-Temp	1200	1786	70 to 400	21 to 204	1.08	5.27
FR TPES	Polypropylene	750	1120	40 to 150	4 to 66	1.19	5.81
HR nylon	HR nylon	1200	1790	-50 to 240	-46 to 116	1.10	5.40
HHR nylon	HHR nylon	1200	1790	-50 to 310	-46 to 154	1.10	5.40
Acetal[a]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.15	5.62
Detectable polypropylene A22	Polypropylene	350	521	34 to 150	1 to 66	0.89	4.35

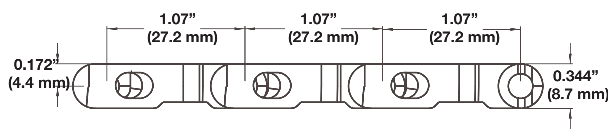
[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

Open Flush Grid

	in	mm
Pitch	1.07	27.2
Minimum Width	10	254
Width Increments (see *Product Notes*)	1.0	25.4
Minimum Opening Size (approximate)	0.17 x 0.29	4.3 x 7.4
Maximum Opening Size (approximate)	0.28 x 0.29	7.1 x 7.4
Open Area	43%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

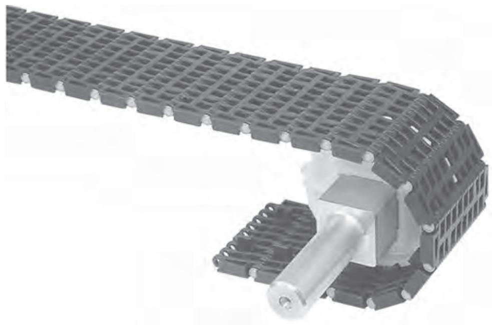
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open pattern with a smooth upper surface and fully flush edges.
- Flush edge accommodates special abrasion resistant nylon rod growth for belt widths that are 42 in (1066 mm) or narrower.
- Other width increments may be available. Contact Intralox Customer Service for more information.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- To accommodate the rod retention design, ensure that outer sprockets are indented 2.5 in (63.5 mm) from the edge of the belt to the centerline of the sprocket.
- Flights are available.

Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.76	3.71
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.10	5.37
HR nylon	HR nylon	1200	1786	-50 to 240	-46 to 116	1.02	4.98
HHR nylon	HHR nylon	1200	1786	-50 to 310	-46 to 154	1.04	5.08

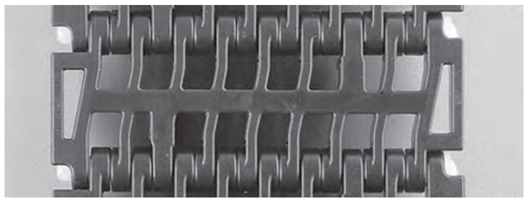
Mold to Width Flush Grid

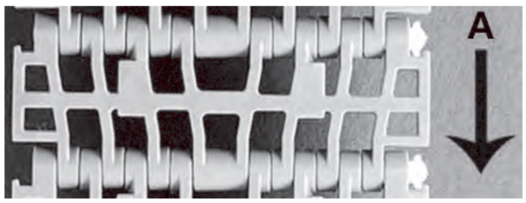
	in	mm
Pitch	1.07	27.2
Molded Widths	3.25	83
	4.5	114
	7.5	191
	-	85
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Tracking tabs provide lateral tracking.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not compatible with sprockets that have a pitch diameter smaller than the 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.
- Sprockets required:
  - 85-mm belt: one sprocket
  - 4.5 in (114 mm) belt: up to three sprockets
  - 7.5 in (191 mm) belt: up to five sprockets
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Available in 10 ft (3 m) increments.





A Arrow indicates preferred run direction

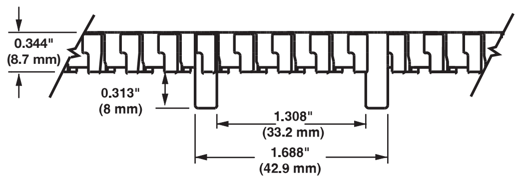


Figure 35: Series 900 Flush Grid Mold to Width

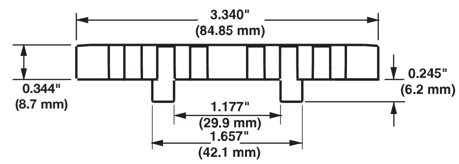


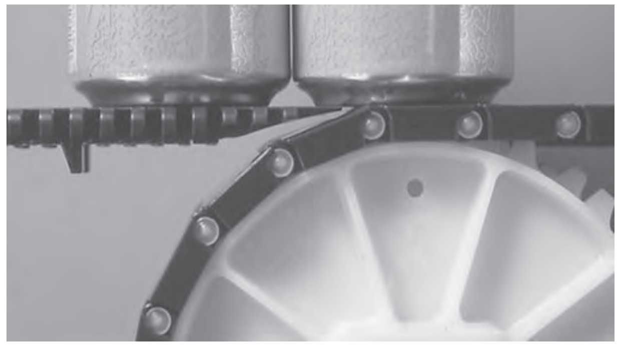
Figure 36: Series 900 Flush Grid 85 mm Mold to Width

Belt Data

Belt Width		Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
in	mm			lb	kg	°F	°C	lb/ft	kg/m
3.25	83	Polypropylene	Nylon	130	59	34 to 220	1 to 104	0.31	0.46
3.25	83	Acetal	Nylon	250	113	-50 to 200	-46 to 93	0.42	0.62
4.5	114	Polypropylene	Nylon	263	120	34 to 220	1 to 104	0.39	0.58
4.5	114	Acetal	Nylon	555	252	-50 to 200	-46 to 93	0.54	0.80
7.5	191	Polypropylene	Nylon	438	199	34 to 220	1 to 104	0.59	0.88
7.5	191	Acetal	Nylon	800	363	-50 to 200	-46 to 93	0.85	1.26
	85	Acetal	Nylon	275	125	-50 to 200	-46 to 93	0.38	0.57

ONEPIECE™ Live Transfer Flush Grid

	in	mm
Pitch	1.07	27.2
Minimum Width	4.7	119
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Transfer edge is an integral part of this belt.
- Nylon rods provide superior wear resistance.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See S900, S1100, and S1400 ONEPIECE Live Transfer Belts for more information.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- For custom belt widths, contact Intralox Customer Service.
- Do not use with sprockets smaller than a 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.
- For belt-strength calculations, subtract 1.5 in (38 mm) from the actual belt width.
- Also available in a 4.7 in (119 mm) wide single-tracking tab belt and 6 in (152 mm) wide double-tracking tab belt.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks, ensuring proper belt alignment.
- Available in 10 ft (3 m) increments.

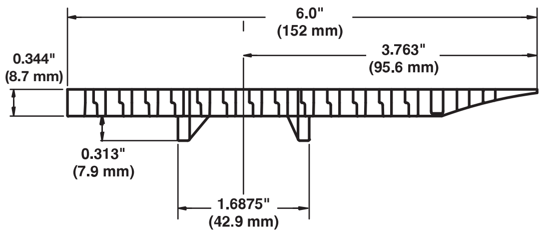


Figure 37: 6.0 in (152 mm) double tracking tab belt

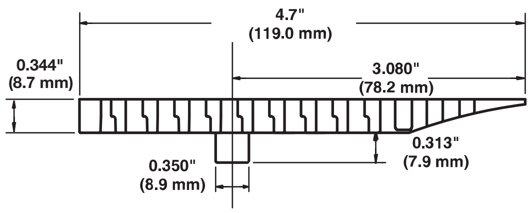


Figure 38: 4.7 in (119 mm) single tracking tab belt

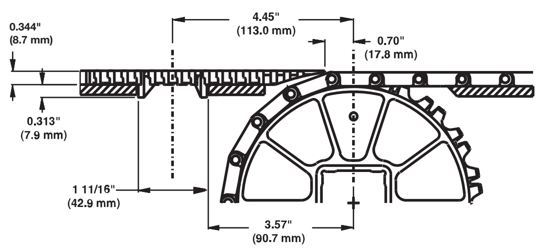


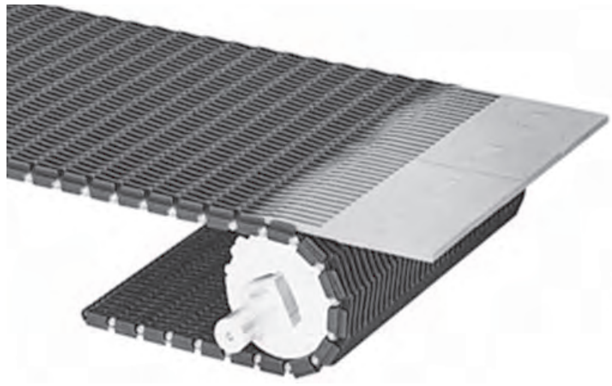
Figure 39: Installation dimensions

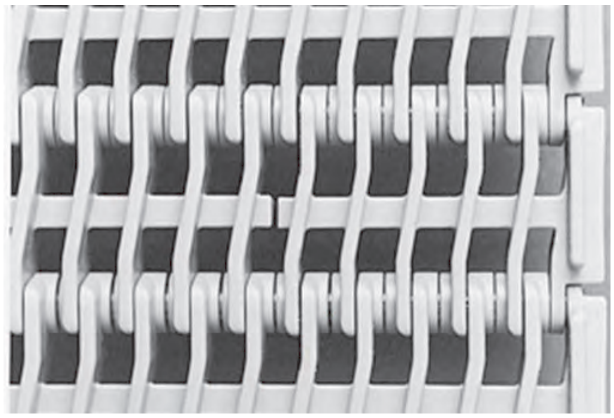
Belt Data

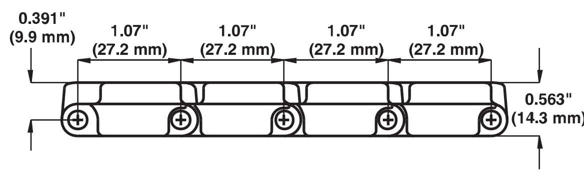
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	700	1040	34 to 220	1 to 104	0.93	4.54
Acetal	Nylon	1480	2200	-50 to 200	-46 to 93	1.15	5.62
FR TPES	Nylon	1000	1490	40 to 150	4 to 66	1.63	7.95

Raised Rib

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Product Contact Area	35%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.
- Use HR nylon in dry, elevated-temperature applications.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Can be used with finger transfer plates to eliminate product tipping and hang-ups.
- Raised ribs extend 3/16 in (4.7 mm) above basic module, with fully flush edges.

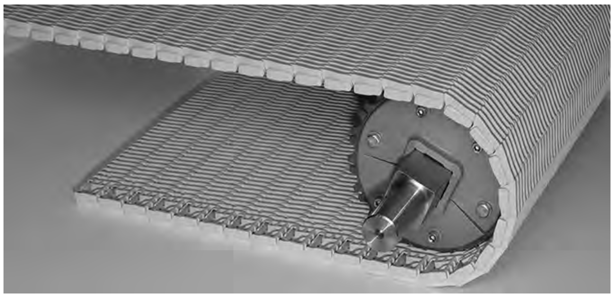
Belt Data

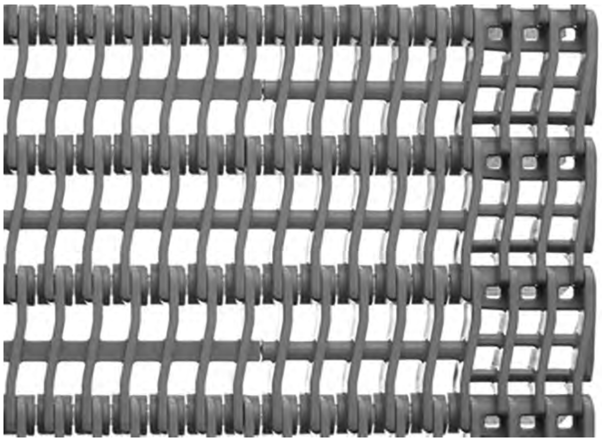
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.07	5.21
Enduralox polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.07	5.21
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	1.14	5.57
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.68	8.19
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.68	8.19
HR nylon	Nylon	1200	1790	-50 to 240	-46 to 116	1.60	7.80
HHR nylon	Nylon	1200	1790	-50 to 310	-46 to 154	1.60	7.80
Acetal[a]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.68	8.19

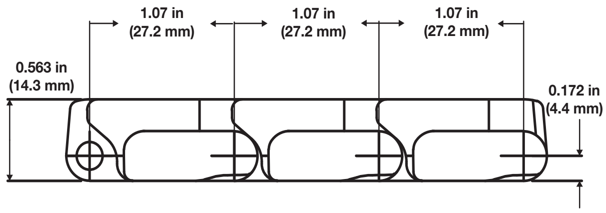
[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

Raised Rib with Heavy-Duty Edge

	in	mm
Pitch	1.07	27.2
Minimum Width	4.7	118.4
Width Increments	0.33	8.4
Opening Size (approx.)	0.24 x 0.28	6.1 x 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge, unheaded	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- The combination of a heavy-duty edge and unheaded rods inhibits rod migration caused by thermal expansion in microwave applications.
- Compatible with Intralox Rod Remover.
- Can be used with finger transfer plates to eliminate product tipping and hang-ups.
- Raised ribs extend 3/16 in (4.7 mm) above basic module, with fully flush edges.
- Detailed material information is provided at the beginning of Section 2: Product Line.

Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.07	5.22
Enduralox polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.07	5.22

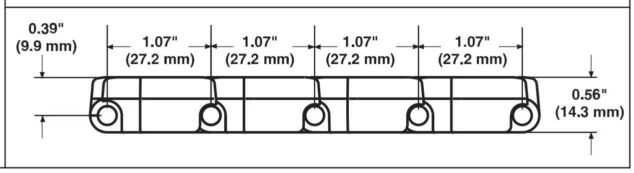
SERIES 900

Mold to Width Raised Rib

	in	mm
Pitch	1.07	27.2
Molded Widths (Blue acetal)	1.1	29
	1.5	37
	1.8	46
	2.2	55
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38% - 40%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Raised ribs span the entire belt width, increasing container stability.
- Nylon rodlets provide longer service life.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Supports both small and larger products, allowing easy product changes.
- The 1.8 in (46 mm) belt is also available in grey polypropylene for applications where higher friction is needed.
- Available in 10 ft (3 m) increments.



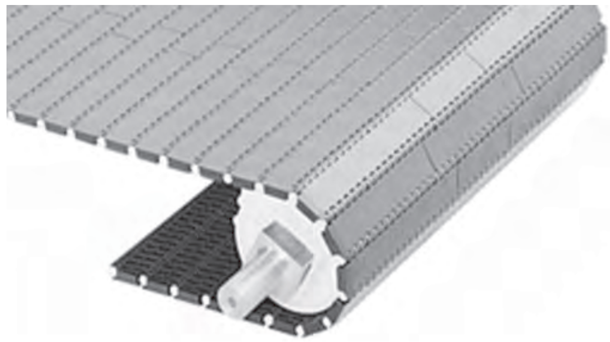
Belt Data

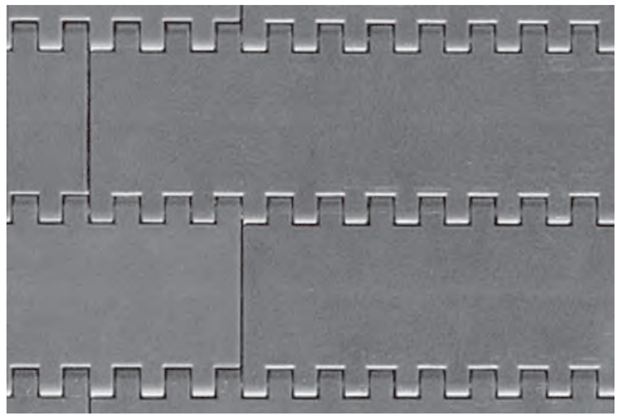
Belt Width inch	Belt Width (mm)	Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength lb	Belt Strength kg	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Weight lb/ft	Belt Weight kg/m
1.1	29	Acetal	Nylon	140	64	-50 to 200	-46 to 93	0.19	0.29
1.5	37	Acetal	Nylon	200	91	-50 to 200	-46 to 93	0.23	0.35
1.8	46	Acetal	Nylon	230	104	-50 to 200	-46 to 93	0.29	0.43
1.8	46	Polypropylene	Nylon	90	41	34 to 220	1 to 104	0.19	0.28
2.2	56	Acetal	Nylon	200[a]	91[a]	-50 to 200	-46 to 93	0.34	0.50

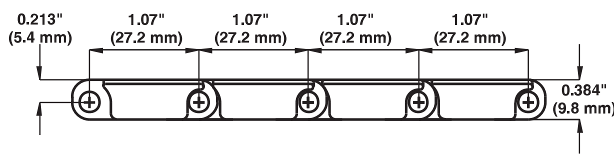
[a] 270 lb (122 kg) for 2.2 in (55 mm) with two (2) sprockets.

Flat Top

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.
- Use HR nylon in dry, elevated-temperature applications.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Ideal for handling glass and other containers.

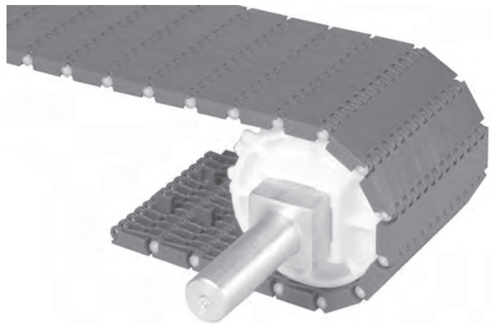
Belt Data

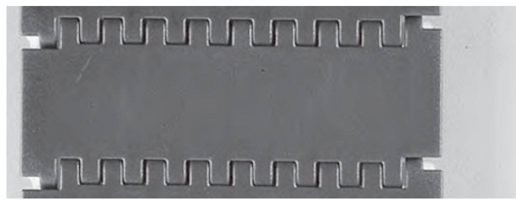
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.96	4.69
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	1.01	4.95
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.50	7.30
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.50	7.30
HR nylon	Nylon	1200	1790	-50 to 240	-46 to 116	1.40	6.80
HHR nylon	Nylon	1200	1790	-50 to 310	-46 to 154	1.40	6.80
Acetal[a]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.50	7.30
Detectable polypropylene A22	Polyethylene	650	967	34 to 150	1 to 66	2.21	10.79

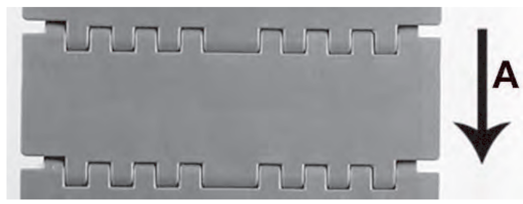
[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

Mold to Width Flat Top

	in	mm
Pitch	1.07	27.2
Molded Widths	3.25	83
	4.5	114
	7.5	191
	-	85
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	







A preferred run direction

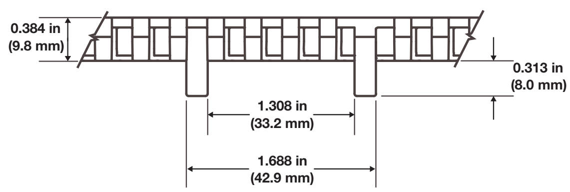


Figure 40: S900 Flat Top Mold to Width

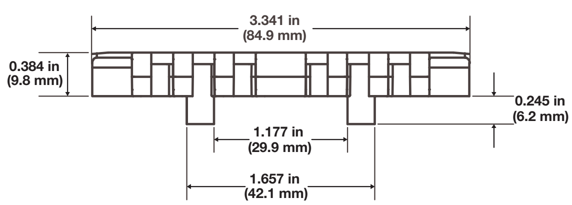


Figure 41: S900 Flat Top 85 mm Mold to Width

Product Notes

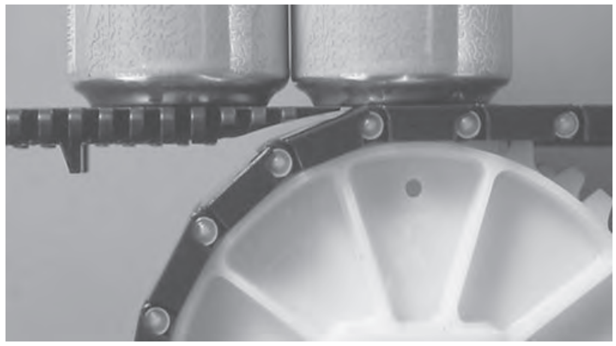
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Tracking tabs provide lateral tracking.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Do not use with sprockets smaller than a 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.
- One sprocket can be placed on the 3.25 in (83 mm) and 85-mm belt. Up to three sprockets can be placed on the 4.5 in (114 mm) belt. Up to five sprockets can be placed on the 7.5 in (191 mm) belt.
- Available in 10 ft (3 m) increments.

Belt Data

Belt Width		Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
inch	(mm)			lb	kg	°F	°C	lb/ft	kg/m
3.25	83	Polypropylene	Nylon	130	59	34 to 220	1 to 104	0.37	0.55
3.25	83	Acetal	Nylon	250	113	-50 to 200	-46 to 93	0.52	0.77
4.5	114	Polypropylene	Nylon	263	120	34 to 220	1 to 104	0.52	0.77
4.5	114	Acetal	Nylon	555	252	-50 to 200	-46 to 93	0.74	1.10
7.5	191	Polypropylene	Nylon	438	199	34 to 220	1 to 104	0.83	1.24
7.5	191	Acetal	Nylon	800	363	-50 to 200	-46 to 93	1.18	1.76
	85	Acetal	Nylon	500	227	-50 to 200	-46 to 93	0.50	0.74

ONEPIECE™ Live Transfer Flat Top

	in	mm
Pitch	1.07	27.2
Minimum Width	4.7	119
Width Increments	0.33	8.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Transfer edge is an integral part of the belt.
- Nylon rods provide superior wear resistance.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See S900, S1100, and S1400 ONEPIECE Live Transfer Belts for more information.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- For custom belt widths, contact Intralox Customer Service.
- Available in 10 ft (3 m) increments.
- Also available in a 4.7 in (119 mm) wide single tracking tab belt and 6 in (152 mm) wide double tracking tab belt.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks ensuring proper belt alignment.
- Do not use with sprockets smaller than a 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.

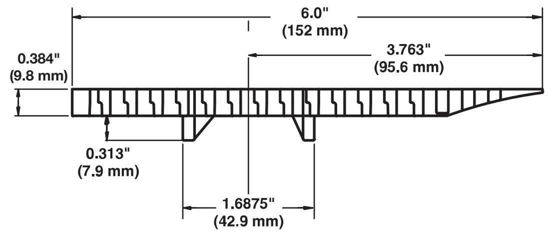


Figure 42: 6.0 in (152 mm) double tracking tab belt

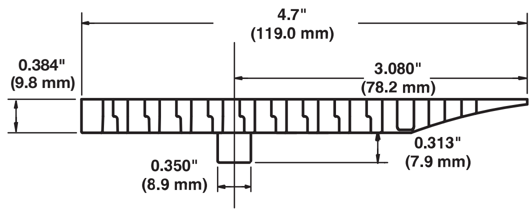
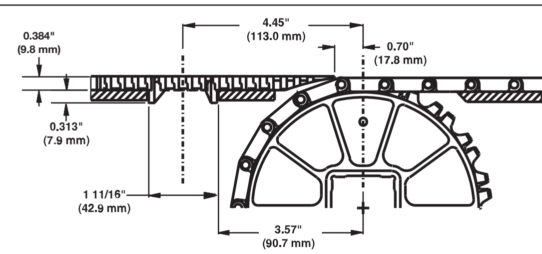


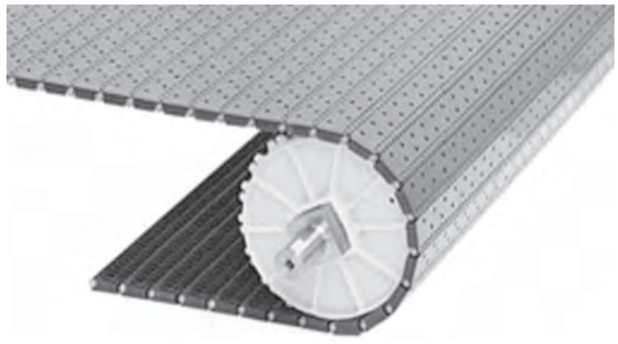
Figure 43: 4.7 in (119 mm) single tracking tab belt



Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	700	1040	34 to 220	1 to 104	0.93	4.54
Acetal	Nylon	1480	2200	-50 to 200	-46 to 93	1.50	7.30

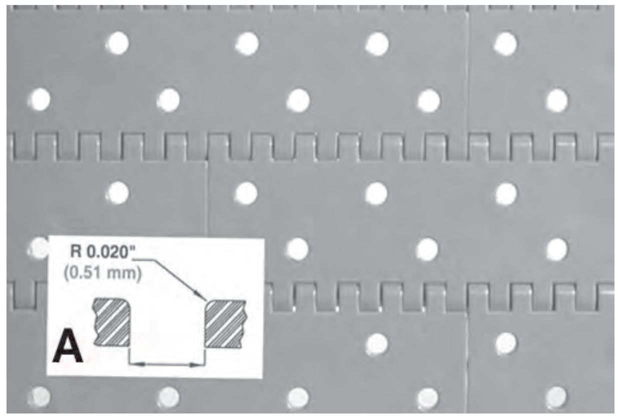
Perforated Flat Top

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size	See *Product Notes*	
Open Area	See *Product Notes*	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

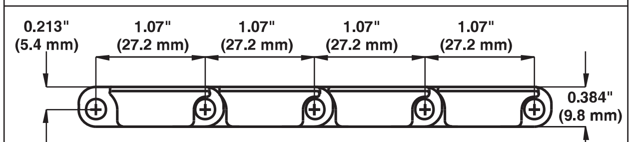


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Hole sizes include 3% open area at the hinge.
- Holes have a radiused top edge, allowing quiet operation and good vacuum performance.
- Other hole dimensions and patterns can be created by drilling S900 Flat Top.
- HR nylon belts use short rodlets to hold the main hinge rod in place and are made from the same material as the main rod.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Use stainless steel split sprockets in elevated-temperatures.
- Designed for vacuum transfer applications, with a scalloped underside to reduce carryway blockage.
- Available hole sizes:
  - Ø 0.125 in (3.2 mm) - 5% open area
  - Ø 0.15625 in (4.0 mm) - 6% open area
  - Ø 0.1875 in (4.8 mm) - 8% open area



A molded hole detail



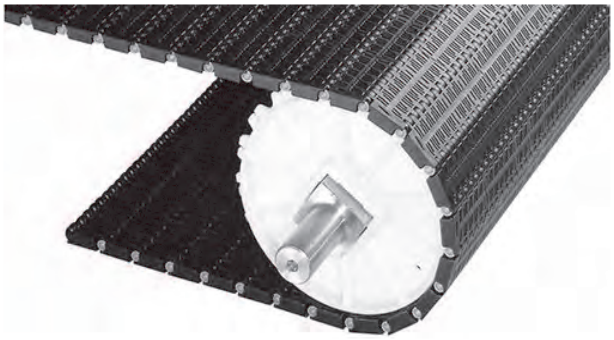
Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight 1/8 in		Belt Weight 5/32 in		Belt Weight 3/16 in	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²	lb/ft²	kg/m²	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	–	–	0.93	4.54	–	–
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	–	–	0.98	4.79	–	–
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.48	7.23	1.46	7.11	1.43	6.98
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	–	–	1.46	7.11	–	–
FR TPES	Polypropylene	750	1120	40 to 150	4 to 66	–	–	1.59	7.76	–	–
HR nylon	Nylon	1200	1790	-50 to 240	-46 to 116	–	–	1.40	6.80	–	–
Acetal[a]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.48	7.23	1.46	7.11	1.43	6.98
UVFR	UVFR	700	1042	-34 to 200	1 to 93	2.04	9.96	2.04	9.96	2.04	9.96

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating. 1/8 in (3.2 mm) and 3/16 in (4.8 mm) hole sizes are available in acetal only.

Mesh Top

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.05 × 0.31	1.3 × 7.9
Open Area	24%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Ideal for fruit and vegetable processing, especially for stemmed products and dewatering applications.

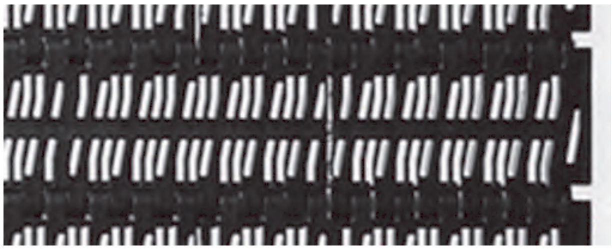


Figure 44: Top surface

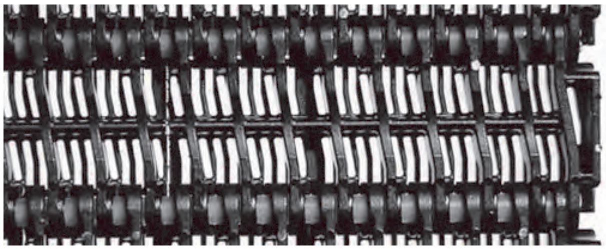


Figure 45: Underside surface

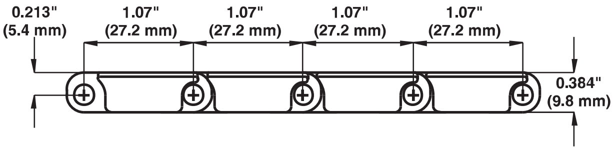


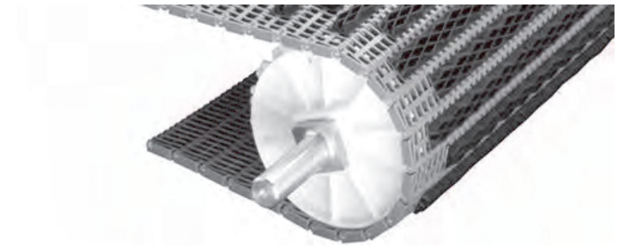
Figure 46: Dimensions

Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		Lb/ft	Kg/m	°F	°C	Lb/ft²	Kg/m²
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.39	6.79
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.93	4.55
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	0.99	4.84

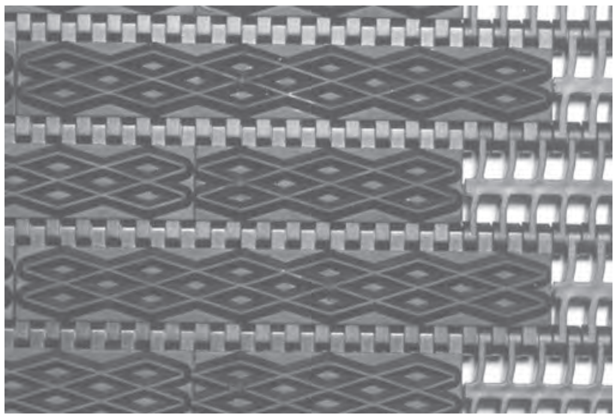
Diamond Friction Top

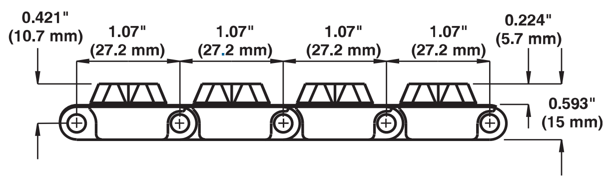
	in	mm
Pitch	1.07	27.2
Minimum Width	3.0	76
Width Increments	0.33	8.4
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high friction surface without interfering with carryways and sprockets.
- Available in grey PP with black rubber, white PP with white rubber, and natural PE with white rubber.
- Abrasion resistant rods are recommended.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 1.7 in (43 mm).



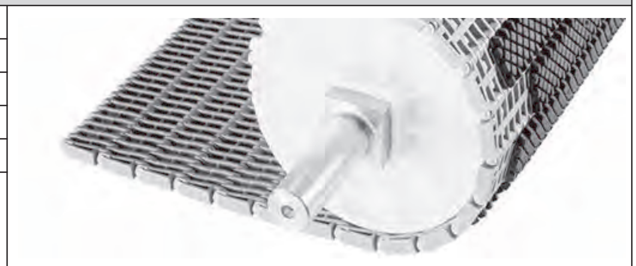


Belt Data												
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Polypropylene	1000	1490	34 to 150	1 to 66	1.40	6.83	45 Shore A	b	
Polypropylene	White/white	Polypropylene	1000	1490	34 to 150	1 to 66	1.40	6.83	56 Shore A	b	c
Polyethylene	Natural/white	Polyethylene	350	520	-50 to 120	-46 to 49	1.50	7.32	56 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

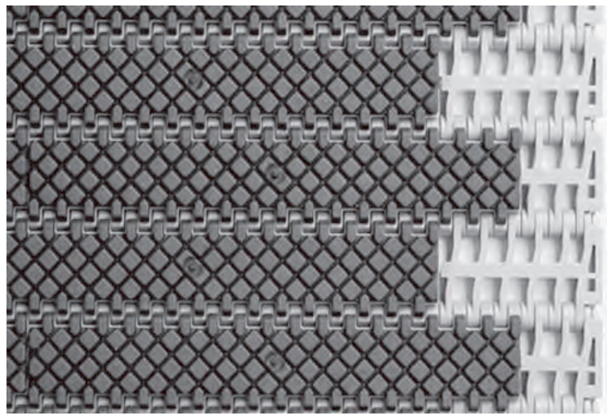
Square Friction Top

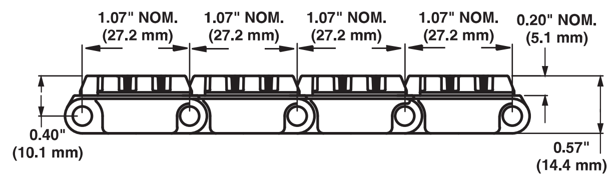
	in	mm
Pitch	1.07	27.2
Minimum Width	3.0	76
Width Increments	0.33	8.4
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high-friction surface without interfering with carryways and sprockets.
- Available in grey PP with black rubber and white PP with white rubber.
- Abrasion resistant rods are recommended.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Consider these factors when designing conveyor systems to use these belts.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 1.7 in and (43 mm).





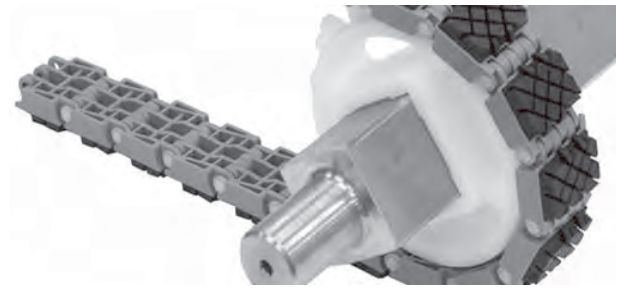
Belt Data

Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Polypropylene	1000	1490	34 to 150	1 to 66	1.50	7.32	45 Shore A	b	
Polypropylene	White/white	Polypropylene	1000	1490	34 to 150	1 to 66	1.50	7.32	56 Shore A	b	c

a European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
b FDA compliant with restriction: Do not use in direct contact with fatty foods.
c EU compliant with restriction: Do not use in direct contact with fatty foods.

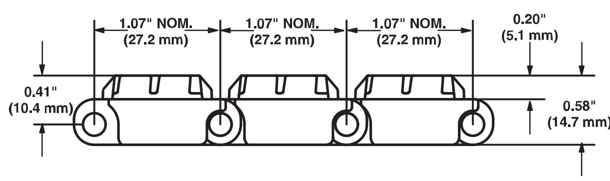
Mold to Width 29 mm Square Friction Top

	in	mm
Pitch	1.07	27.2
Molded Width	1.1	29
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high-friction surface without interfering with carryways and sprockets.
- Available in grey PP with black rubber, grey acetal with black rubber, and blue acetal with black rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.

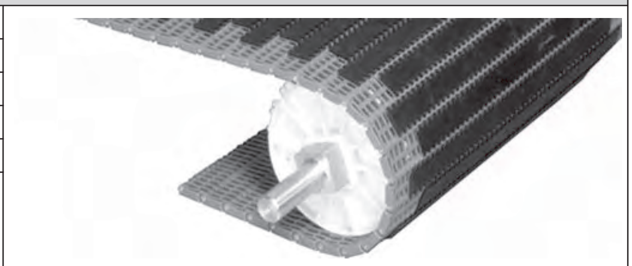


Belt Data											
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	65	29	34 to 150	1 to 66	0.17	0.25	45 Shore A	b	
Acetal	Grey/black	Nylon	140	64	-10 to 130	-23 to 54	0.21	0.31	54 Shore A		
Acetal	Blue/black	Nylon	140	64	-10 to 130	-23 to 54	0.21	0.31	54 Shore A		

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

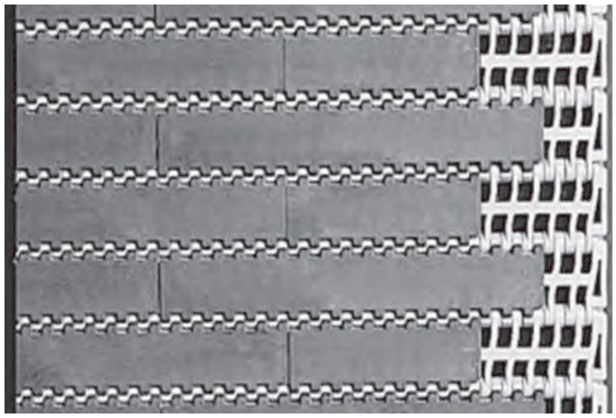
Flat Friction Top

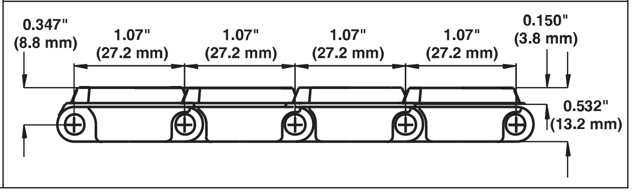
	in	mm
Pitch	1.07	27.2
Minimum Width	3.0	76
Width Increments	0.33	8.4
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high-friction surface without interfering with carryways and sprockets.
- Available in grey PP with black rubber and white PP with white rubber.
- Abrasion resistant rods are recommended.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Consider these factors when designing conveyor systems to use these belts.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 1.7 in (43 mm).



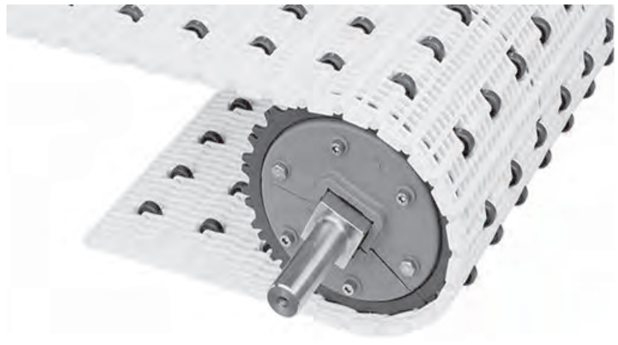


Belt Data											
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Polypropylene	1000	1490	34 to 150	1 to 66	1.40	6.83	45 Shore A	b	
Polypropylene	White/white	Polypropylene	1000	1490	34 to 150	1 to 66	1.40	6.83	56 Shore A	b	c
Polypropylene	High-Performance FT blue/blue	Polypropylene	1000	1490	34 to 212	1 to 100	1.40	6.83	59 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

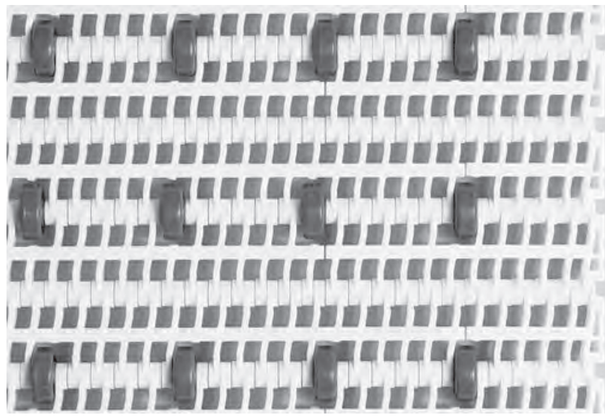
Flush Grid with Insert Rollers

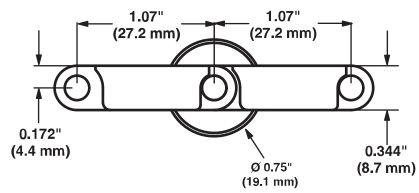
	in	mm
Pitch	1.07	27.2
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For applications where low back-pressure accumulation is required.
- Product accumulation load is 5% to 10% of product weight.
- For low back pressure applications, place wearstrips between rollers. For driven applications, place wearstrip directly under rollers.
- Do not place sprockets inline with rollers.
- Standard roller diameter: 0.75 in (19.05 mm). Other roller diameters are available. Contact Intralox Customer Service for more information.
- Standard roller spacing across belt width: 2 in (51 mm), 3 in (76 mm), or 4 in (102 mm) inline or staggered.
- Standard roller spacing along belt length: 1.07 in (27.2 mm), 2.14 in (54.4 mm).
- For custom roller-placement options, contact Intralox Customer Service.
- Minimum roller indent: 1.0 in (25.4 mm).





Belt Data

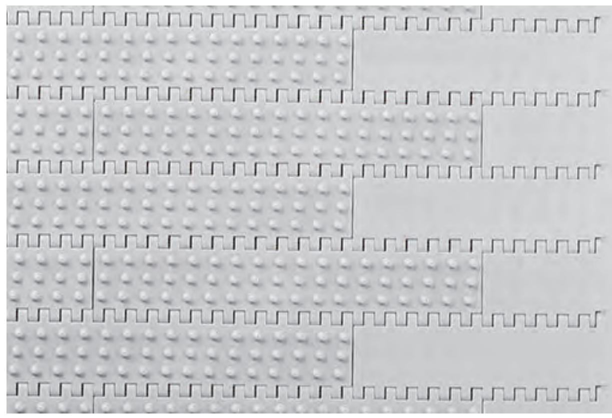
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength						Temperature Range (continuous)		Belt Weight	
		Roller Width Spacing									
		2 in	51 mm	3 in	76 mm	4 in	102 mm				
		lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	490	730	550	820	590	880	34 to 220	1 to 104	0.76	3.71
Acetal	Polypropylene	1030	1530	1170	1740	1240	1850	34 to 200	1 to 93	1.15	5.61

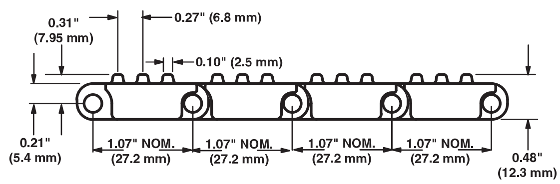
Nub Top

	in	mm
Pitch	1.07	27.2
Minimum Width	10	254
Width Increments	0.33	8.4
Open Area	0%	
Product Contact Area	7%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Ideal for batch-off applications.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).



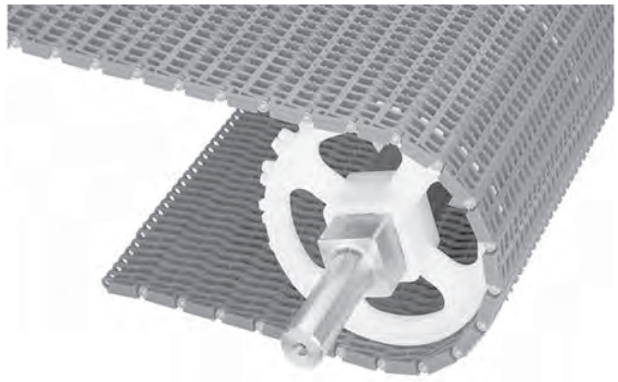


Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.98	4.78

[a] When using steel sprockets, the belt strength for polyethylene is 240 lb/ft (360 kg/m). Contact Intralox Customer Service for availability of polyurethane sprockets.

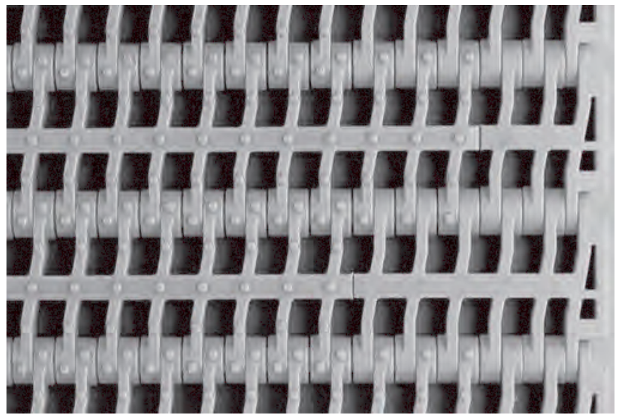
Flush Grid Nub Top

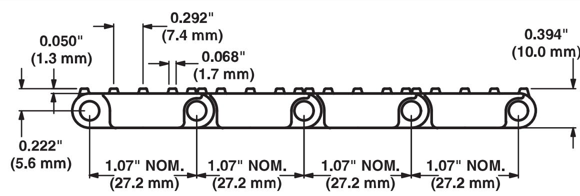
	in	mm
Pitch	1.07	27.2
Minimum Width	6	152
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Product Contact Area	3%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Built with Flush Grid edge modules.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. For information about friction values between product and belt, contact Intralox Customer Service.
- Can only be used with S900 Flush Grid base flights.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 2 in (51 mm) pattern.





Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.80	3.91

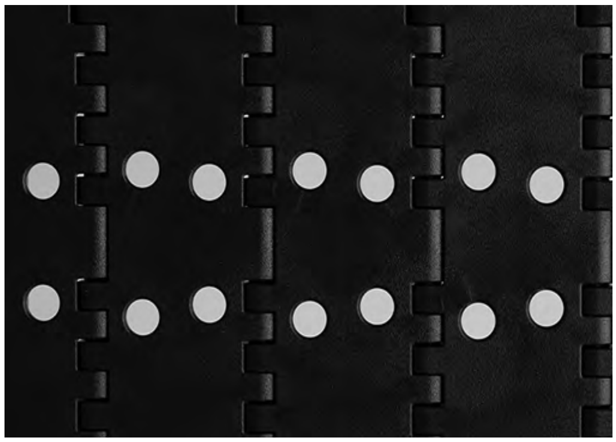
[a] When using steel sprockets, the belt strength for polyethylene is 240 lb/ft (360 kg/m).

Mold to Width Flat Top with Holes

	in	mm
Pitch	1.07	27.2
Molded Widths	3.35	85
	4.5	114
Open Area	See *Product Notes*.	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Has fully flush edges.
- Tracking tabs provide lateral tracking.
- Holes have a chamfered top edge allowing quiet operation and good vacuum performance.
- Rod material is abrasion resistant.
- HHR nylon belt material has a UL94 flammability rating of V2, appropriate for elevated temperature applications, such as pin strippers and light testers.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Use a nylon, machined, split sprocket in high-speed vacuum applications.
- Split sprocket is available for easy installation.
- Available in 10 ft (3 m) increments.
- Belt has 3% open area at the hinges and 3% to 4% open area at the holes.
- Hole diameter: 0.217 in (5.51 mm) on the 3.35-in (85-mm) belt; 0.219 in (5.56 mm) on the 4.5-in (114-mm) belt.



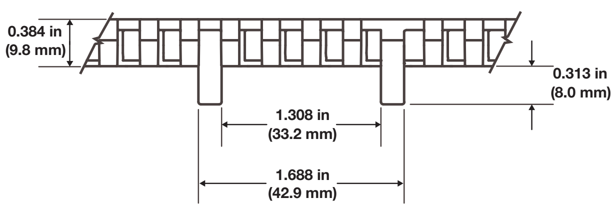


Figure 47: S900 Flat Top 4.5 in Mold to Width

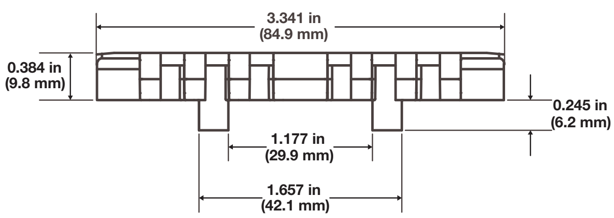


Figure 48: S900 Flat Top 85 mm Mold to Width

Belt Data									
Belt Width		Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
inch	(mm)			lb	kg	°F	°C	lb/ft	kg/m
3.35	85	HHR nylon	Nylon	220	100	-50 to 310	-46 to 154	0.41	0.61
4.5	114	HHR nylon	Nylon	450	204	-50 to 310	-46 to 154	0.53	0.79

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway[c]
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1067	11	8	5
48	1219	13	9	5
54	1372	15	10	6
60	1524	15	11	6
72	1829	19	13	7
84	2134	21	15	8
96	2438	25	17	9
120	3048	31	21	11
144	3658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[d]			Maximum 6 in (152 mm) centerline spacing.	Maximum 12 in (305 mm) centerline spacing.

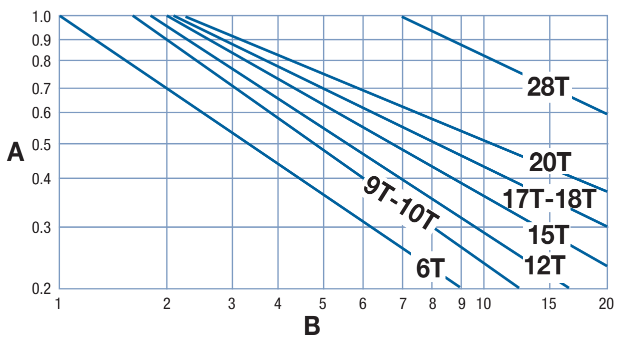
[a] If your belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range listed. Belts are available in 0.33 in (8.4 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] For Friction Top applications, use caution and contact Intralox Customer Service.

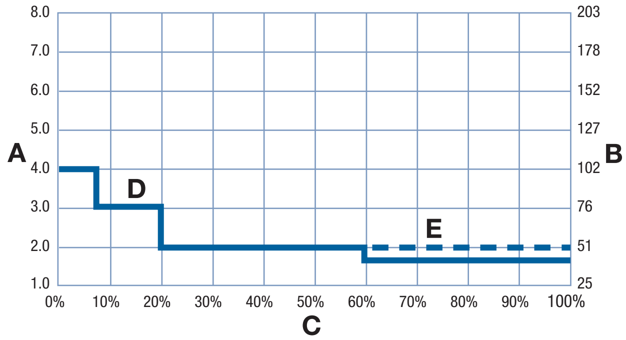
[d] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

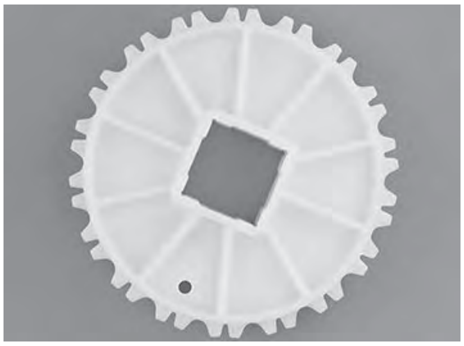
To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.



A sprocket spacing, in
B sprocket spacing, mm
C Percentage of allowable belt strength utilized
D Solid line: Flush Grid and Raised Rib
E Dashed line: Open Flush Grid

Molded Sprocket[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in[b]	Available Bore Sizes Square in	Available Bore Sizes Round mm[b]	Available Bore Sizes Square mm
6 (13.40%)	2.1[c]	53[c]	2.2	56	0.75	19		1.0		25
9 (6.03%)	3.1	79	3.2	81	1.0	25	1	1.0, 1.5	25	25, 40
10 (4.89%)	3.5	89	3.6	91	0.75	19		1.0, 1.5		40
12 (3.41%)	4.1	104	4.3	109	1.5	38	1 to 11/2, 1-15/16 to 23/16	1.5	25 to 40, 50 to 55	40
17 (1.70%)	5.8	147	5.9	150	1.5	38	1-3/16 to 1-1/2		30 to 40	
18 (1.52%)	6.1	155	6.3	160	1.5, 1.0	38, 25	1 to 11/2, 1-15/16, 2-3/16	1.5, 2.5	25 to 40, 50 to 55	40, 60, 65
20 (1.23%)	6.8	173	7.0	178	1.5	38	1 to 11/2, 1-15/16 to 23/16	1.5, 2.5	25 to 40, 50 to 55	40, 60, 65



[a] When using 1.5 in (40 mm) bore polyurethane sprockets, the belt strength for belts rated over 650 lb/ft (967 kg/m) is de-rated to 650 lb/ft (967 kg/m). When using 2.5 in (60 mm) bore polyurethane sprockets, the belt strength for belts rated over 1100 lb/ft (1637 kg/m) is de-rated to 1100 lb/ft (1637 kg/m. All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

[b] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

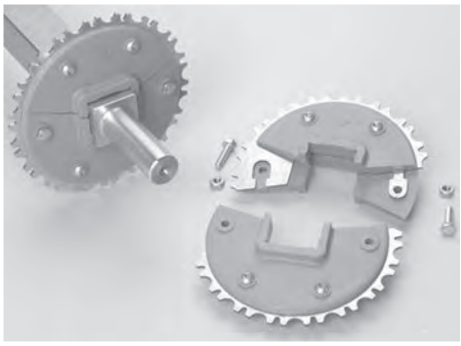
[c] See the Retaining Rings section for more information on retaining the 2.1 in (53 mm) pitch diameter sprocket.

SERIES 900

EZ Clean™ Sprocket[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[b]	Square in	Round mm[b]	Square mm	
12 (3.41%)	4.1	104	4.3	109	1.5	38		1.5		40	
18 (1.52%)	6.1	155	6.3	160	1.5	38		1.5		40	

[a] When using when using 1.5 in (40 mm) bore polyurethane sprockets, the belt strength for belts rated over 650 lb/ft (967 kg/m) is de-rated to 650 lb/ft (967 kg/m). When using when using 2.5 in (60 mm) bore polyurethane sprockets, the belt strength for belts rated over 1100 lb/ft (1637 kg/m) is de-rated to 1100 lb/ft (1637 kg/m). All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

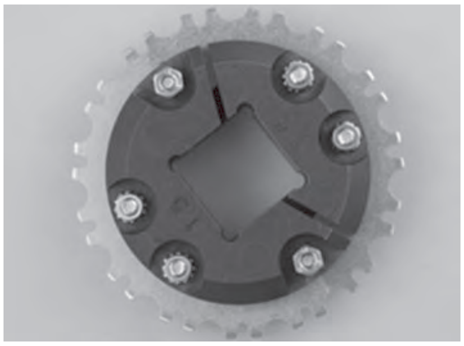
[b] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Split Metal Sprocket											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
10 (4.89%)	3.5	89	3.6	91	1.5	38		1.5		40	
12 (3.41%)	4.1	104	4.3	109	1.5	38		1.5		40	
15 (2.19%)	5.1	130	5.3	135	1.5	38	1-3/16, 1-1/4	1.5	30, 40		
17 (1.70%)	5.8	147	6.1	155	1.5	38			40	40	
18 (1.52%)	6.1	155	6.3	160	1.5	38	1-1/4, 1-1/2	1.5, 2.5		40, 60	
20 (1.23%)	6.8	173	7.0	178	1.5	38	1-1/4	1.5, 2.5		40, 60	
28[b] (0.63%)	9.8	249	10.0	254	1.5	38		1.5, 2.5		40, 60	

[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

[b] Do not use 9.8 in (249 mm) pitch diameter 28-tooth split sprockets with any S900 style acetal belt. Instead, always use 9.7 in (246 mm) pitch diameter split sprockets.

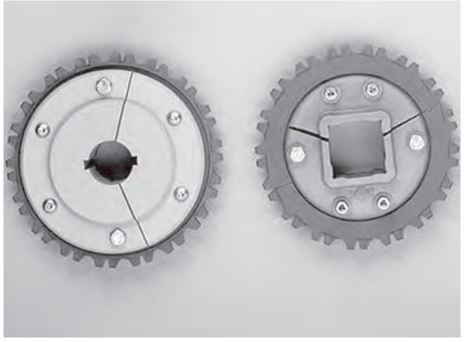
Split Metal with Polyurethane (FDA) Joining Plates Reduced Clearance Sprocket										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
15 (2.19%)	5.1	130	5.3	135	1.5	38		1.5		40
17 (1.70%)	5.8	147	6.1	155	1.5	38				40
18 (1.52%)	6.1	155	6.3	160	1.5	38		1.5, 2.5		40, 60
20 (1.23%)	6.8	173	7.0	178	1.5	38		1.5, 2.5		40
28[b] (0.63%)	9.8	249	10.0	254	1.5	38		2.5		60



[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

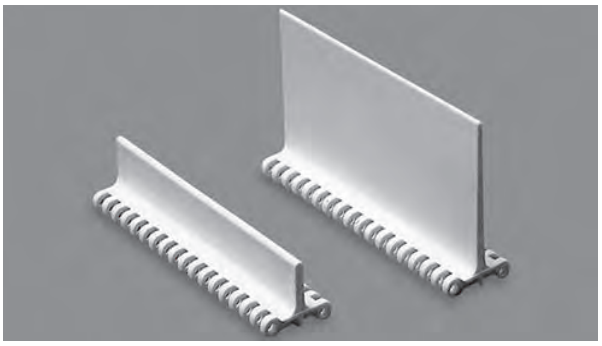
[b] Do not use 9.8 in (249 mm) pitch diameter 28-tooth split sprockets with any Series 900 style acetal belt. Instead, always use 9.7 in (246 mm) pitch diameter split sprockets.

Molded Tooth Plate Split Glass-Filled Nylon Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
15 (2.19%)	5.1	130	5.3	135	1.5	38	1, 1-3/16	1.5	30, 40	40
17 (1.70%)	5.8	147	6.1	155	1.5	38			30, 40	40
18 (1.52%)	6.1	155	6.3	160	1.5	38	1-1/4, 1-1/2	1.5, 2.5		40, 60
20 (1.23%)	6.8	173	7.0	178	1.5	38	1-1/4	1.5, 2.5		40, 60

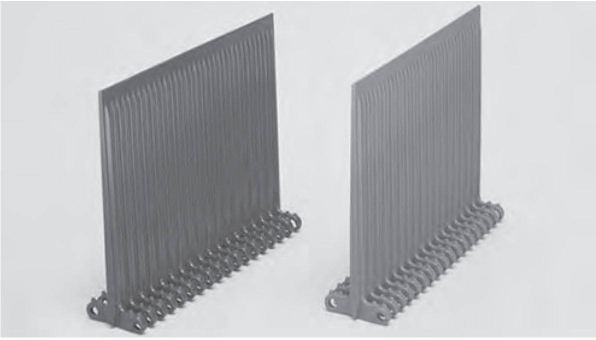


[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

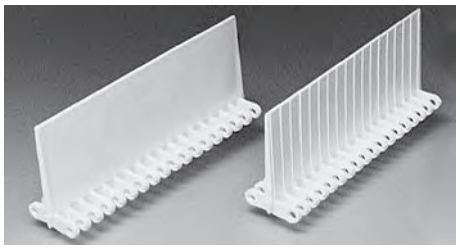
Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
18 (1.52%)	6.2	157	6.4	163	1.5	38			30, 40		

Flat Top Base Flights (Streamline)			
Available Flight Height		Available Materials	
in	mm		
1	25	Polypropylene, polyethylene, acetal	
2	51		
3	76		

- Streamline flights are smooth on both sides.
- Each flight rises out of the center of a supporting module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.7 in (17.8 mm).

Flush Grid Nub Top Base Flights (Double No-Cling)			
Available Flight Height		Available Materials	
in	mm		
4	102	Polypropylene, acetal	

- No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.7 in (17.8 mm).

Flush Grid Base Flights (Streamline/No-Cling)			
Available Flight Height		Available Materials	
in	mm		
1	25	Polypropylene, polyethylene, acetal, HR HHR nylon, HR nylon	
2	51		

- Streamline/No-Cling flights are smooth on one side and vertically ribbed on one side.
- Each flight rises out of the center of a supporting module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 0.7 in (17.8 mm).

Open Flush Grid, Flush Edge Base Flights (No-Cling)			
Available Flight Height		Available Materials	
in	mm		
2	51	Polypropylene, HR nylon, HHR nylon	

- Flight is ribbed vertically (No-Cling) on both sides.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Flight is molded with a 1 in (25 mm) indent. Can be machined to any indent between 1 in (25 mm) and 3 in (76 mm).

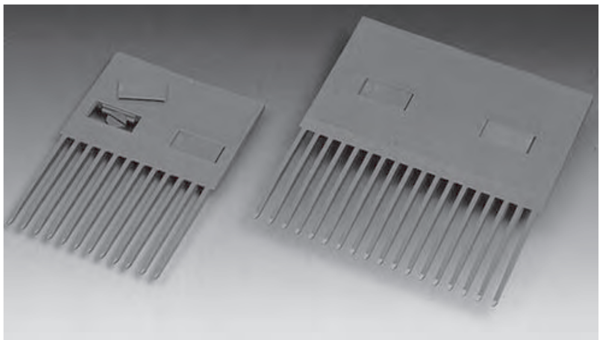
Flat Top Base Flights (Streamline Rubber)			
Available Flight Height		Available Materials	
in	mm		
1	25	Polypropylene	
2	51		
3	76		

Contact Intralox Customer Service for more information.

SERIES 900

Sideguards			
Available Sizes		Available Materials	
in	mm		
2	51	Polypropylene, polyethylene, acetal, HR nylon, HHR nylon	

- Sideguards use a standard overlapping design and are an integral part of the belt.
- Fastened by the hinge rods. No other fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6-, 9-, and 10-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when wrapping around the 12-tooth and larger sprockets.
- Standard gap between sideguards and flight edge: 0.2 in (5 mm).
- Minimum indent: 1 in (25.4 mm).

Finger Transfer Plates				
Available Widths		Number of Fingers	Available Materials	
in	mm			
6	152	18	Acetal	
4	102	12		

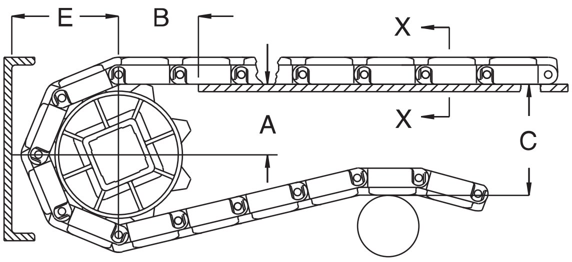
- Eliminates product transfer and tipping problems. The fingers extend between the belt ribs to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts. Caps easily snap into place over the bolts, and keep foreign materials out of the slots.
- When retrofitting from Series 100 Raised Rib to Series 900 Raised Rib, only use the 4 in (102 mm) 12 finger) width.
- Do not mix 4 in (102 mm) and 6 in (152 mm) wide finger plates.

Hold Down Tabs			
Available Clearance		Available Materials	
in	mm		
0.16	4.1	Acetal	
0.35	8.9		

- Tabs are placed on every other row.
- Carryway wearstrips or rollers that engage the tabs are only required at the transition between horizontal sections and angled sections. Use a carryway radius design at this transition.
- Ensure that adequate lead-in radii and/or angles are used to prevent the possibility of snagging the tab on the frame.
- The 0.16 in (4.1 mm) tab is available in both Flat Top and Flush Grid styles. The 0.35 in (8.9 mm) tab is available with a Flat Top style. The top of this tab sits 0.04 in below the top of Flat Top belts and is level with the top of Flush Grid belts.
- Hold down tabs do not work with 2.1 in (53 mm) and 3.1 in (79 mm) pitch diameter sprockets. 3.5 in (89 mm) pitch diameter sprockets can be used with a 1.5 in (40 mm) square bore.
- A minimum of 2.7 in (69 mm) is required between tabs to accommodate 1 sprocket.
- Tabs width: 1.4 in (36 mm).
- Minimum indent: 0.7 in (17.8 mm).

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 49: Basic dimensional requirements

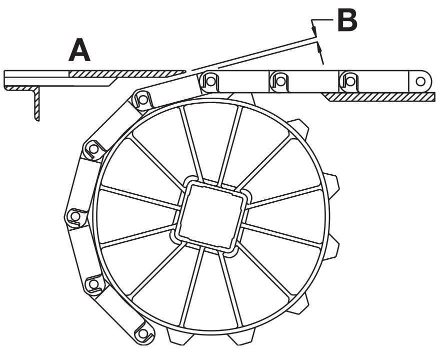
S900 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid, Mesh Top, Nub Top, Perforated Flat Top[a]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.51	38
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.75	44
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.01	51
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.51	64
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.77	70
5.8	147	17	2.69-2.74	68-70	2.13	54	5.80	147	3.15	80
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	155	3.30	84
6.8	173	20	3.21-3.25	81-82	2.32	59	6.75	171	3.86	98
9.8	249	28	4.58	116	2.96	75	9.70	246	5.02	128
Flush Grid Nub Top[a]										
2.1	53	6	0.75-0.90	19-23	1.22	31	2.19	56	1.35	34
3.1	79	9	1.30-1.39	33-35	1.52	39	3.17	81	1.85	47
3.5	89	10	1.47-1.56	37-40	1.64	42	3.51	89	2.02	51
4.1	104	12	1.82-1.90	46-48	1.75	44	4.19	106	2.35	60
5.1	130	15	2.34-2.40	59-61	1.95	50	5.19	132	2.86	73
5.8	147	17	2.69-2.74	68-70	2.09	53	5.87	149	3.20	81
6.1	155	18	2.86-2.91	73-74	2.12	54	6.21	158	3.37	86
6.8	173	20	3.21-3.25	82-83	2.25	57	6.89	175	3.70	94
9.8	249	28	4.58	116	2.92	74	9.61	244	5.06	129

S900 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Raised Rib, Flush Grid with Insert Rollers, Open Grid[a]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.73	44
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.97	50
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.23	57
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.73	69
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.99	76
5.8	147	17	2.69-2.74	68-70	2.13	54	6.00	152	3.40	86
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	157	3.52	89
6.8	173	20	3.21-3.25	81-82	2.32	59	6.75	171	4.08	104
9.8	249	28	4.58	116	2.96	75	9.70	246	5.24	133
Open Flush Grid[a]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.51	38
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.75	44
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.01	51
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.51	64
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.77	70
5.8	147	17	2.69-2.74	68-70	2.13	54	5.80	147	3.15	80
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	155	3.30	84
6.8	173	20	3.21-3.25	81-83	2.32	59	6.75	171	3.86	98
9.8	249	28	4.58	116	2.96	75	9.70	246	5.02	128
Diamond Friction Top, Flat Friction Top, Square Friction Top[a]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.76	45
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.96	50
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.22	56
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.72	69
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.98	76
5.8	147	17	2.69-2.74	68-70	2.13	54	6.00	152	3.40	86
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	157	3.51	89
6.8	173	20	3.21-3.25	81-82	2.32	59	6.75	171	4.08	104
9.8[b]	249	28	4.58	116	2.96	75	9.70	246	5.23	133
Mold to Width 29 mm Square Friction Top[a]										
2.1	53	6	0.75-0.90	19-23	1.27	32	2.38	60	1.54	39
3.1	79	9	1.30-1.39	33-35	1.58	40	3.36	85	2.04	52
3.5	89	10	1.47-1.56	37-40	1.70	43	3.70	94	2.21	56
4.1	104	12	1.82-1.90	46-48	1.88	48	4.38	111	2.54	65
5.1	130	15	2.34-2.40	59-61	2.10	53	5.38	137	3.05	77
5.8	147	17	2.69-2.74	68-70	2.32	59	6.06	154	3.39	86
6.1	155	18	2.83-2.88	72-73	2.31	59	6.34	161	3.52	89
6.8	173	20	3.21-3.25	82-83	2.42	61	7.08	180	3.89	99
9.8	249	28	4.58-4.61	116-117	2.92	74	9.80	249	5.25	133
Mold to Width Flat Top with Holes										
6.2	157	18	2.86	73	2.20	56	6.20	157	3.36	6.2

[a] **See Anti-Sag Carryway Wearstrip Configuration for alternate layouts for the B dimension.**
[b] Do not use 9.8 in (249 mm) pitch diameter 28-tooth split sprockets with S900 acetal belts. Always use a 9.7 in (246 mm) pitch diameter split sprocket with S900 acetal belts.

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 50: Gap at transfer point between belt and dead plate

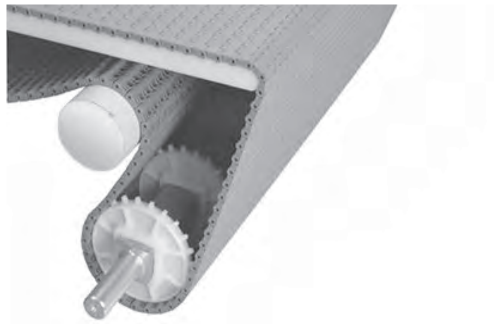
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

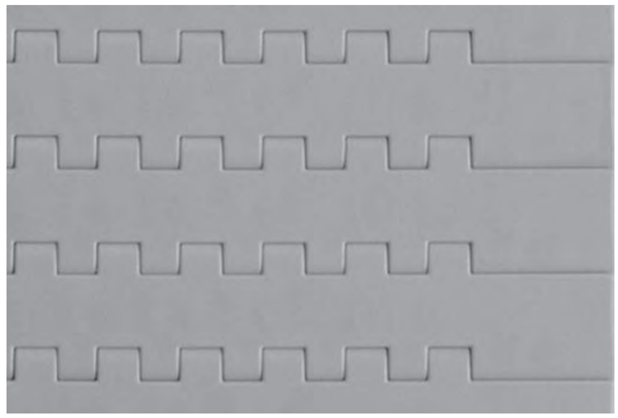
Sprocket Description			Gap	
Pitch Diameter				
in	mm	Number of Teeth	in	mm
2.1	53	6	0.147	3.7
3.1	79	9	0.095	2.4
3.5	89	10	0.084	2.1
4.1	104	12	0.071	1.8
5.1	130	15	0.057	1.4
5.8	147	17	0.050	1.3
6.1	155	18	0.047	1.2
6.8	173	20	0.042	1.1
9.8	249	28	0.029	0.7

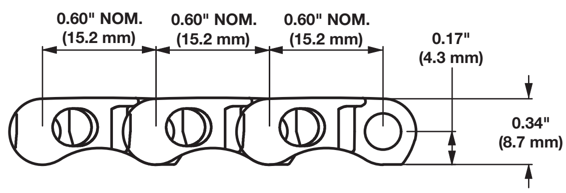
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Flat Top

	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.50	12.7
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	







Product Notes

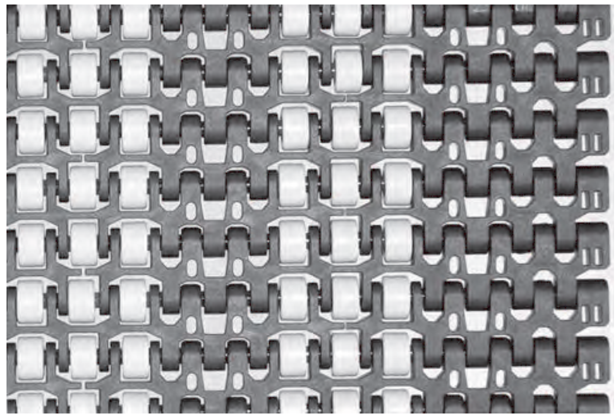
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed edges on one side of the belt.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Small pitch reduces chordal action and transfer dead plate gap.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimal back tension required.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.

Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1500	2232	34 to 200	1 to 93	1.55	7.57
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.07	5.22
Polyethylene	Polyethylene	600	893	-50 to 150	-46 to 66	1.11	5.42
HR nylon	Nylon	1000	1490	-50 to 240	-46 to 116	1.31	6.43

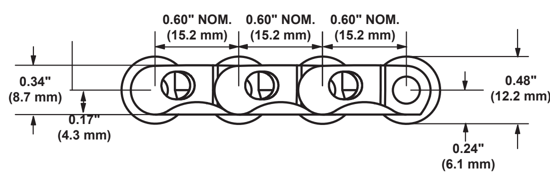
Insert Roller

	in	mm
Pitch	0.60	15.2
Minimum Width	6	152
Width Increments	3.00	76
Open Area	12.5%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

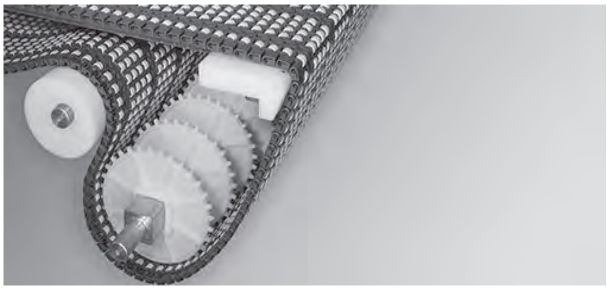
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Has fully flush edges on one side and closed edges on opposite side.
- Rollers protrude above and below the belt surface.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Roller density: 240 rollers/ft^2 (2580 rollers/m^2).
- Minimal back tension required.
- Compatible with 0.75 in (19.1 mm) diameter notched nosebars for tight transfers. Contact Intralox Customer Service for more information.
- Belt can be supported using 1.38 in (35.1 mm) wide or narrower parallel wearstrips.
- For low back-pressure applications, place wearstrip between rollers. For activated roller applications, place wearstrip directly under rollers.
- Belt widths above 6 in (152 mm) are bricklayed.
- 6 in (152 mm) belt is molded to width, with a 0.44 in (11.2 mm) roller indent.
- Yellow acetal rollers are 0.3 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter. Rollers are on the belt rod.
- Rollers are spaced in groups with 1.5 in (38.1 mm) between roller zones.
- Roller indent from edge of belt to edge of roller: 2.25 in (57.2 mm).
- Sprocket locations are indented 1.5 in (38.1 mm) from edge of belt.
- Sprocket locations are 3.0 in (76.2 mm) apart.

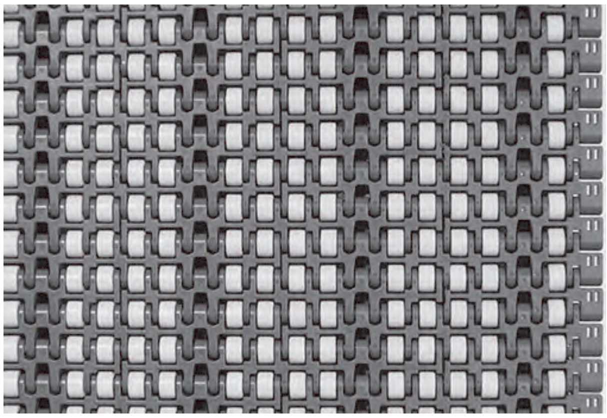


Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1000	1490	-50 to 200	-46 to 93	1.7	8.3

High-Density Insert Roller

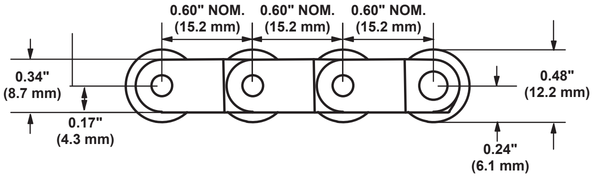
	in	mm
Pitch	0.6	15.2
Minimum Width	9	229
Width Increments	3.00	76.2
Open Area	4%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	





Product Notes

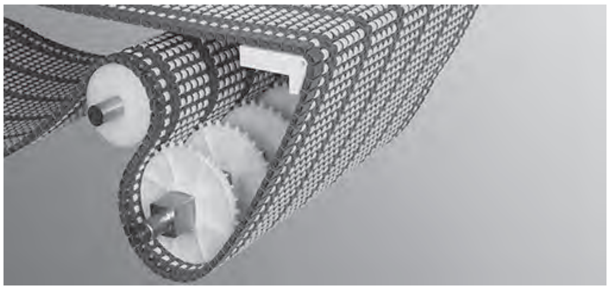
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges on one side and closed edges on opposite side.
- Rollers protrude above and below the belt surfaces.
- Uses one unheaded rod across the entire belt width on each belt row.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimum back tension required.
- For activated roller applications, place wearstrip directly under rollers.
- For low back-pressure applications, place wearstrip between rollers in parallel. Wearstrip of 0.50 in (13 mm) wide is recommended to allow some manufacturing and installation tolerance in the conveyor, while providing adequate support to the belt. Maximum allowed wearstrip width is 0.75 in (19 mm).
- Compatible with 0.75 in (19.1 mm) diameter nosebars for tight transfers. For high-speed and load applications, a nose-roller is recommended.
- Yellow acetal rollers are 0.30 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter. Rollers are on the belt rod.
- Roller density: 320 rollers/ft^2 (3440 rollers/m^2).
- Roller indent: 0.70 in (17.8 mm) from edge of belt to edge of roller.
- Sprocket indent: 1.5 in (38.1 mm) from edge of belt.
- Sprocket spacing: 3.0 in (76.2 mm) apart.



Belt Data							
		Belt Strength		Temperature Range (continuous)		Belt Weight	
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1000	1490	-50 to 200	-46 to 93	1.87	9.13

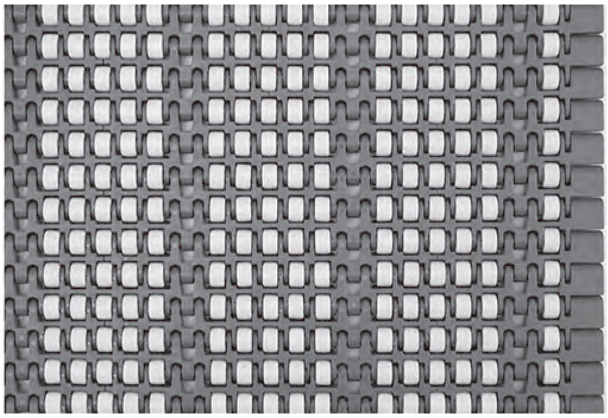
High-Density Insert Roller 85 mm

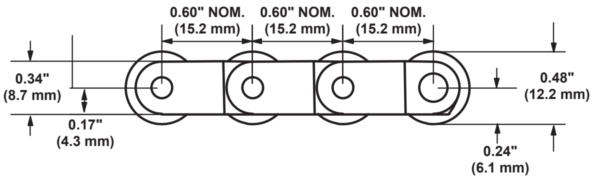
	in	mm
Pitch	0.6	15.2
Minimum Width	10	255
Width Increments	3.35	85
Open Area	3.6%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges on one side and closed edges on opposite side.
- Rollers protrude above and below the belt surfaces.
- Uses one unheaded rod across the entire belt width on each belt row.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimum back tension required.
- For activated roller applications, place wearstrip directly under rollers.
- For low back-pressure applications, place wearstrip between rollers in parallel. Use 0.50 in (13 mm) wide wearstrips to allow manufacturing and installation tolerance, while providing adequate belt support. Maximum wearstrip width is 0.75 in (19 mm).
- Compatible with 0.75 in (19.1 mm) diameter nosebars for tight transfers. For high-speed and load applications, a nose-roller is recommended.
- Yellow acetal rollers are 0.30 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter. Rollers are on the belt rod.
- Roller density: 360 rollers/ft^2 (3875 rollers/m^2).
- Roller indent: 0.89 in (22.6 mm) from edge of belt to edge of roller.
- Sprocket indent: 1.67 in (42.5 mm) from edge of belt.
- Sprocket spacing: 3.35 in (85 mm) apart.



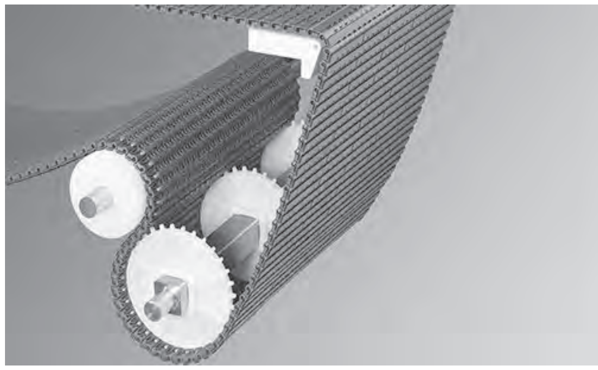


Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		Lb/ft	Kg/m	°F	°C	Lb/ft²	Kg/m²
Acetal	Nylon	1000	1490	-50 to 200	-46 to 93	1.95	9.52

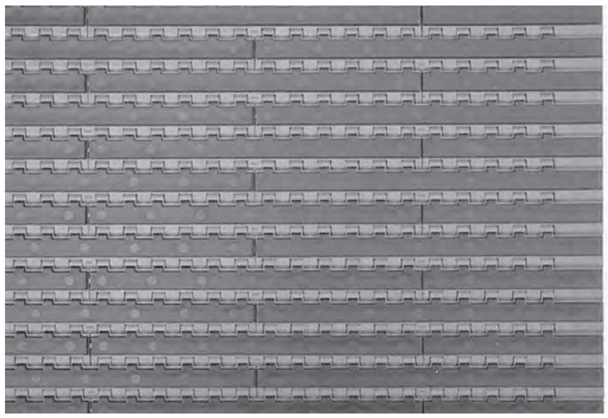
Flat Friction Top 85 mm

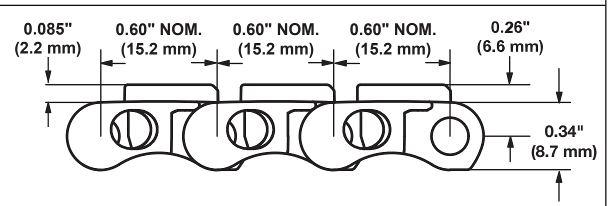
	in	mm
Pitch	0.60	15.2
Minimum Width	3.35	85.0
Maximum Width	66.9	1700
Width Increments	3.35	85
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed edges on one side of the belt.
- Small pitch reduces chordal action, reducing the gap at transfer dead plate.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Minimal back-tension required to maintain sprocket engagement.
- Underside design combined with small pitch allows the belt to run smoothly around a 0.75 in (19 mm) nosebar. Use a dynamic nose-roller for package handling applications.
- Detailed material information is provided at the beginning of Section 2: Product Line.





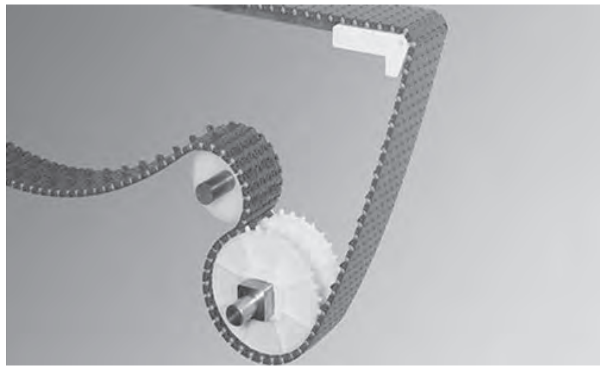
SERIES 1000

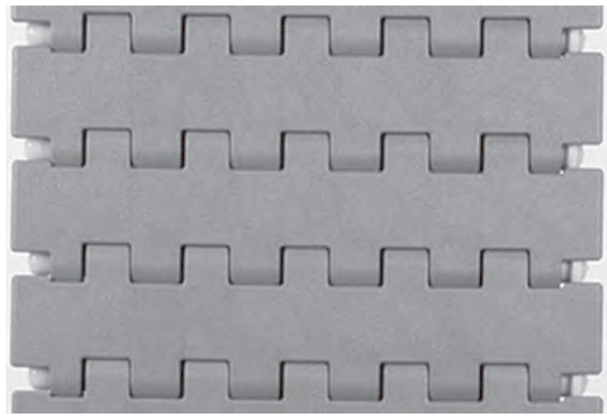
Belt Data											
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Acetal	Grey/black	Nylon	1500	2230	-10 to 130	-23 to 54	1.80	8.79	54 Shore A	b	

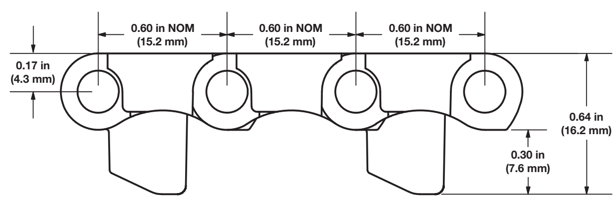
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] Fully compliant

Mold to Width Flat Top with Tabs

	in	mm
Pitch	0.60	15.2
Molded Widths	3.25	83
	3.35	85
	4.50	114
Opening Size	—	—
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Retention feature; headed	







Product Notes

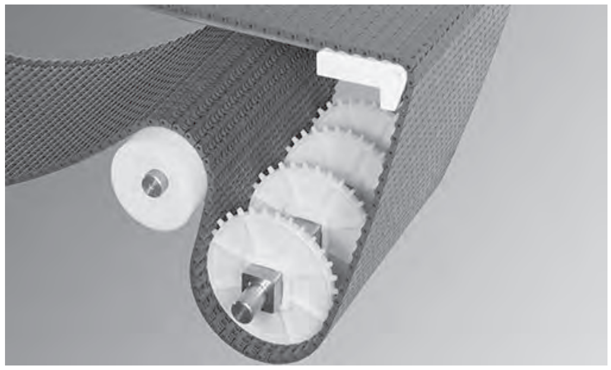
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Tracking tabs provide lateral tracking.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimal back tension required.
- 3.25 in (83 mm) tabbed belts use one sprocket.
- 4.50 in (114 mm) and 3.35 in (85 mm) tabbed belts use up to three sprockets.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- Width tolerances: +0.000/-0.020 in (+0.00/-0.50 mm).
- 3.35 in (85 mm) molded tracking tabs fit into standard 1.65625 in (42.1 mm) wearstrip tracks, ensuring proper belt alignment.
- 3.25 in (83 mm) and 4.50 in (114 mm) molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks, ensuring proper belt alignment.
- Available in 10 ft (3 m) increments.

Belt Data

Belt Width		Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
in	mm			lb	kg	°F	°C	lb/ft	kg/m
3.25	83	Acetal	Nylon	406	184	-50 to 200	-46 to 93	0.44	0.65
3.35	85	Acetal	Nylon	419	190	-50 to 200	-46 to 93	0.44	0.65
4.50	114	Acetal	Nylon	563	255	-50 to 200	-46 to 93	0.60	0.89

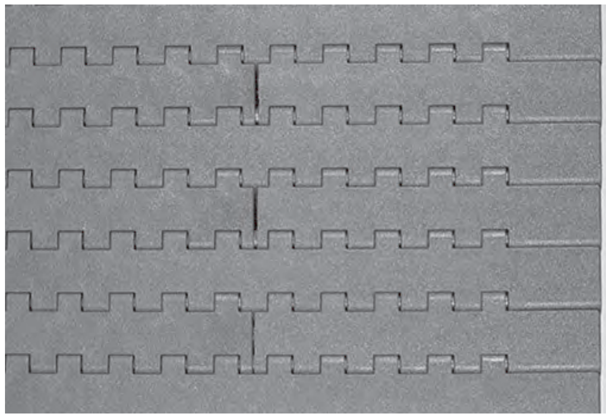
Flat Top 85 mm

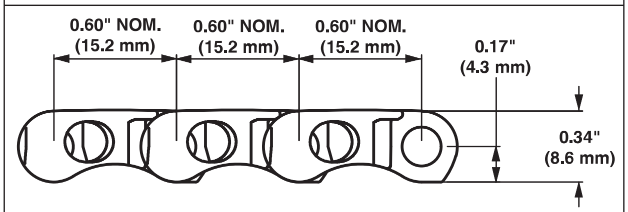
	in	mm
Pitch	0.6	15.2
Minimum Width	3.35	85
Maximum Width	67	1700
Width Increments	3.35	85
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed edges used on one side of the belt.
- Small pitch reduces chordal action, reducing the gap at transfer dead plate.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Underside design, combined with small pitch, allows the belt to run smoothly around a 0.75 in (19 mm) nosebar.
- A dynamic nose-roller is highly recommended for package handling applications.
- Minimal back tension required to maintain sprocket engagement.





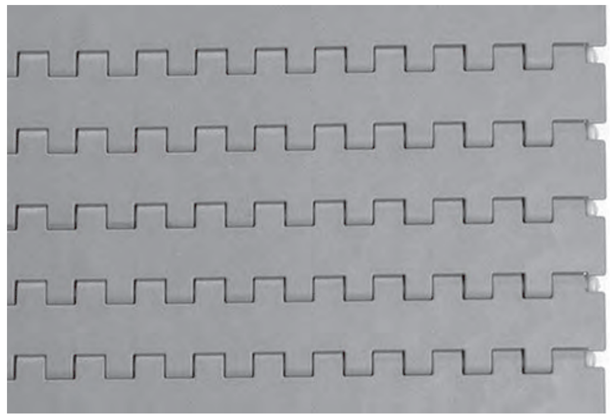
Belt Data								
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²	
Acetal	Polypropylene	1500	2230	34 to 200	1 to 93	1.55	7.57	

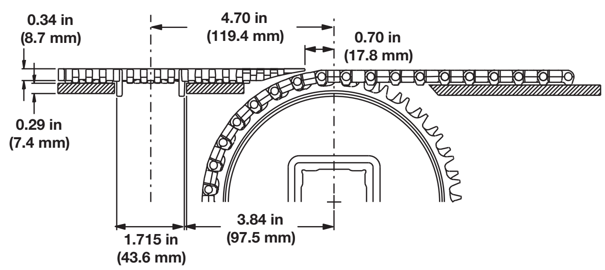
Flat Top ONEPIECE™ Live Transfer 6.3 in

	in	mm
Pitch	.60	15.2
Molded Width	6.3	160
Width Increments	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Transfer edge is an integral part of this belt.
- Designed for smooth, self-clearing, right-angle transfers onto takeaway belts.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses three sprockets.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- For information regarding sprocket placement, see the center sprocket offset table in Retainer Rings and Center Sprocket Offset.
- Minimal back tension required.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See S900, S1100, and S1400 ONEPIECE Live Transfer Belts for more information.
- Requires sprockets with a pitch diameter of 1.50 in (38.1 mm) or larger.
- Cannot be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks to ensure proper belt alignment.
- Available in 10 ft (3 m) increments.





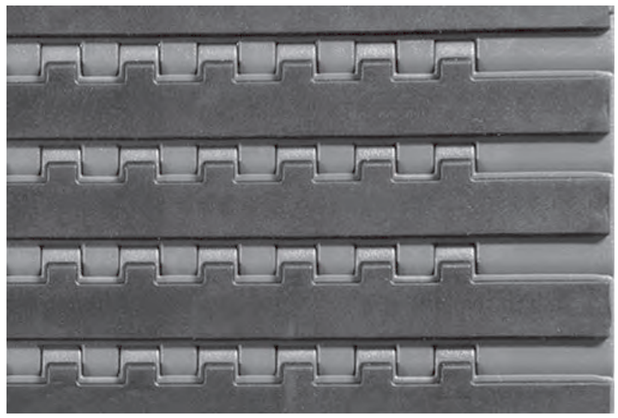
Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	500	744	-50 to 200	-46 to 93	0.78	3.81

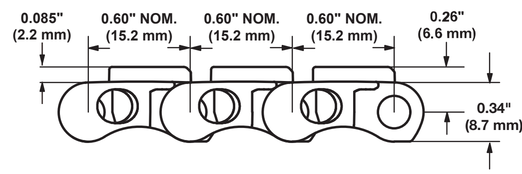
Flat Friction Top

	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.5	12.7
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in grey acetal with black rubber.
- Smooth, closed upper surface with fully flush edges.
- Friction Top extends to the edge of the belt (no indent).
- Closed edges on one side of the belt.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Underside design and small pitch combine to allow the belt to run smoothly around nosebars.
- Small pitch reduces chordal action and transfer dead plate gap.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.





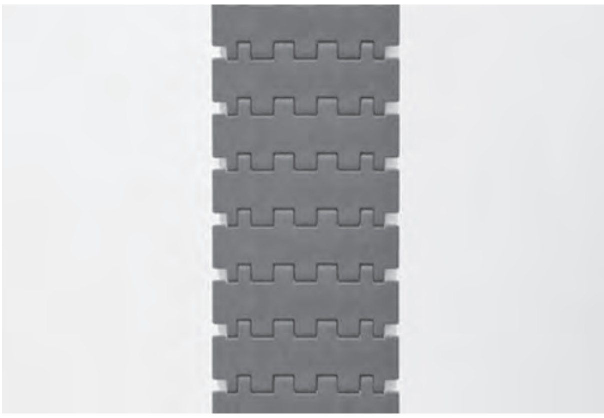
Belt Data

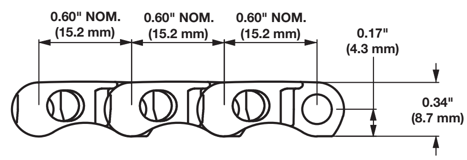
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Acetal	Grey/black	Nylon	1500	2232	-10 to 130	-23 to 54	1.80	8.79	54 Shore A	b	
Acetal	White/white	Nylon	1500	2232	-10 to 130	-23 to 54	1.80	8.79	54 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] Fully compliant

Mold to Width Flat Top

	in	mm
Pitch	0.6	15.2
Molded Widths	1.1	29
	1.5	37
	1.8	46
	2.2	55
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimal back tension required.
- Available in 10 ft (3 m) increments.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- 29 mm and 37-mm belts use one sprocket.
- 46 mm and 55-mm belts can use up to two sprockets.

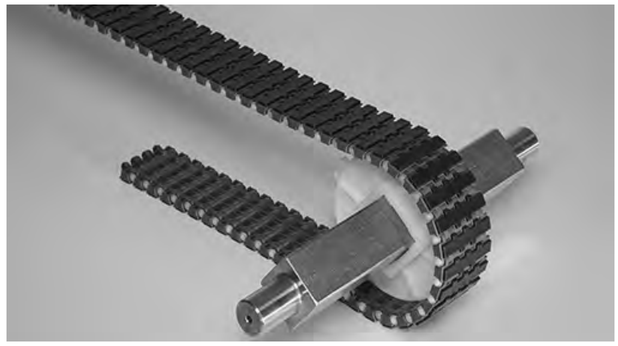
Belt Data

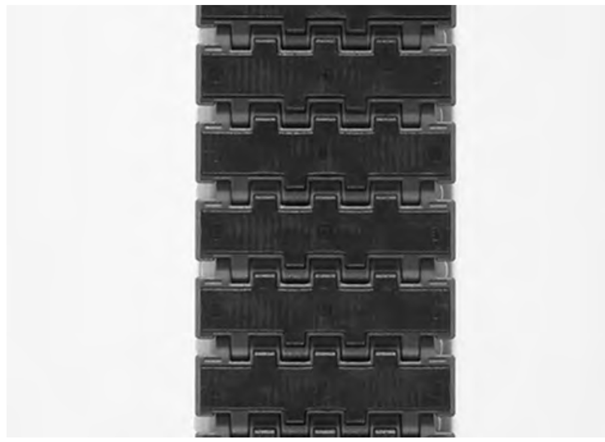
Belt Width		Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
in	mm			lb	kg	°F	°C	lb/ft	kg/m
1.1	29	Acetal	Nylon	140	64	-50 to 200	-46 to 93	0.15	0.22
1.5	37	Acetal	Nylon	200	91	-50 to 200	-46 to 93	0.19	0.28
1.8	46	Acetal	Nylon	230	104	-50 to 200	-46 to 93	0.23	0.35
2.2	55	Acetal	Nylon	201[a]	91[a]	-50 to 200	-46 to 93	0.28	0.42

[a] 270 lb (122 kg) for 2.2 in (55 mm) with two (2) sprockets

Mold to Width Flat Friction Top

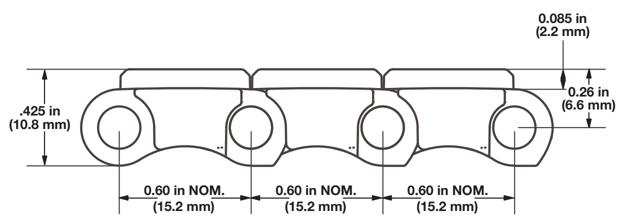
	in	mm
Pitch	0.60	15.2
Molded Widths	1.1	29
	2.2	55
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Friction top extends to the end of the belt, with no indent.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Available in grey acetal with black rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Available in 10 ft (3 m) increments.
- Minimal back tension required.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- 29-mm belts use one sprocket.
- 55-mm belts can use up to two sprockets.



Belt Data

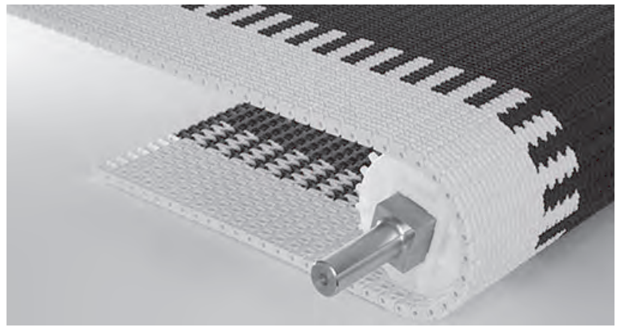
Belt Width		Belt Material	Base/ Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability: 1=White, 2=Blue, 3=Natural, 4=Grey	
in	mm				lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC
1.1	29.0	Acetal	Grey/black	Nylon	140	64	34 to 130	1 to 54	0.17	0.25	54 Shore A	a	
2.2	55.0	Acetal	Grey/black	Nylon	200[b]	91	34 to 130	1 to 54	0.34	0.48	54 Shore A	a	

[a] Fully compliant

[b] 270 lb (122 kg) for 2.2 in (55 mm) with two (2) sprockets

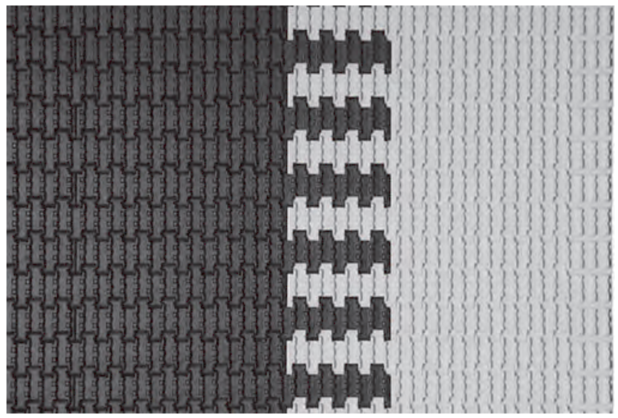
Non Skid Raised Rib

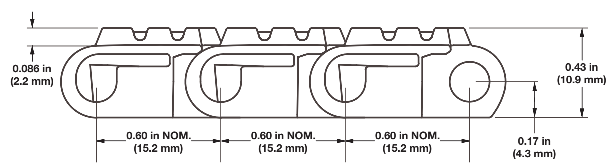
	in	mm
Pitch	0.60	15.2
Minimum Width	3.0	76.0
Width Increments	0.5	12.7
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two edge options available: no indent and 21 mm indent.
- Non Skid Raised Rib surface increases traction.
- Closed edges on one side of the belt.
- Small pitch reduces chordal action and transfer dead plate gap.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimal back tension required.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Low profile conveyor reduces the installation costs associated with digging pits.
- Finger transfer plates ensure safe transfers, eliminating the need for safety stops and reducing downtime.



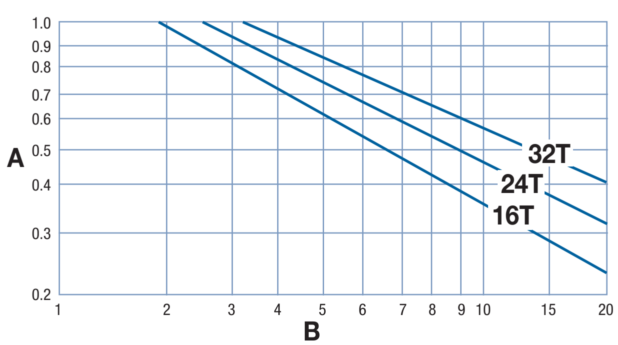


Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2000	2976	-50 to 200	-46 to 93	1.86	9.08
HSEC acetal	Nylon	1800	2679	-50 to 200	-46 to 93	1.88	9.18
FR anti-static	Nylon	700	1042	-50 to 150	-46 to 66	1.64	8.01

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway[c]
3	76	2	2	2
4	102	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	2	3	2
12	305	3	3	2
14	356	3	4	3
15	381	3	4	3
18	457	3	4	3
24	610	5	5	3
30	762	5	6	4
36	914	7	7	4
42	1067	7	8	5
48	1219	9	9	5
54	1372	9	10	6
60	1524	11	11	6
72	1829	13	13	7
84	2134	15	15	8
96	2438	17	17	9
120	3048	21	21	11
144	3658	25	25	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[d]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] Belts are available in 0.5 in (12.7 mm) increments beginning with 3 in (76 mm). If the actual width is critical, contact Intralox Customer Service.
[b] This number is a minimum. Heavy-load applications can require additional sprockets.
[c] For Friction Top applications, use caution and contact Intralox Customer Service.
[d] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

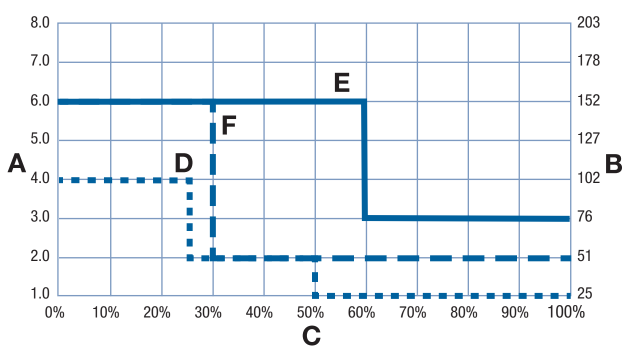
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D short dashed line: 16T sprockets
E solid line: square bore sprockets
F long dashed line: round bore sprockets

SERIES 1000

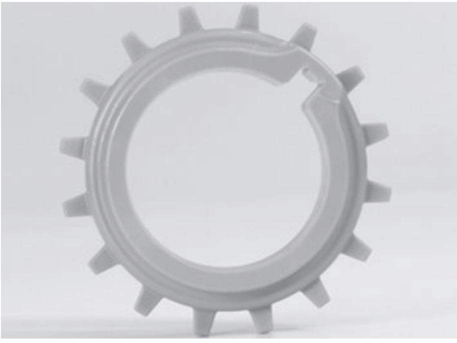
Molded Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm	Square mm	
16 (1.92%)	3.1[b]	79[b]	3.2	81	0.5	13		1.5		40	
					1.0	25	1.0, 1.25				
24 (0.86%)	4.6	117	4.8	121	1.0	25		1.5, 2.5		40, 60	
					1.5	38			30		
30 (0.54%)	5.8	147	5.9	150	1.0	25					
					1.5	38	1.0, 1.25, 1-7/16				
32 (0.48%)	6.1	155	6.5	164	1.0	25		1.5		40	
					1.5	38	1.25				

[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

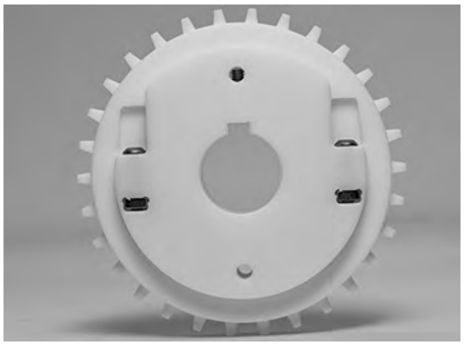
[b] When using 3.1 in (79 mm) pitch diameter sprockets, the belt strength for belts rated over 1200 lb/ft (1786 kg/m) is de-rated to 1200 lb/ft (1786 kg/m). All other belts maintain the published rating.

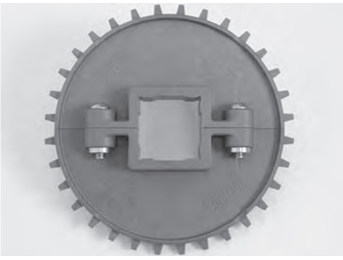
Acetal Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
24 (0.86%)	4.6	117	4.8	121	1.5	38	1.25				
32 (0.48%)	6.1	155	6.5	164	1.5	38			30, 40		

[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

HR Nylon Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	3.1	79	3.2	81	1.0	25	1.9[b]				

[a] Cannot be used with S1000 High Density Insert Rollers.
[b] 0.25 in keyway

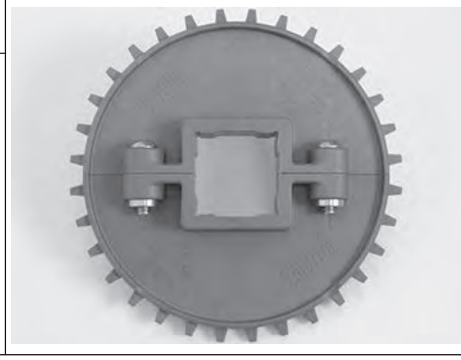
HR Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
30 (0.54%)	5.8	147	5.9	150	1.48	38	1-7/16				

Glass-Filled Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes[a]				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
24 (0.86%)	4.6	117	4.8	121	1.5	38	1.0, 1.25, 1.5	1.5	30, 40	40	
30 (0.54%)	5.8	147	6	152	1.5	38	1.25, 1-7/16, 1.5		30, 40		
32 (0.48%)	6.1	155	6.5	164	1.5	38	1.0, 1.25, 1-7/16, 1.5	1.5	30, 40	40	

[a] The 24-tooth, 30-mm round bore sprocket is available with or without keyway. Identify keyway requirements when ordering these sprockets.

Polypropylene Composite Split Sprockets

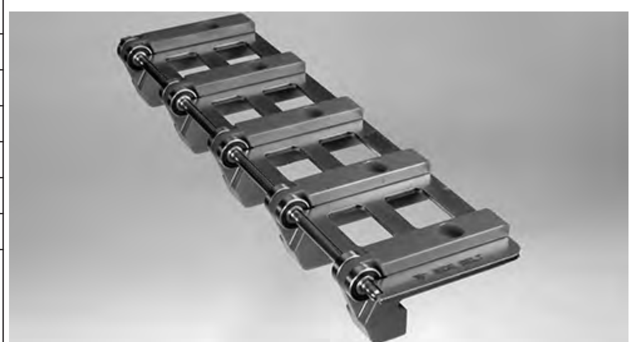
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
24 (0.86%)	4.6	117	4.8	121	1.5	38		1.5		40
32 (0.48%)	6.1	155	6.5	164	1.5	38		1.5		40

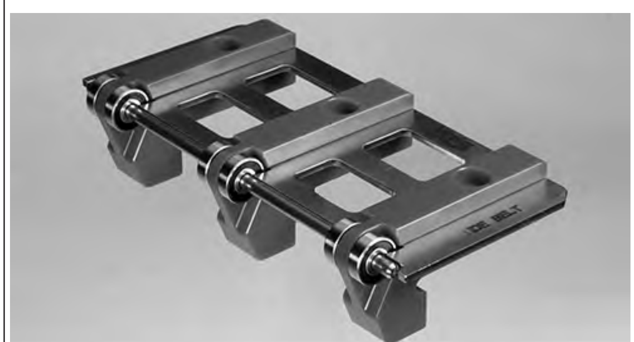


Dynamic Nose-Rollers

Standard Nose-Roller Widths	
U.S. Sizes (in)	Metric Sizes (mm)
4.5	170.0
6.0	255.0
9.0	340.0
12.0	425.0
15.0	
18.0	
24.0	

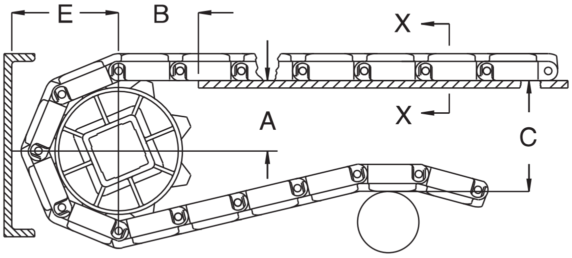
- U.S. sizes are available in 4.5 in, 6 in, and then in 3 in increments. Metric sizes are available in 85 mm (3.35 in) increments.
- For other belt widths, combine multiple nose-rollers in the available increments. For assistance, contact Intralox Customer Service.
- Made of FDA-compliant, blue, oil-filled nylon.
- Roller diameter: 0.75 in (19 mm)





CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



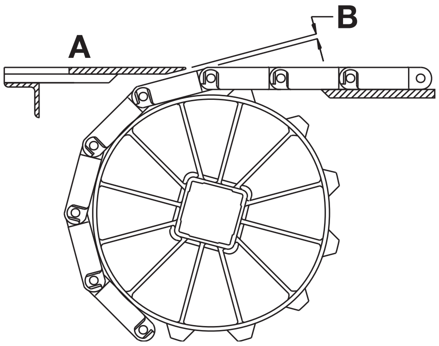
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 51: Basic dimensional requirements

S1000 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
Flat Top, Flat Top 85 mm, Mold to Width Flat Top											
3.1	79	16	1.34-1.37	34-35	1.59	40	3.08	78	1.77	45	
4.6	117	24	2.11-2.13	54	1.99	50	4.60	117	2.53	64	
6.1	155	32	2.88-2.89	73	2.43	62	6.12	155	3.29	84	
High Density Insert Roller, Insert Roller											
3.1	79	16	1.33	34	1.60	41	3.13	80	1.84	47	
4.6	117	24	2.10	53	2.02	51	4.65	118	2.60	66	
6.1	155	32	2.87	73	2.46	62	6.18	157	3.36	85	
Flat Friction Top, Flat Friction Top 85 mm											
3.1	79	16	1.35	34	1.59	40	3.17	81	1.86	47	
4.6	117	24	2.12	54	2.01	51	4.70	119	2.62	67	
6.1	155	32	2.88	73	2.44	62	6.22	158	3.39	86	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 52: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
3.1	79	16	0.029	0.7
4.6	117	24	0.020	0.5
6.1	155	32	0.015	0.4

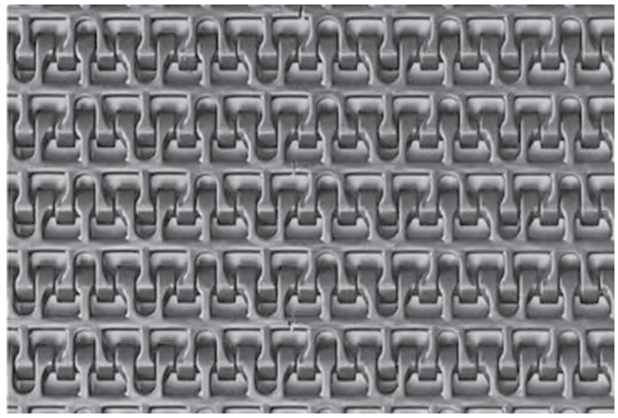
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

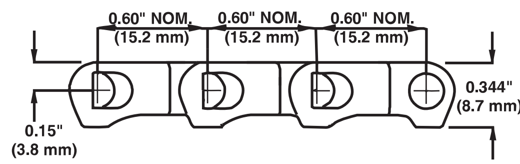
Flush Grid

	in	mm
Pitch	0.60	15.2
Minimum Width	See Product Notes	
Width Increments		
Minimum Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Maximum Opening Size (approximate)	0.31 × 0.10	7.9 × 2.5
Open Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth surface grid.
- Small pitch reduces chordal action and transfer dead plate gap.
- Custom-built in widths that vary by material.
  - Acetal and polypropylene are available in widths from 3 in (76 mm) and up, in 0.5 in (12.7 mm) increments.
  - Flame retardant thermoplastic polyester (FR TPES) is available in widths from 5 in (127 mm) and up, in 1.0 in (25.4 mm) increments.
  - All other materials are available in widths 3 in (76 mm) and up, in 1.0 in (25.4 mm) increments.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.



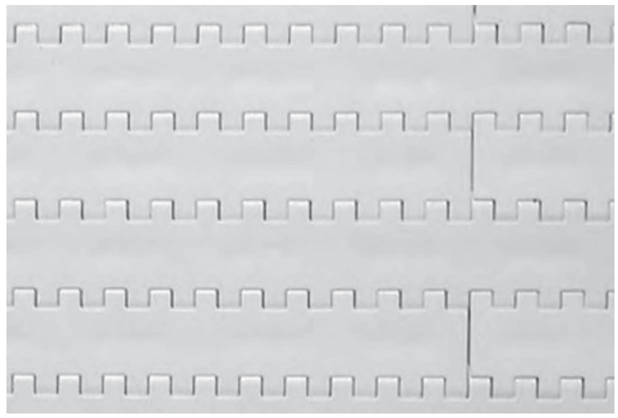


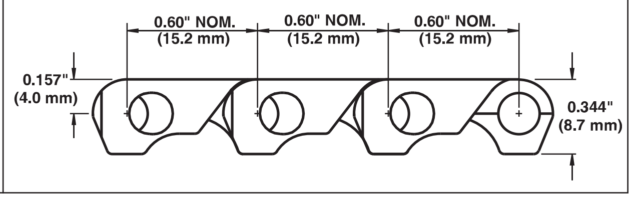
Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.81	3.95
Polyethylene	Polyethylene	450	670	-50 to 150	-46 to 66	0.87	4.25
Acetal	Polypropylene	1300	1940	34 to 200	1 to 93	1.19	5.80
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.19	5.80
FR TPES	Polypropylene	750	1120	40 to 150	4 to 66	1.30	6.34
HHR nylon	HHR nylon	1100	1640	-50 to 310	-46 to 154	1.14	5.57
HR nylon	Nylon	1100	1640	-50 to 240	-46 to 116	1.07	5.22
UV resistant polypropylene	UV resistant polypropylene	700	1040	34 to 220	1 to 104	0.81	3.98
Detectable polypropylene A22	Polypropylene	450	670	34 to 150	1 to 66	1.04	5.08
Acetal[a]	Polyethylene	1200	1790	-50 to 70	-46 to 21	1.19	5.80
UVFR	UVFR	700	1042	-34 to 200	1 to 93	1.57	7.67

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

Flat Top

	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Small pitch reduces chordal action and transfer dead plate gap.
- Lightweight with smooth, closed surface grid.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers. See Tight Transfer Methods for more information.

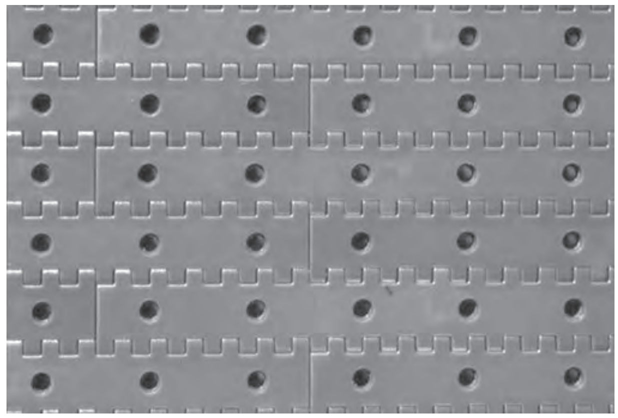
Belt Data

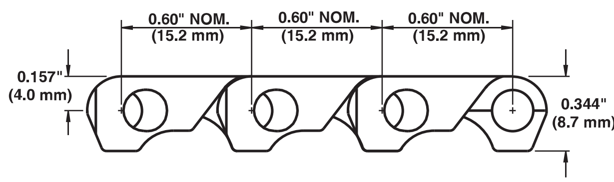
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	500[a]	744[a]	34 to 220	1 to 104	0.90	4.40
Polyethylene	Polyethylene	300[a]	450[a]	-50 to 150	-46 to 66	0.96	4.69
HR nylon	Nylon	500	744	-50 to 240	-46 to 116	1.15	5.61
HHR nylon	HHR nylon	800	1191	-50 to 310	-46 to 154	1.175	5.74
Acetal	Polypropylene	1000	1488	34 to 200	1 to 93	1.30	6.35
Acetal[b]	Polyethylene	900	1339	-50 to 70	-46 to 21	1.30	6.35
X-ray detectable acetal	X-ray detectable acetal	800	1191	-50 to 200	-46 to 93	1.6	7.81
Detectable polypropylene A22	Polypropylene	300	446	34 to 150	1 to 66	1.09	5.32
PK	PK	1000	1488	-40 to 200	-40 to 93	1.14	5.57

[a] When using steel split sprockets, the belt strength for polypropylene is 400 lb/ft (595 kg/m): polyethylene is 240 lb/ft (360 kg/m)
[b] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

Perforated Flat Top

	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	See Product Notes	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- 5.3% open area includes 2.1% open area at the hinge.
- Available with 5/32 in (4 mm) round perforations on a nominal 1 in (25.4 mm) × 0.6 in (15.2 mm) perforation pattern.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers. See Tight Transfer Methods for more information.
- For use on vacuum applications requiring tight, end-to-end transfers.

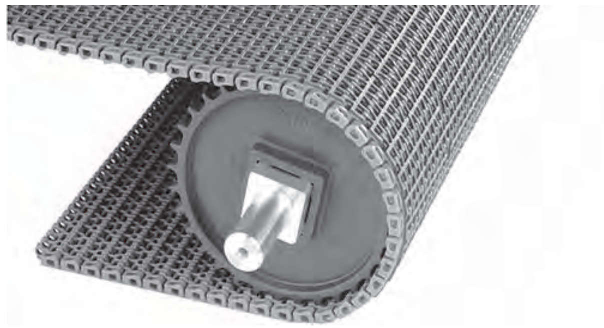
Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1000	1490	34 to 200	1 to 93	1.30	6.35
Acetal[a]	Polyethylene	900	1340	-50 to 70	-46 to 21	1.30	6.35

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

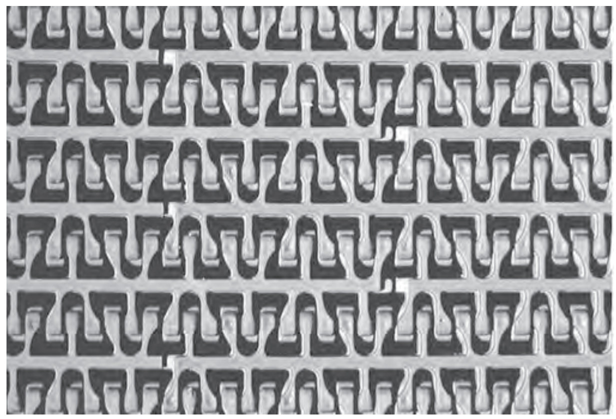
Flush Grid Friction Top

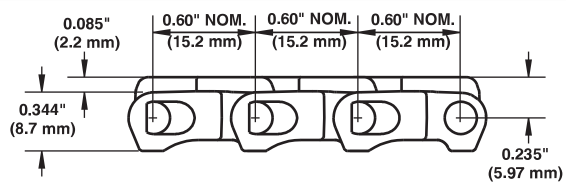
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.5	12.7
Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Open Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Abrasion resistant rods are recommended.
- Available in grey polypropylene with grey rubber, blue polypropylene with blue rubber, grey polypropylene with black rubber, and white polypropylene with white rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- If a center-drive conveyor design is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Take these items into consideration when designing conveyor systems using these belts.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.
- Molded indent: 0.34 in (8.6 mm)





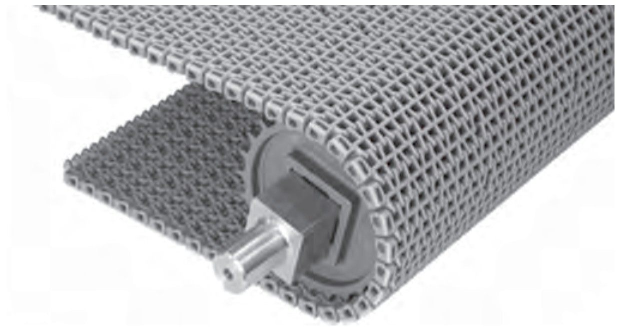
Belt Data

Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/grey	Polypropylene	700	1040	34 to 150	1 to 66	1.18	5.76	64 Shore A		
Polypropylene	Grey/black	Polypropylene	700	1040	34 to 150	1 to 66	1.18	5.76	55 Shore A	b	
Polypropylene	White/white	Polypropylene	700	1040	34 to 150	1 to 66	1.18	5.76	55 Shore A	b	c
Polypropylene	High-performance FT blue/blue	Polypropylene	700	1040	34 to 212	1 to 100	1.18	5.76	59 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

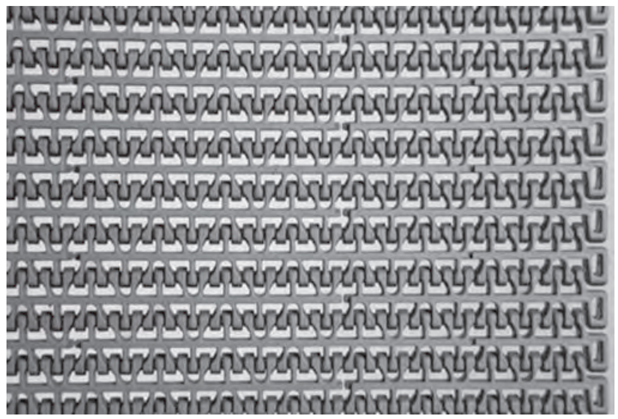
Flush Grid Friction Top, No Indent

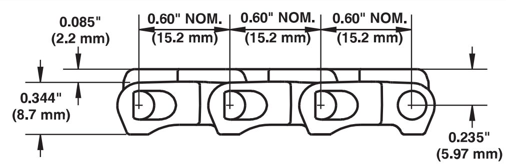
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.5	12.7
Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Open Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Abrasion resistant rods are recommended.
- Available in blue PP with blue rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- If a center-drive conveyor design is used, it can be necessary to place collars to retain the belt laterally at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.





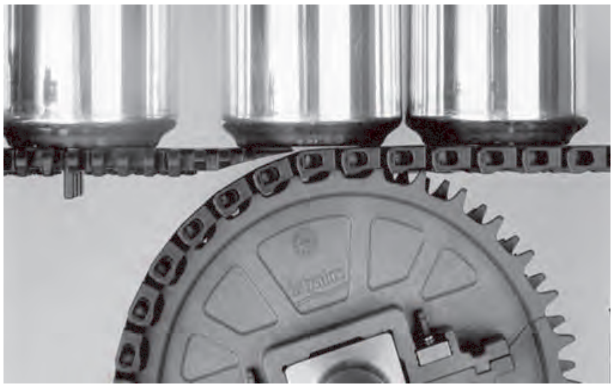
Belt Data

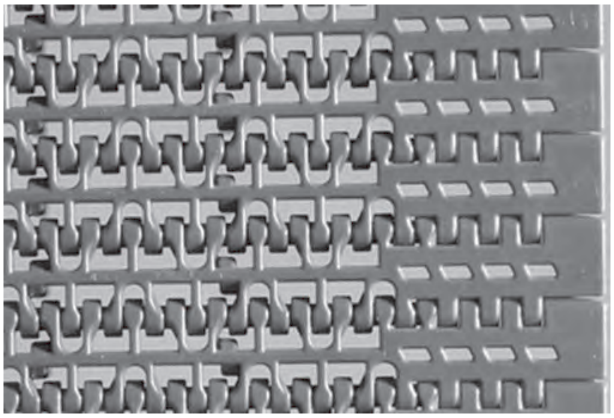
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength lb/ft	Belt Strength kg/m	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Weight lb/ft²	Belt Weight kg/m²	Friction Top Hardness	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[a]
Polypropylene	High-Performance FT Blue/Blue	Polypropylene	700	1040	34 to 212	1 to 100	1.18	5.76	59 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

ONEPIECE™ Live Transfer Flush Grid

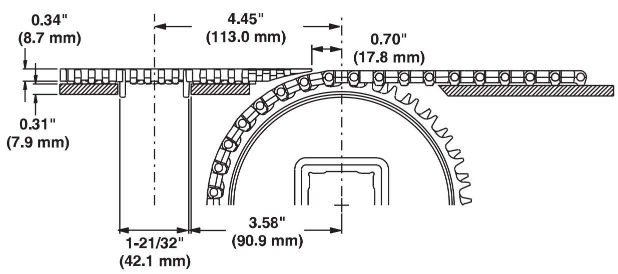
	in	mm
Pitch	0.60	15.2
Minimum Width	6	152
Width Increments	1.00	25.4
Minimum Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Maximum Opening Size (approximate)	0.31 × 0.10	7.9 × 2.5
Open Area	28%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth surface grid.
- Transfer edge is an integral part of this belt.
- Built with nylon rods for superior wear resistance.
- Small pitch reduces chordal action, resulting in a smoother product transfer.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Recommended for use with EZ Track sprockets.
- Use sprockets with a pitch diameter of 3.5 in (89 mm) or larger.
- Designed for smooth, self-clearing, right angle transfers onto takeaway belts.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See S900, S1100, and S1400 ONEPIECE Live Transfer Belts.
- Also available in 6 in (152 mm) Mold to Width.
- For custom belt widths, contact Intralox Customer Service.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks ensuring proper belt alignment.

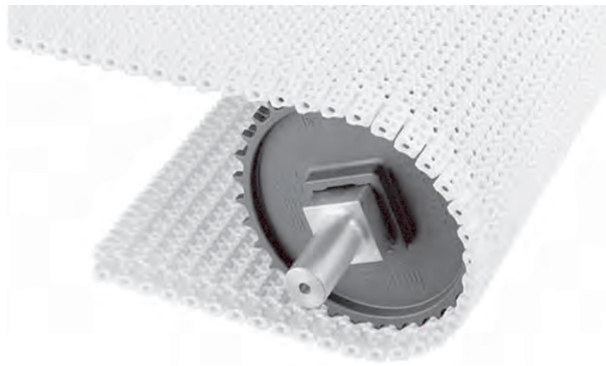


Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1300	1940	34 to 200	1 to 93	1.19	5.80
FR TPES	Nylon	750	1120	40 to 150	4 to 66	1.30	6.34
HHR nylon	HHR nylon	1100	1640	-50 to 310	-46 to 154	1.20	5.80

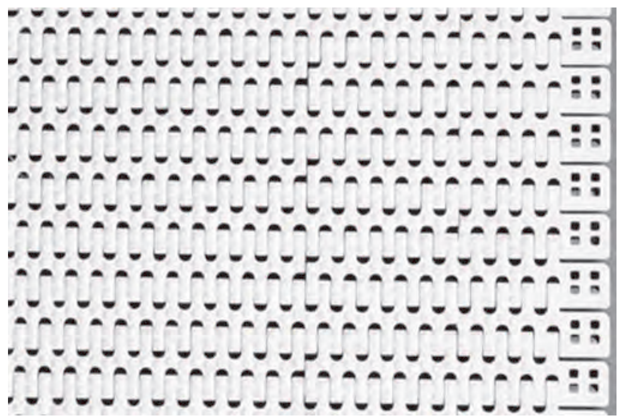
Flush Grid Nub Top

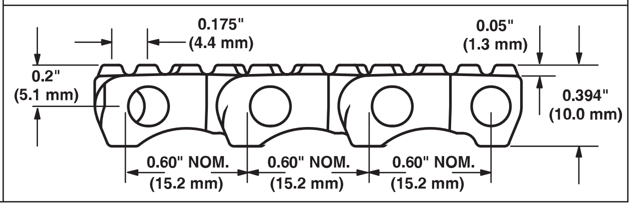
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size (approximate)	0.18 × 0.09	4.4 × 2.3
Open Area	15%	
Product Contact Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Nub pattern reduces contact between belt surface and product.
- Available in acetal, polypropylene, and polyethylene (for frozen products).
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Recommended for products large enough to span the distance between the nubs.
- Flush Grid Nub Top flights are available.
- Standard nub indent: 1.0 in (25.4 mm).





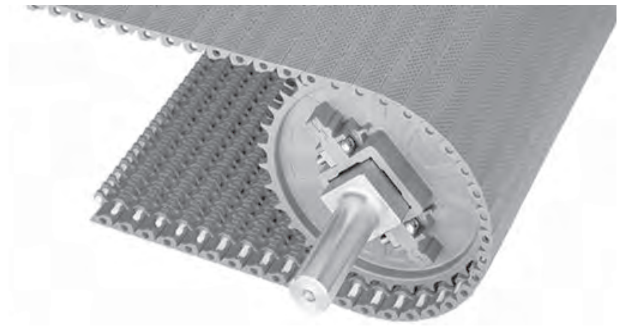
Belt Data

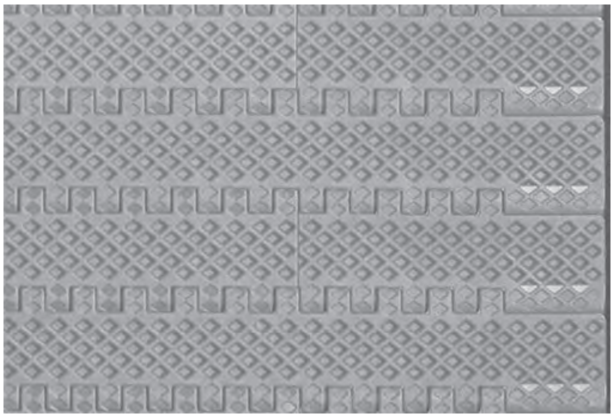
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength[a] lb/ft	Belt Strength[a] kg/m	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Weight lb/ft²	Belt Weight kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.93	4.55
Acetal	Polypropylene	1300	1940	34 to 220	7 to 93	1.36	6.65
Polyethylene	Polyethylene	450	670	-50 to 150	-46 to 66	1.00	4.90
Acetal	Polyethylene	1200	1790	-50 to 150	-46 to 66	1.36	6.65

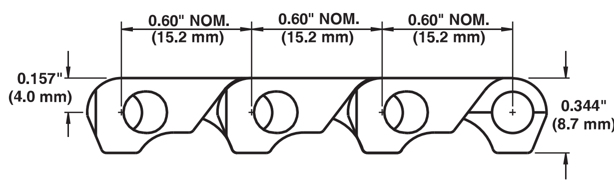
[a] When using polyurethane sprockets, the belt strength for polypropylene, acetal, and nylon is750 lbs/ft (1120 kg/m), and the temperature range for the sprocket is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

Embedded Diamond Top

	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

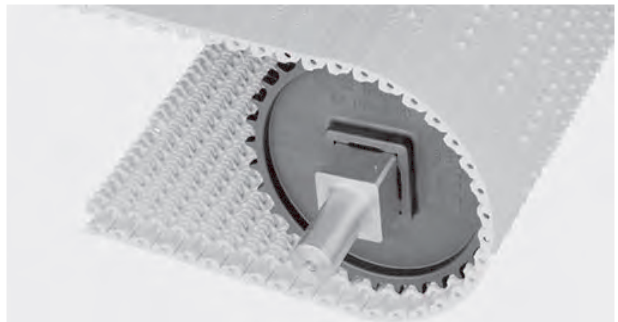
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth, closed surface grid.
- Small pitch reduces chordal action and transfer dead plate gap.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.

Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polyethylene	Polyethylene	300	450	-50 to 150	-46 to 66	0.96	4.69

[a] When using steel sprockets, the belt strength for polyethylene is 240 lb/ft (360 kg/m).

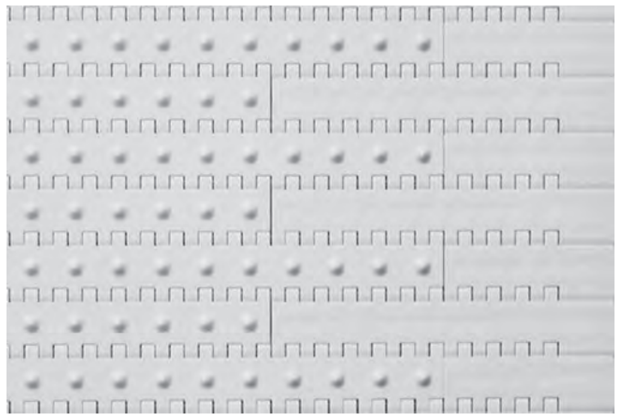
Cone Top™

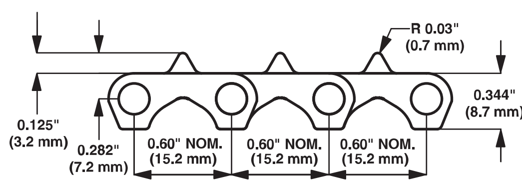
	in	mm
Pitch	0.60	15.2
Minimum Width	9	229
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Small pitch reduces chordal action and transfer dead plate gap.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For information regarding sprocket placement, see the center sprocket offset table in Locked Sprocket Position on Shaft.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).





Belt Data

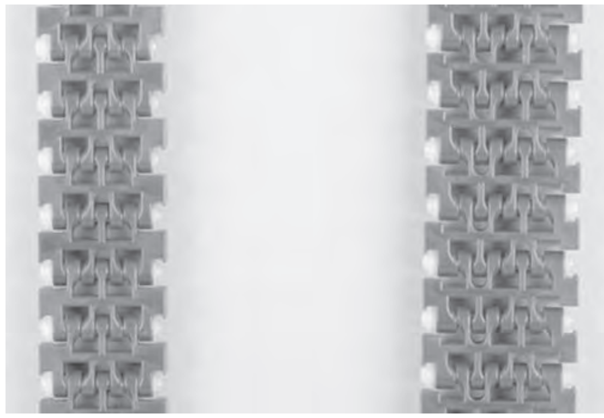
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1000	1490	34 to 200	1 to 93	1.31	6.40
HR nylon	Nylon	500	744	-50 to 240	-46 to 116	1.18	5.76

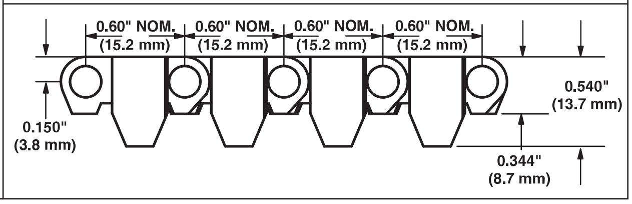
Flush Grid Mold to Width, 38 mm and 46 mm Wide

	in	mm
Pitch	0.60	15.2
Molded Widths	1.5 & 1.8	38 & 46
Minimum Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Maximum Opening Size (approximate)	0.31 × 0.10	7.9 × 2.5
Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth surface grid.
- Flush edges.
- Tracking tabs provide lateral tracking.
- Standard nylon rodlets provide longer service life.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Use only EZ Track sprockets.
- Use one sprocket maximum per shaft for both widths.
- Spacing between tracking tabs:
  - 38-mm belt: 1.2 in (30.6 mm)
  - 46-mm belt: 1.54 in (39.1 mm)
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.
- Available in 10 ft (3 m) increments.





Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal (38 mm)	Nylon	130	59	-50 to 200	-46 to 93	0.185	0.275
Acetal (46 mm)	Nylon	150	68	-50 to 200	-46 to 93	0.216	0.321

[a] When using steel sprockets, the belt strength for polyethylene is 240 lb/ft (360 kg/m).

Sprocket and Support Quantity Reference[a]				
Belt Width Range[b]		Minimum Number of Sprockets Per Shaft[c]	Wearstrips	
in	mm		Carryway	Returnway[d]
3	76	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1067	11	8	5
48	1219	13	9	5
54	1372	15	10	6
60	1524	15	11	6
72	1829	19	13	7
84	2134	21	15	8
96	2438	25	17	9
120	3048	31	21	11
144	3658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[e]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] Because of the single plate steel design, Intralox recommends using twice as many 8- and 12-tooth sprockets as indicated.

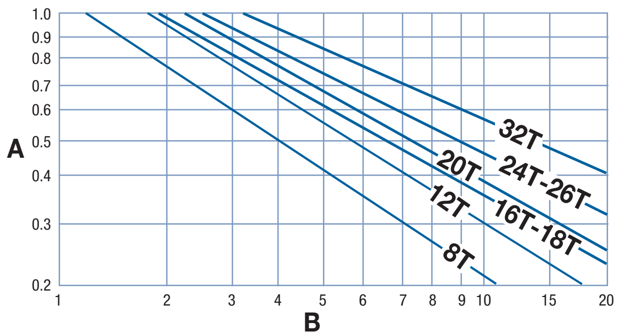
[b] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 3 in (76 mm). If the actual width is critical, contact Intralox Customer Service.

[c] This number is a minimum. Heavy-load applications can require additional sprockets.

[d] For Friction Top applications, use caution and contact Intralox Customer Service.

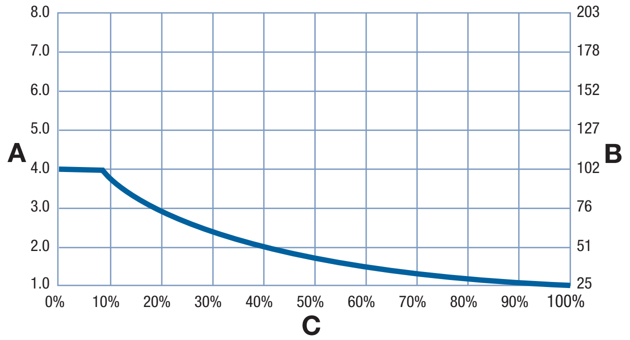
[e] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

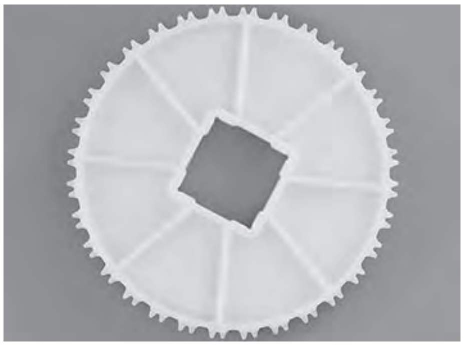
To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Molded Sprocket

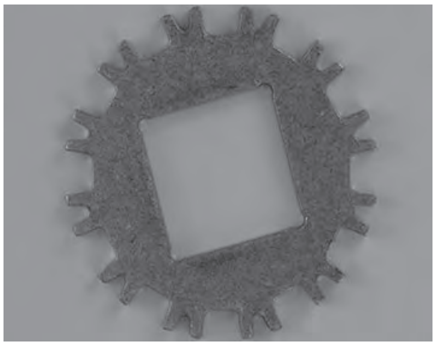
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
12 (3.41%)	2.3	58	2.3	58	0.75	19	1.0	1.0	25	25
16 (1.92%)	3.1	79	3.1	79	1.0	25	1, 1.25	1.5	25 to 30	40
18 (1.52%)	3.5	89	3.5	89	0.75	19		1.0, 1.5		25, 40
20 (1.23%)	3.8	97	3.8	97	1.0	25		1.5		40
24 (0.86%)	4.6	117	4.7	119	1.0	25	1 to 1.25	1.5 m 2.5	25 to 30	40, 60
26 (0.73%)	5.1	130	5.1	130	1.0	25	1 to 1.25	1.5	25 to 30	40
32 (0.48%)	6.1	155	6.2	157	1.0	25	1 to 1.25	1.5, 2.5	25 to 30	40, 60



[a] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Abrasion Resistant Metal Sprockets

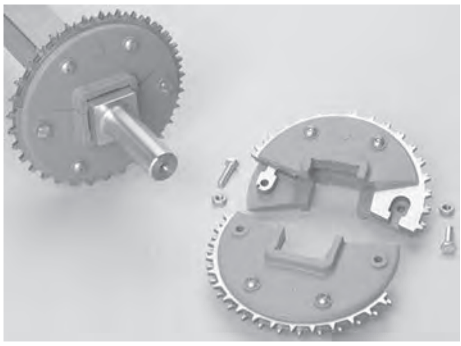
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
8 (7.61%)	1.6	41	1.6	41	0.164	4.2	0.75	0.625	20	
12 (3.41%)	2.3	58	2.3	58	0.164	4.2	1.0	1.0	25	25



[a] The stainless steel sprockets have a male key in the round bore sizes. Since the key is part of the sprocket, only the center sprockets must be locked down to track the belt. The male key requires running the shaft keyway along the entire length of the shaft. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Split Metal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
18 (1.54%)	3.5	89	3.5	89	1.7	43		1.5		40
24 (0.86%)	4.6	117	4.7	119	1.7	43	1, 1-3/16, 1-1/4	1.5	30	40
26 (0.73%)	5.1	130	5.1	130	1.7	43	1, 1-3/16, 1-1/4	1.5, 2.5		40, 60
32 (0.48%)	6.1	155	6.2	157	1.7	43	1, 1-3/16, 1-1/4, 1-1/2	1.5, 2.5		40, 60



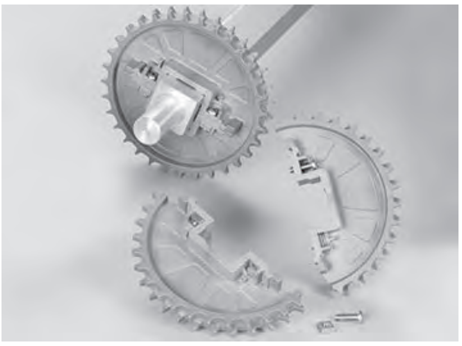
[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

EZ Track™ Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
16 (1.92%)	3.1	79	3.1	79	1.0	25		1.5		40
18 (1.52%)	3.5	89	3.5	89	1.0	25		1.5		40
24 (0.86%)	4.6	117	4.7	119	1.0	25		1.5, 2.5		40, 60
32 (0.48%)	6.1	155	6.2	157	1.0	25		1.5, 2.5		40, 60

EZ Track™ Glass-Filled Nylon Split Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
24 (0.86%)	4.6	117	4.7	119	1.5	38		1.5		40
32 (0.48%)	6.1	155	6.2	157	1.5	38		1.5, 2.5		40, 60



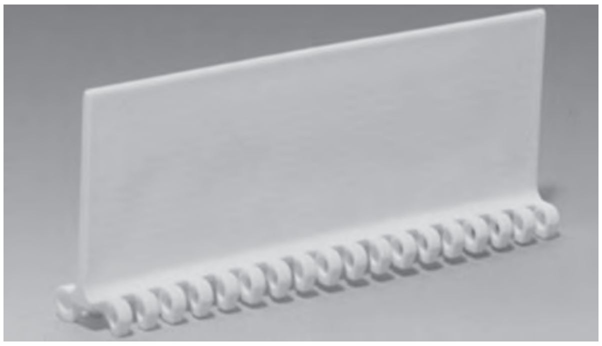
EZ Track™ and EZ Clean™ Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
12 (3.41%)	2.3	58	2.3	58	1.0	25	1.0	1.0	25	25
16 (1.92%)	3.1	79	3.1	79	1.0	25	1.0, 1-1/16, 1-1/8, 1-1/4		25, 30	
18 (1.52%)	3.5	89	3.5	89	1.0	25	1.0	1.0		25
20 (1.23%)	3.8	97	3.8	97	1.0	25		1.5		40
24 (0.86%)	4.6	117	4.7	119	1.0	25	1.0, 1-1/16, 1-1/8, 1-3/16, 1-1/4		25, 30	
26 (0.73%)	5.1	130	5.1	130	1.0	25	1.0, 1-1/16, 1-1/8, 1-1/4	1.5	25, 30	40
32 (0.48%)	6.1	155	6.2	157	1.0	25	1.0, 1-1/16, 1-1/8, 1-3/16, 1-1/4 1-1/2		25, 30, 40	

Flat Top Base Flights (Streamline)

Available Flight Height		
in	mm	Available Materials
2	51	Polypropylene, polyethylene, acetal, detectable polypropylene A22

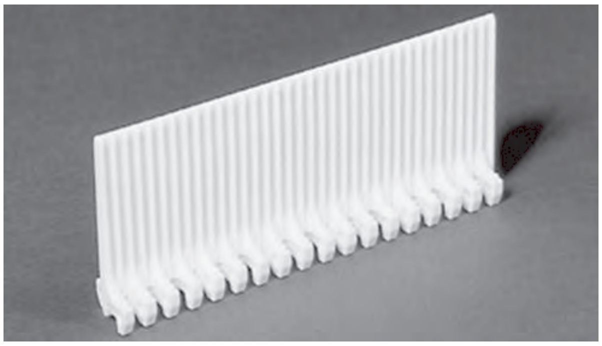
- Streamline flights are smooth on both sides.
- Each flight rises out of the center of a supporting module, molded as one part. No fasteners are required.
- Flat Top base Streamline flights are used in both Flat Top and Flush Grid belts.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- For recommended minimum indent, contact Intralox Customer Service.



Flush Grid Nub Top Base Flights (No-Cling)

Available Flight Height		
in	mm	Available Materials
2	51	Polypropylene, polyethylene, acetal
3	76	Polypropylene, acetal

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of the module, molded as an integral part. No fasteners required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- For recommended minimum indent, contact Intralox Customer Service.



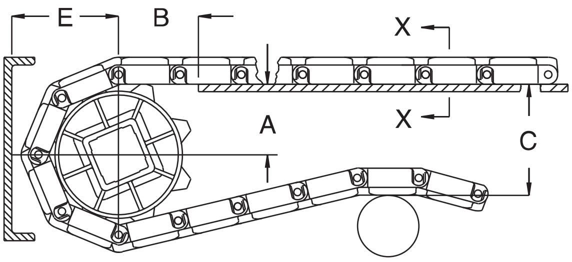
Sideguards

Available Sizes		
in	mm	Available Materials
2	51	Polypropylene, polyethylene, acetal

- No fasteners required.
- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 8-, 12-, 16-, and 18-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when wrapping around the 24-tooth and larger sprockets.
- Standard gap between sideguards and flight edge: 0.2 in (5 mm).
- Minimum indent: 1.3 in (33 mm).

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 53: Basic dimensional requirements

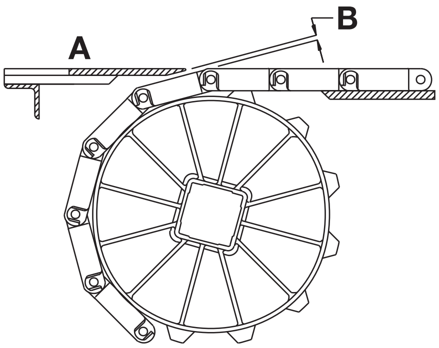
S1100 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Embedded Diamond Top, Flat Top, Flush Grid, Perforated Flat Top[a]										
1.6	41	8	0.53-0.59	13-15	1.02	26	1.70	43	1.00	25
2.3	58	12	0.93-0.97	24-25	1.31	33	2.40	61	1.37	35
3.1	79	16	1.31	33	1.51	38	3.20	81	1.75	44
3.5	89	18	1.51	38	1.66	42	3.60	91	1.94	49
3.8	97	20	1.70	43	1.77	45	3.79	96	2.13	54
4.6	117	24	2.08	53	1.92	49	4.75	121	2.60	66
5.1	130	26	2.28	58	1.96	50	5.14	131	2.73	69
6.1	155	32	2.85	72	2.20	56	6.20	155	3.30	84
Flush Grid Friction Top[a], Flush Grid Friction Top, No Indent[a]										
1.6	41	8	0.53-0.59	13-15	1.04	27	1.61	41	1.08	27
2.3	58	12	0.93-0.97	24-25	1.30	33	2.36	60	1.46	37
3.1	79	16	1.31	33	1.55	39	3.12	79	1.84	47
3.5	89	18	1.51	38	1.66	42	3.50	89	2.03	51
3.8	97	20	1.70	43	1.77	45	3.88	98	2.22	56
4.6	117	24	2.08	53	1.97	50	4.64	118	2.60	66
5.1	130	26	2.28	58	2.06	52	5.02	127	2.79	71
6.1	155	32	2.85	72	2.25	57	6.16	157	3.36	85

S1100 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid Nub Top[a]										
1.6	41	8	0.53-0.59	13-15	1.04	27	1.57	40	1.05	27
2.3	58	12	0.93-0.97	24-25	1.30	33	2.32	59	1.42	36
3.1	79	16	1.31	33	1.55	39	3.08	78	1.80	46
3.5	89	18	1.51	38	1.66	42	3.46	88	1.99	51
3.8	97	20	1.70	43	1.70	43	3.84	98	2.18	55
4.6	117	24	2.08	53	1.97	50	4.60	117	2.56	65
5.1	130	26	2.28	58	2.06	52	4.98	127	2.75	70
6.1	155	32	2.85	72	2.25	57	6.13	156	3.32	84
Cone Top[a]										
1.6	41	8	0.54-0.60	14-15	1.04	26	1.66	42	1.13	29
2.3	58	12	0.93-0.97	24-25	1.30	33	2.41	61	1.50	38
3.1	79	16	1.32	34	1.55	39	3.17	81	1.88	48
3.5	89	18	1.51	38	1.66	42	3.55	90	2.07	53
3.8	97	20	1.71	43	1.70	43	3.93	100	2.26	57
4.6	117	24	2.09	53	1.96	50	4.69	119	2.64	67
5.1	130	26	2.28	58	2.05	52	5.07	129	2.83	72
6.1	155	32	2.86	73	2.24	57	6.22	158	3.41	87

[a] See Anti-Sag Carryway Wearstrip Configuration for alternate layouts for the B dimension.

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 54: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
1.6	41	8	0.058	1.5
2.3	58	12	0.040	1.0
3.1	79	16	0.029	0.7
3.5	89	18	0.026	0.7
3.8	97	20	0.024	0.6
4.6	117	24	0.020	0.5
5.1	130	26	0.018	0.4
6.1	155	32	0.015	0.4

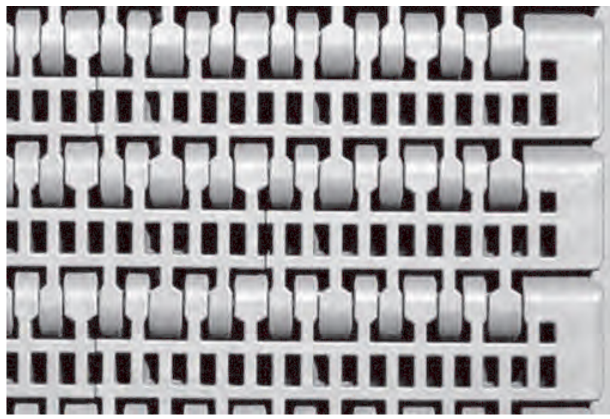
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

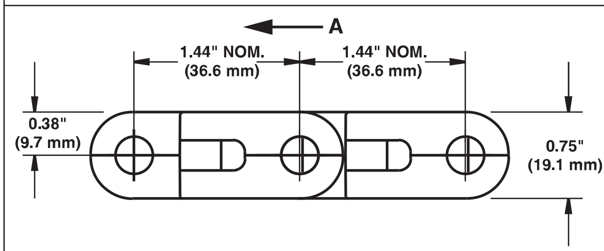
Flush Grid

	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	24%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- Molded split plastic sprockets available for easy installation.
- Module thickness: 0.75 in (19.1 mm), which provides superior belt strength and stiffness.





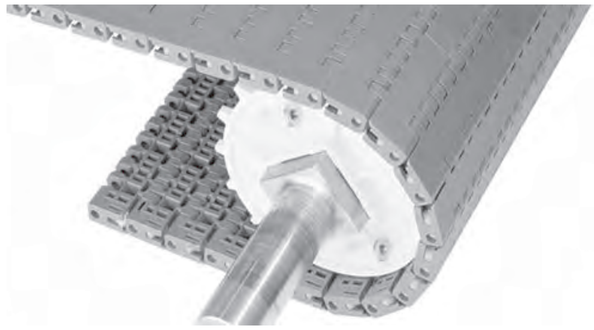
A preferred run direction

Belt Data							
Belt Material	Standard Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene composite	Polypropylene	3300	4908	34 to 220	1 to 104	2.87	14.01

[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m).

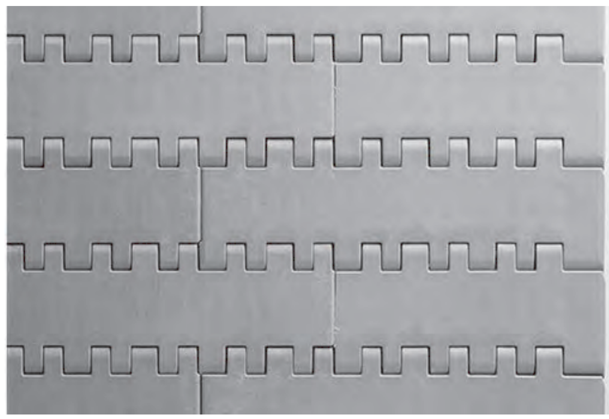
Flat Top

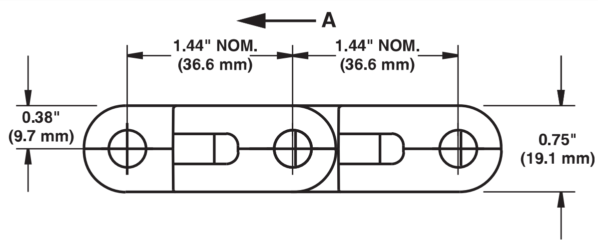
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Module thickness is 0.75 in (19.1 mm), which provides superior belt strength and stiffness.
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Molded split plastic sprockets available for easy installation.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- Belt strength for narrow belts:
  - 3750 lb/ft (5580 kg/m) for belt widths under 60 in (1524 mm). Contact Intralox Customer Service if a more precise belt strength is required.
  - 3250 lb/ft (4835 kg/m) for belt widths under 30 in (762 mm)
  - 2750 lb/ft (4090 kg/m) for belt widths under 12 in (305 mm)





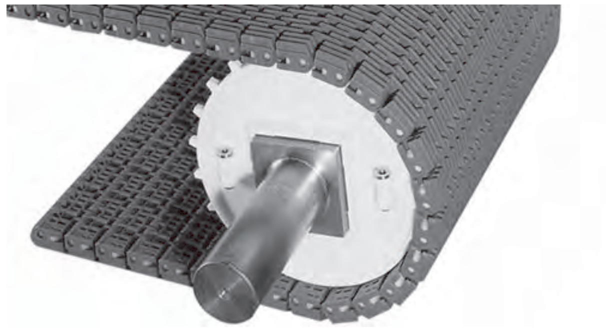
A preferred run direction

Belt Data							
Belt Material	Standard Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene composite	Polypropylene composite	4000	5950	-20 to 220	-29 to 104	3.17	15.45
EC polypropylene composite	Polypropylene composite	4000	5950	-20 to 220	-29 to 104	3.2	15.66

[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m). The belt strength for narrow belts is reduced to 3750 lb/ft (5580 kg/m) for belt widths under 60 in (1524 mm), 3250 lb/ft (762 kg/m) for belt widths under 30 in (762 mm), and 2750 lb/ft (4090 kg/m) for belt widths under 12 in (305 mm). Contact Intralox Customer Service if a more precise belt strength is required for belt widths under 60 in (1524 mm).

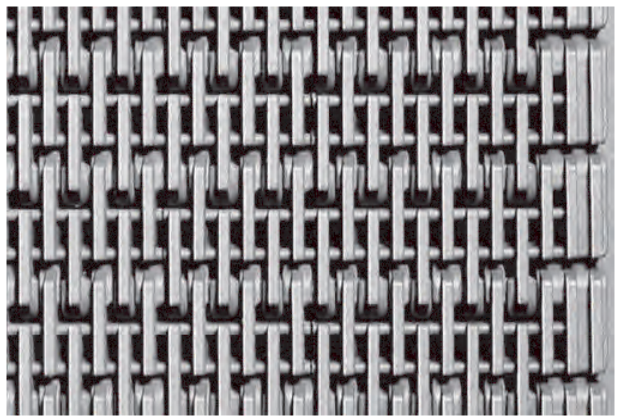
Raised Rib

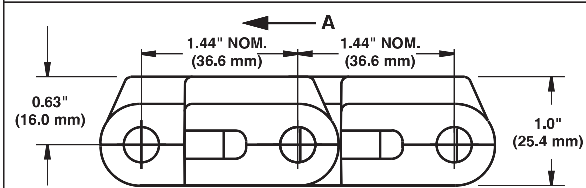
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Open Area	24%	
Product Contact Area	24%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- Molded split plastic sprockets available for easy installation.
- Module thickness: 1.0 in (25.4 mm), which provides superior belt strength and stiffness.





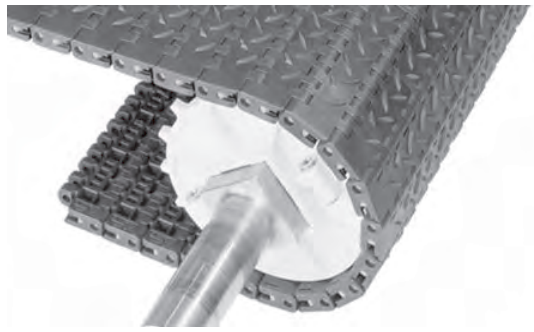
A preferred run direction

Belt Data							
Belt Material	Standard Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene composite	Polypropylene	3300	4908	34 to 220	1 to 104	3.3	16.11

[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m).

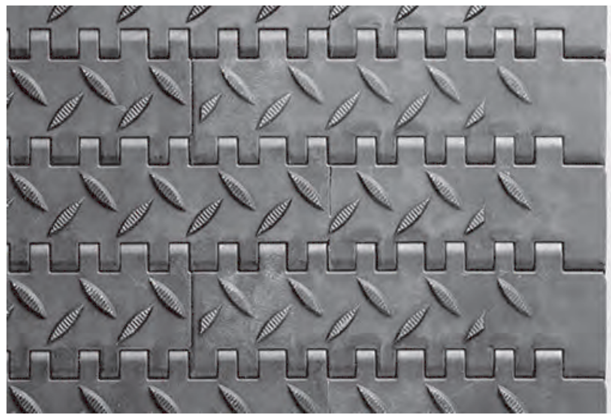
Non Skid

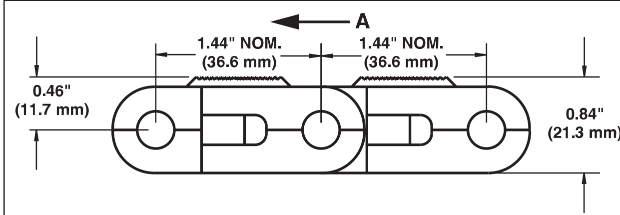
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion. Engineered resin is a static dissipative material that does not rely on moisture to dissipate a charge, so it is effective in all environments.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Molded split plastic sprockets available for easy installation.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- 1.44 in (36.6 mm) pitch allows use of smaller drive sprockets than traditional moving-platform belts, providing tighter transfers and requiring shallower floor trenches for installation.
- Module thickness: 0.75 in (19.1 mm) provides superior belt strength and stiffness. In the preferred run direction, S1200 belts are rated 4000 lb/ft (5950 kg/m).
- Non Skid indent: 1.0 in (25.4 mm).





A preferred run direction

Belt Data							
Belt Material	Standard Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
EC polypropylene composite	Polypropylene composite	4000	5950	-20 to 220	-29 to 104	3.21	15.65

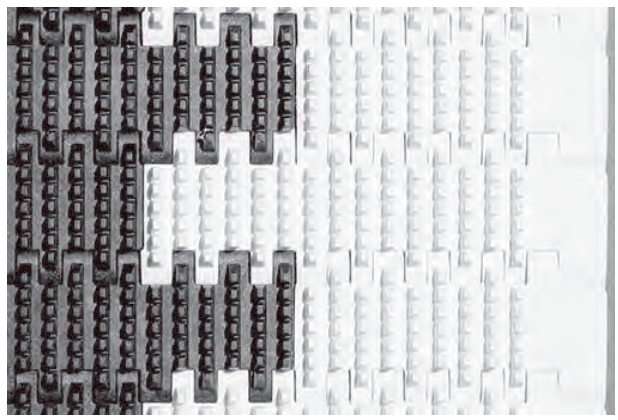
[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m). The belt strength for narrow belts is reduced to 3750 lb/ft (5580 kg/m) for belt widths under 60 in (1524 mm), 3250 lb/ft (762 kg/m) for belt widths under 30 in (762 mm), and 2750 lb/ft (4090 kg/m) for belt widths under 12 in (305 mm). Contact Intralox Customer Service if a more precise belt strength is required for belt widths under 60 in (1524 mm).

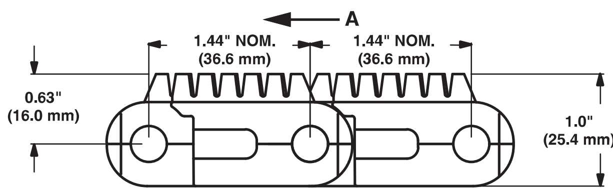
Non Skid Raised Rib

	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Product Contact Area	10%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Tread pattern provides a non-skid walking surface to increase safety.
- Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are glass-reinforced polypropylene.
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion. Engineered resin is a static dissipative material that does not rely on moisture to dissipate a charge, so it is effective in all environments.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Belt strength depends on the run direction. When the belt is not installed in the preferred run direction, the belt strength is reduced by half.
- Not recommended for product accumulation conditions.
- For information about friction values between product and belt, contact Intralox Customer Service
- 1.44 in (36.6 mm) pitch allows use of smaller drive sprockets than traditional moving-platform belts, providing tighter transfers and requiring shallower floor trenches for installation.
- Rib indent: 1.0 in (25 mm).





A preferred run direction

Belt Data

Belt Material	Standard Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
EC polypropylene composite	Polypropylene composite	4000	5950	-20 to 220	-29 to 104	3.58	17.48
UV resistant acetal[b]	Acetal	2500	3713	-50 to 150	-46 to 66	4.51	22.02

[a] Belt strength rating depends on preferred belt run direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m). The belt strength for narrow belts is reduced to 3750 lb/ft (5580 kg/m) for belt widths under 60 in (1524 mm), 3250 lb/ft (762 kg/m) for belt widths under 30 in (762 mm), and 2750 lb/ft (4090 kg/m) for belt widths under 12 in (305 mm). Contact Intralox Customer Service if a more precise belt strength is required for belt widths under 60 in (1524 mm).

[b] UV resistant acetal requires special sprockets. Contact Intralox Customer Service when ordering sprockets for this belt.

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
9	229	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	3	4	3
24	610	5	4	3
30	762	5	5	4
32	813	5	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
145	3683	25	18	14
146	3708	25	18	14
147	3734	25	18	14
148	3759	25	18	14
149	3785	25	18	14
150	3810	25	18	14
151	3835	25	18	14
152	3861	25	18	14
153	3886	25	18	14
154	3912	25	19	14
155	3937	25	19	14
156	3962	27	19	14
157	3988	27	19	15
158	4013	27	19	15
159	4039	27	19	15
160	4064	27	19	15
161	4089	27	19	15
162	4115	27	19	15
163	4140	27	20	15
164	4166	27	20	15
165	4191	27	20	15
166	4216	27	20	15

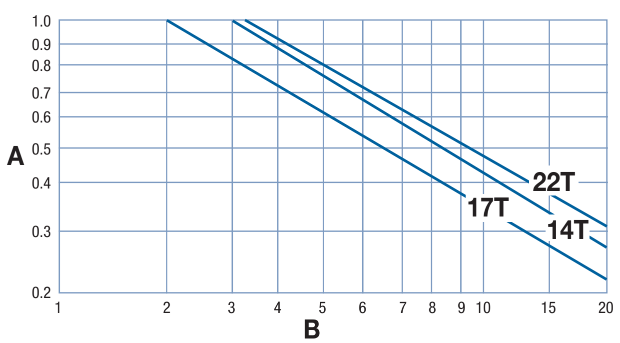
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
167	4242	27	20	15
168	4267	29	20	15
169	4293	29	20	16
170	4318	29	20	16
171	4343	29	20	16
172	4369	29	21	16
173	4394	29	21	16
174	4420	29	21	16
175	4445	29	21	16
176	4470	29	21	16
177	4496	29	21	16
178	4521	29	21	16
179	4547	29	21	16
180	4572	31	21	16
181	4597	31	22	17
182	4623	31	22	17
183	4648	31	22	17
184	4674	31	22	17
185	4699	31	22	17
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 6 in (152 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

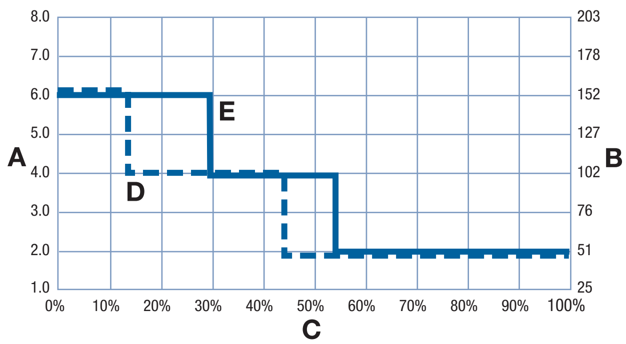
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

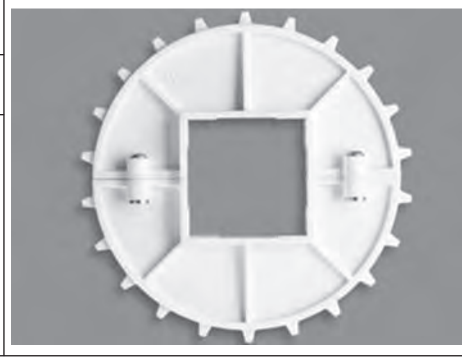
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D dashed line: polypropylene rods
E solid line: polypropylene composite rods

Plastic Split Sprocket

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in[b]	Round mm[a]	Square mm
14 (2.51%)	6.5	165	6.3	161	1.5	38		1.5, 2.5		
17 (1.70%)	7.9	201	7.7	196	1.5	38		2.5		
22 (1.02%)	10.2	259	10.1	255	1.5, 1.67	38, 44	3.5	2.5, 3.5		90



[a] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[b] The 2.5 in square bore is created by using a bore adapter in the 3.5 in square bore sprocket.

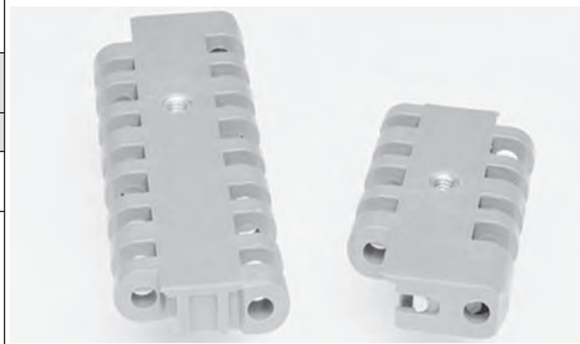
Split Metal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
12 (3.41%)	5.6	142	5.4	137	1.7	43		2.5		
14 (2.51%)	6.5	165	6.3	161	1.7	43		1.5, 2.5		
22 (1.70%)	10.2	259	10.1	255	1.7	43		2.5, 3.5		

Hold Down Tabs

- Available for Non Skid and Flat Top belts.
- Carryway wearstrips or rollers that engage the tabs are only required at the transition between the horizontal sections and angled sections. This approach reduces initial system cost, as well as ongoing maintenance cost and effort.
- Ensure that adequate lead-in radii and/or angles are used to prevent the possibility of snagging the tab on the frame.
- Place tabs in every other row (2.9 in [73.2 mm]) along the length of the belt. Tabs can be placed every fourth row (5.8 in [146.3 mm]) for lightly loaded applications.
- Each line of tabs along the length of the belt reduces the available number of sprockets by two. Belt rating is reduced by 1300 lb (590 kg) for each line of tabs.
- When designing conveyors, include a carryway radius at the transition between horizontal sections and angled sections. This radius must be at least 48 in (1.22 m) for belts that are loaded near the belt strength rating. This radius is one of the most important factors to consider when designing highly loaded conveyors that utilize hold down tabs.
- Strength rating for each hold down tab: 100 lb (45.4 kg) of force perpendicular to the hold down surface.

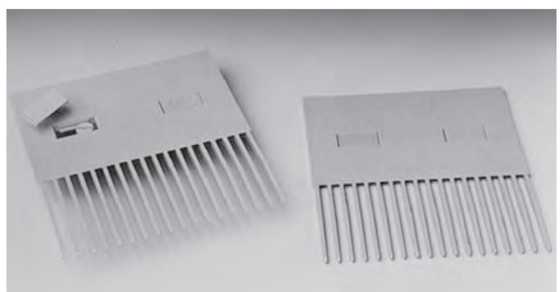
Insert Nuts				
Available Base Belt Style - Material		Available Insert Nut Sizes		
Flat Top - Polypropylene Composite		0.3125 in to 18 in (8 mm to 1.25 mm)		
Belt Material	Maximum Fixture Weight		Fastener Torque Specification	
	lb/nut[a]	kg/nut[a]	in-lb	N-m
Polypropylene Composite	355	155	100	11.3



- Insert Nuts allow easy attachment of fixtures to the belt.
- All nut placement dimensions are referenced from the edge of the belt when placing an order. Contact Intralox Customer Service for nut location options available for your application.
- Ensure attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- Do not locate sprockets in-line with the insert nuts.
- For attachment bases that extend across multiple rows, ensure reduced backbend is considered during design.
- Minimal indent from the edge of the belt: 0.833 in (21 mm) for odd-width belts, 1.833 in (47 mm) for even-width belts.
- Minimal distance between nuts across the width of the belt: 1.33 in (34 mm).
- Spacing along the length of the belt: 1.44 in (36.6 mm) increments.

[a] Fixture weight only. Product weight need not be included.

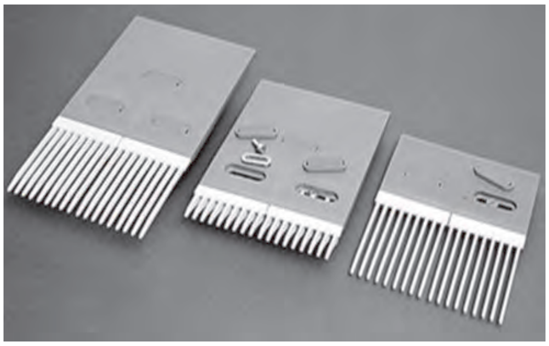
Finger Transfer Plates			
Available Widths		Number of Fingers	Available Materials
in	mm		
6	152	18	Polypropylene



- Identical to Series 400 finger transfer plates.
- Eliminates product transfer and tipping problems. The fingers extend between the belt ribs to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts. Caps easily snap into place over the bolts, and keep foreign materials out of the slots.
-

Two-Material Finger Transfer Plates

Available Widths		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic fingers, acetal backplate



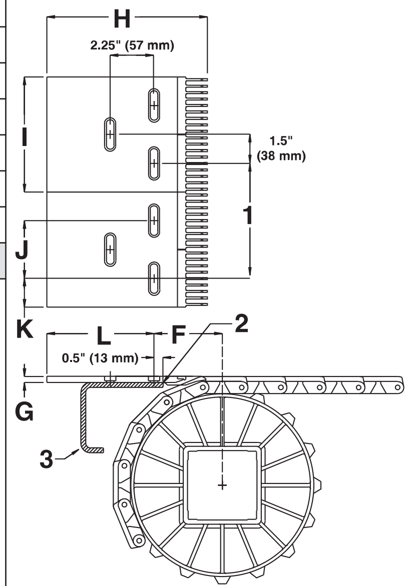
Available Configurations

Standard	Standard Extended Back	Glass-Handling
Long fingers with a short backplate	Long fingers with an extended backplate	Short fingers with extended backplate
		short fingers with short backplate[a]
		mid-length fingers with a short backplate
		mid-length fingers with extended backplate

- Provides high-strength fingers combined with a low-friction backplate.
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs allowing a smooth, continuous product flow as the belt engages the sprockets.
- Low-friction backplate is permanently attached to the two high-strength finger inserts.
- Plastic shoulder bolts and bolt covers are included for installing the standard two-material finger transfer plates (FTPs).
- Mounting hardware for the glass-handling two-material FTPs is sold separately. Mounting hardware consists of stainless steel oval washers and bolts, which give more secure fastening for tough, glass applications.
- For applications that require better chemical resistance, Introlox offers a single-material polypropylene standard FTP. Mounting hardware for this finger transfer plate includes plastic shoulder bolts and snap-cap bolt covers.
- Long fingers provide good support for unstable products like PET containers and cans. Short fingers are sturdy enough for harsh, broken-glass applications. These fingers are designed to resist breaking, but if confronted with deeply embedded glass, the individual fingers yield and break off, preventing belt or frame damage.
- Short backplate has two attachment slots and the extended backplate has three attachment slots.
- S400 and S1200 use the same FTPs.
- For best product transfer, use 10.2 in (259 mm) PD, 22-tooth sprockets with glass-handling finger transfer plates. 10.2 in (259 mm) PD 22-tooth sprockets are the maximum-size sprockets to use with short finger glass-handling finger transfer plates.

[a] Contact Intralox Customer Service for lead times.

Dimensional Requirements for Finger Transfer Plate Installation								
	Two-Material							
	Standard Long Fingers				Glass-Handling Short Fingers		Glass-Handling Mid-Length Fingers -	
	Short Back		Extended Back		Extended Back		Extended Back	
	in	mm	in	mm	in	mm	in	mm
F	3.50	89	3.50	89	3.50	89	3.50	89
G	0.31	8	0.31	8	0.31	8	0.31	8
H	7.25	184	10.75	273	8.26	210	9.04	230
I	5.91	150	5.91	150	5.91	150	5.91	150
J	3.00	76	3.00	76	3.00	76	3.00	76
K	1.45	37	1.45	37	1.45	37	1.45	37
L	2.00	51	5.50	140	5.50	140	5.50	140
Spacing at Ambient Temperature								
PP composite	6.0	152.4	6.0	152.4	6.0	152.4	6.0	152.4



1 spacing
2 0.5 in (13 mm) radius (leading edge of frame member)
3 frame member

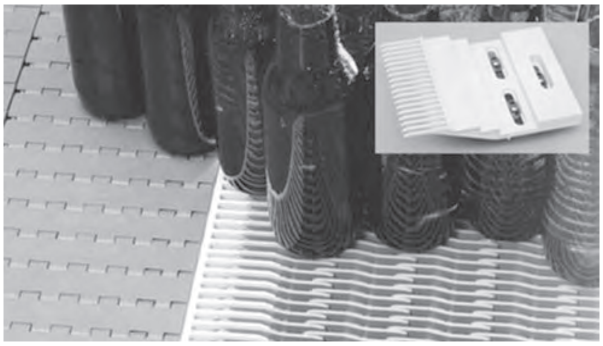
Figure 55: Two-material glass handling finger transfer plate

SERIES 1200

Self-Clearing Finger Transfer Plates[a]

Available Width in	Available Width mm	No. of Fingers	Available Materials
6	152	18	Glass-Filled Thermoplastic

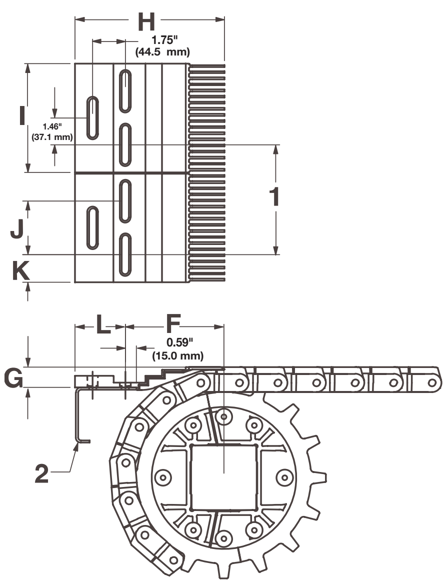
- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs for belt support in heavy side-loading conditions.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Intralox Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with belt expansion and contraction.
- Stainless steel hardware is sold separately.



[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Dimensional Requirements for Self-Clearing Finger Transfer Plate Installation[a]

	Self-Clearing in	Self-Clearing mm
F	5.25	133.4
G	1.15	29.2
H	8.05	204.5
I	5.93	150.6
J	2.92	74.2
K	1.51	38.4
L	2.71	68.8
Spacing at ambient temperature		
PP Composite	6.000	152.4

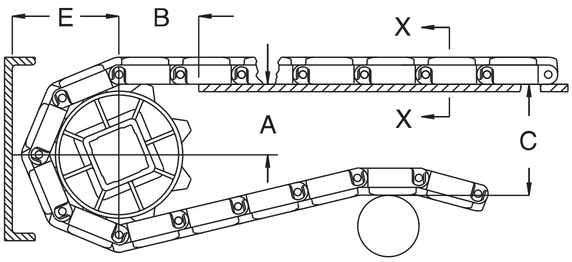


1 spacing
2 frame member

[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



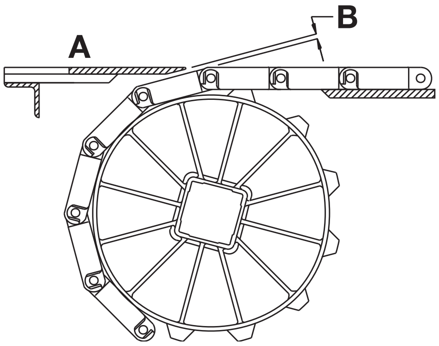
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 56: Basic dimensional requirements

S1200 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Flush Grid										
5.6	142	12	2.31-2.41	59-61	2.15	55	5.56	141	3.22	82
6.5	165	14	2.78-2.87	71-73	2.35	60	6.48	165	3.87	98
7.9	201	17	3.48-3.55	88-90	2.62	67	7.85	199	4.55	116
10.2	259	22	4.64-4.69	118-119	3.02	77	10.13	257	5.69	145
Non Skid Raised Rib, Raised Rib										
5.6	142	12	2.31-2.41	59-61	2.15	55	5.81	148	3.47	88
6.5	165	14	2.78-2.87	71-73	2.35	60	6.73	171	4.12	105
7.9	201	17	3.48-3.55	88-90	2.62	67	8.10	206	4.80	122
10.2	259	22	4.64-4.69	118-119	3.02	77	10.38	264	5.94	151
Non Skid										
5.6	142	12	2.31-2.41	59-61	2.15	55	5.65	144	3.30	84
6.5	165	14	2.78-2.86	71-73	2.34	59	6.56	167	3.76	96
7.9	201	17	3.51-3.58	89-91	2.57	65	7.99	203	4.47	114
10.2	259	22	4.67-4.73	119-120	3.02	77	10.29	261	5.62	143

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 57: Gap at transfer point between belt and dead plate

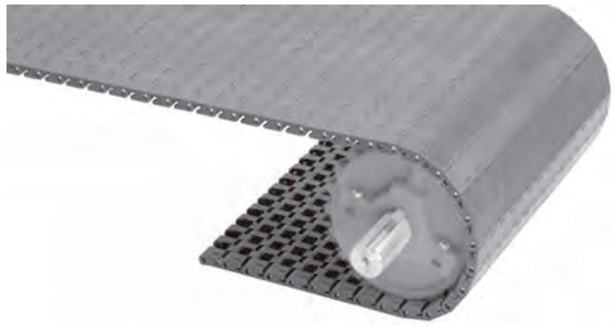
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
5.6	142	12	0.095	2.4
6.5	165	14	0.081	2.1
7.9	201	17	0.067	1.7
10.2	259	22	0.052	1.3

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

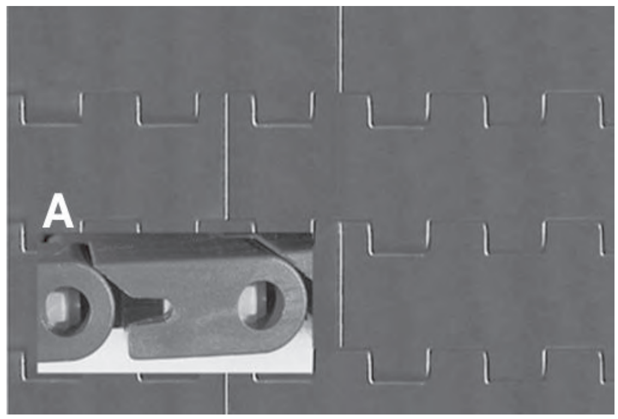
Flat Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

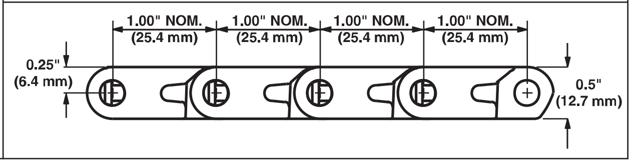


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Flat Top surface provides excellent lateral movement of containers. Ideal for container handling.
- Slidelox are available in polypropylene or acetal. For Easy Release PLUS belts, use polypropylene Slidelox. For Easy Release Traceable polypropylene belts, use detectable polypropylene Slidelox.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets are all plastic, with large lug teeth for excellent durability and wear life.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough glass applications.



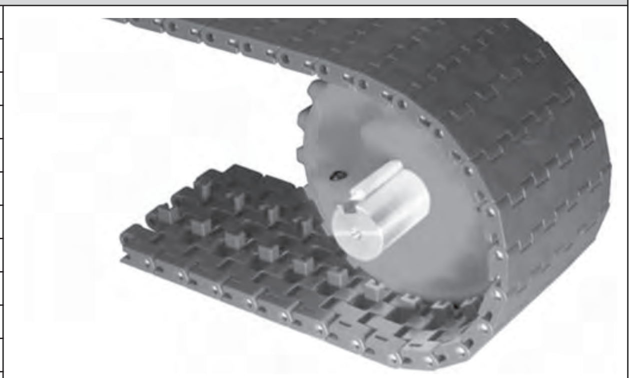
A Inset: Slidelox edge



Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2500	3720	-50 to 200	-46 to 93	2.75	13.43
Polypropylene	Nylon	1800	2678	34 to 220	1 to 104	1.85	9.03
HHR nylon	Nylon	2000	2976	-50 to 310	-46 to 154	2.32	11.33
HSEC acetal	Nylon	1600	2380	-50 to 200	-46 to 93	2.69	13.13

Mold to Width Flat Top

	in	mm
Pitch	1.00	25.4
Molded Widths	3.25	83
	4.5	114
	6.0	152
	7.5	191
	-	85.0
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Flat Top provides excellent lateral movement of containers. Ideal for container handling.
- Tracking tabs provide lateral tracking.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets are all plastic.
- Most sprockets use a split design, so shafts do not have to be removed for retrofits and changeovers.
- Split sprockets are designed with thick, lug-style teeth for excellent durability and wear life.
- Robust design offers excellent belt and sprocket durability, especially in tough, glass applications.
- Sprocket placement:
  - Use one sprocket on 3.25 in (83 mm) mold to width belts, and on 4.5 in (114 mm) tabbed mold to width belts.
  - Use one or two sprockets on 4.5 in (114 mm) no tab mold to width belts.
  - Use up to three sprockets on 6.0 in (152 mm) belts, and on 7.5 in (191 mm) mold to width belts.
- Optional tracking tabs fit into single barreled belt wearstrip with 1.75 in (44.5 mm) spacing.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Available in 10 ft (3 m) increments.

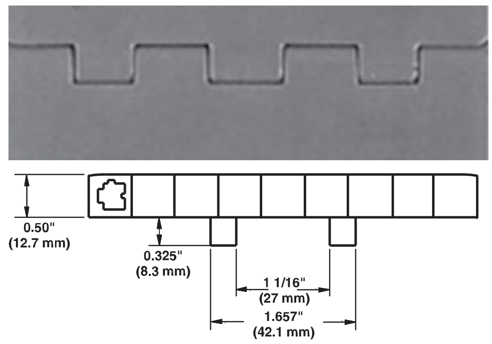


Figure 58: S1400 Mold to Width Flat Top

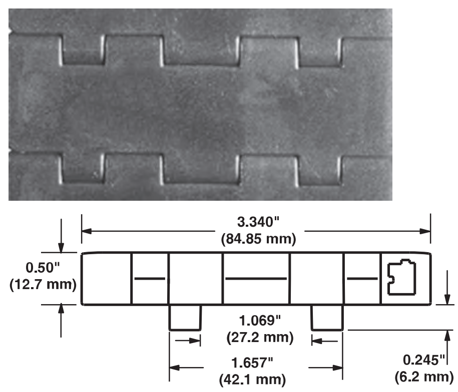


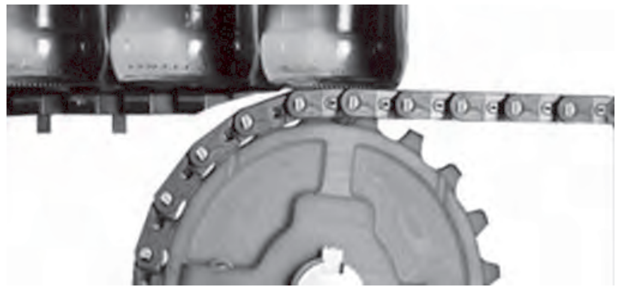
Figure 59: S1400 Mold to Width Flat Top 85 mm

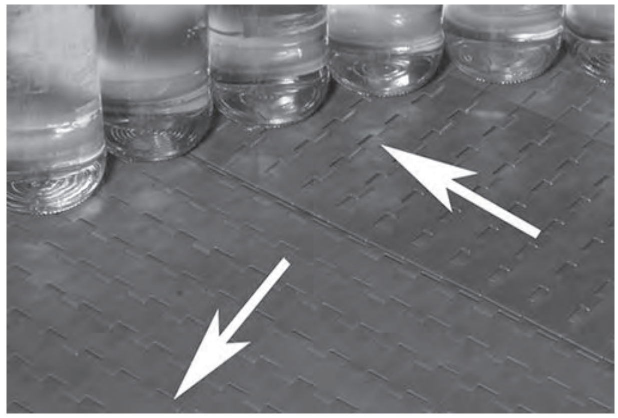
Belt Data												
Belt Width		Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight			
								Tab		No Tab	
in	mm			lb	kg	°F	°C	lb/ft	kg/m	lb/ft	kg/m
3.25	83	Acetal	Nylon	700	318	-50 to 200	-46 to 93	0.80	1.19	0.75	1.12
–	85	Acetal	Nylon	700	318	-50 to 200	-46 to 93	0.80	1.19	–	–
4.5	114	Acetal	Nylon	850	386	-50 to 200	-46 to 93	1.13	1.68	1.07	1.59
6.0	152	Acetal	Nylon	1200	544	-50 to 200	-46 to 93	1.40	2.08	1.35	2.01
7.5	191	Acetal	Nylon	1550	703	-50 to 200	-46 to 93	1.75	2.60	1.71	2.54
6.0	152	Polypropylene	Nylon	850	386	34 to 220	1 to 104	0.95	1.14	0.90	1.34
3.25	83	HHR nylon	Nylon	700	1042	-50 to 310	-46 to 154	0.85	1.27	–	–
4.5	114	HHR nylon	Nylon	850	386	-50 to 310	-46 to 154	0.95	1.41	1.07	1.59
6.0	152	HHR nylon	Nylon	1200	544	-50 to 310	-46 to 154	1.18	1.76	1.35	2.01
7.5	191	HHR nylon	Nylon	1550	703	-50 to 310	-46 to 154	1.47	2.19	1.71	2.54

[a] Ratings are based on non-tabbed belts using the maximum number of sprockets.

ONEPIECE™ Live Transfer Flat Top

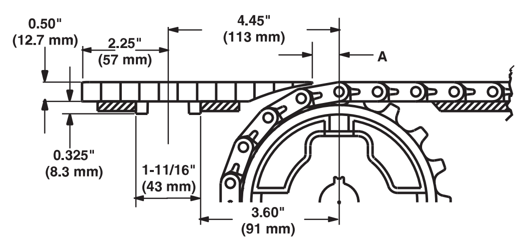
	in	mm
Pitch	1.00	25.4
Molded Width	6	152
Width Increments	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

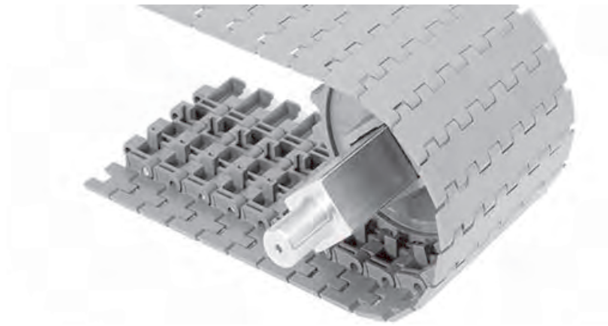
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, flat surface with fully flush edges.
- Transfer edge is an integral part of the belt.
- Tracking tabs support the belt in heavy, side-loading applications.
- Nylon rods provide superior wear resistance.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets are all plastic, with large lug teeth for excellent durability and wear life.
- Most sprockets use the split design, so shafts do not have to be removed for retrofits and changeovers.
- Designed for smooth, self-clearing, right angle transfers onto takeaway belts.
- Provides excellent lateral movement of PET, glass, and other containers. Provides excellent belt and sprocket durability, especially in tough, glass applications.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See S900, S1100, and S1400 ONEPIECE Live Transfer Belts.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- Available in 10 ft (3 m) increments.



Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Nylon	850	386	-50 to 200	-46 to 93	1.25	1.86

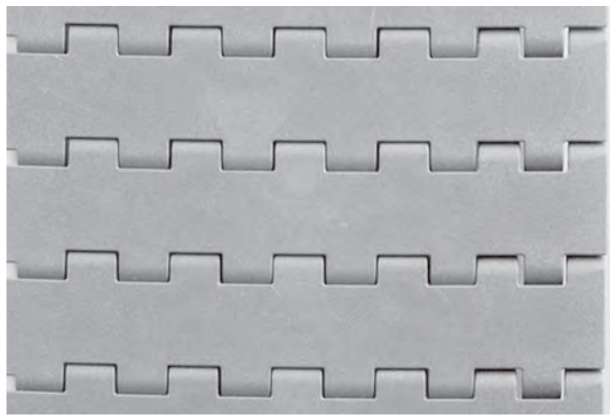
6 in (152 mm) Flat Top Mold to Width Self-Clearing Edge

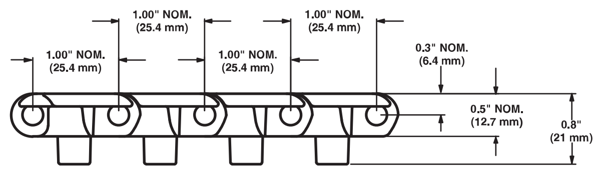
	in	mm
Pitch	1.00	25.4
Minimum Width	6	152
Width Increments	-	-
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Belt is bi-directional. It can be used for left-hand and right-hand transfers.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- All sprockets are plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Provides 100% self-clearing transfers of all container types, including energy drink cans, when used with finger transfer plates.



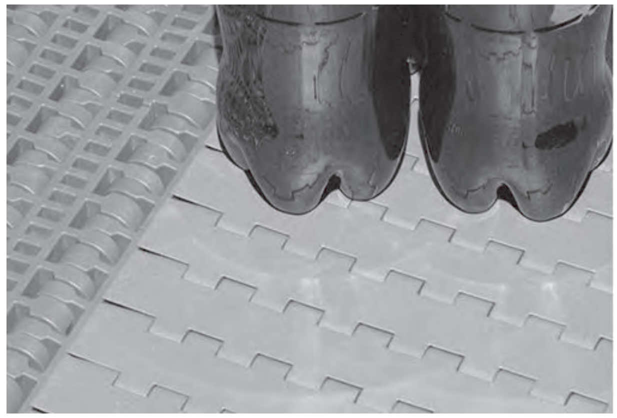


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Nylon	1000	454	-50 to 200	-46 to 93	1.08	1.61

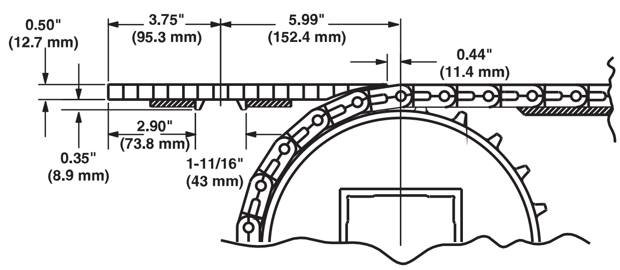
ONEPIECE™ 9.3 in (236 mm) Live Transfer Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	9.3	236
Width Increments	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, flat surface with fully flush edges.
- Transfer edge is an integral part of this belt.
- Tracking tabs support the belt in heavy, side-loading applications.
- Nylon rods provide superior wear resistance.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets are all plastic, with large lug teeth for excellent durability and wear life.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Designed for smooth, self-clearing, right angle transfers onto takeaway belts.
- Provides excellent lateral movement of PET, glass, and other containers. Provides excellent belt and sprocket durability, especially in tough, glass applications.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See S900, S1100, and S1400 ONEPIECE Live Transfer Belts.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- Tracking tab height: 0.35 in (8.9 mm).
- Tab spacing: 1.6875 in (43 mm).
- Available in 10 ft (3 m) increments.



Belt Data

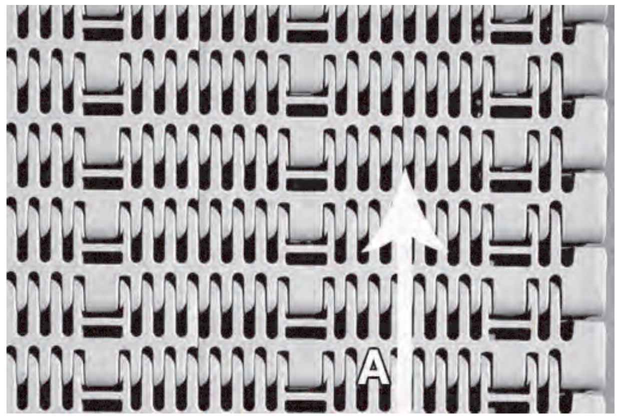
Belt Material	Standard Rod Material, Diameter 0.240 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Nylon	1550	703	-50 to 200	-46 to 93	1.86	2.77

Flush Grid

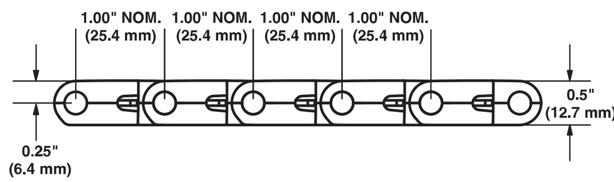
	in	mm
Pitch	1.0	25.4
Minimum Width	9	229
Width Increments	1.0	25.4
Opening Size (approximate)	0.17 × 0.30	4.2 × 7.6
Open Area	21%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Polypropylene belts are grey with blue polypropylene Slidelox. Acetal belts are grey with yellow acetal Slidelox.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimum sprocket spacing: 3 in (76.2 mm).
- Maximum recommended sprocket spacing: 6 in (152.4 mm).
- Installation is the same as current S1400 belts, with the addition of a locked sprocket location chart and preferred run direction.
- Recommended adjusted belt pull: greater than 900 lb/ft (1339 kg/m).



A run direction

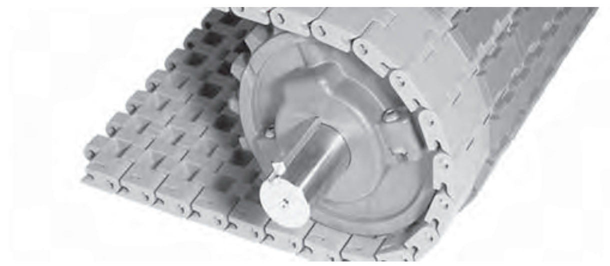


Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1800	2679	34 to 220	1 to 104	1.61	7.86
Polypropylene	Nylon	1800	2679	34 to 220	1 to 104	1.66	8.10
Acetal	Nylon	2500	3720	-50 to 200	-46 to 93	2.52	12.30

[a] Belt strength is divided by 2 when using 6 in (15.2 cm) sprocket spacing; full strength when using 3 in (7.6 cm) sprocket spacing.

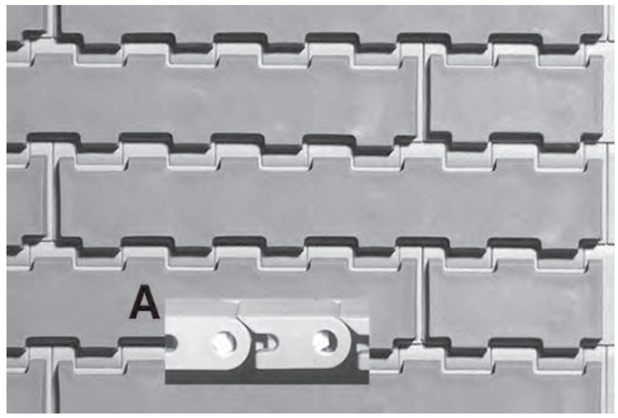
Flat Friction Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

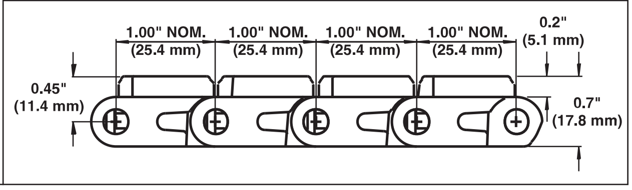


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with grey rubber, grey polypropylene with black rubber, white polypropylene with white rubber, and black polyethylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- If a center-drive conveyor design is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Standard indents for Friction Top surface: 2.0 in (50.8 mm) and 0.22 in (5.6 mm). Indent availability varies by material. Contact Intralox Customer Service for more information.



A Inset: Slidelox rod retention feature

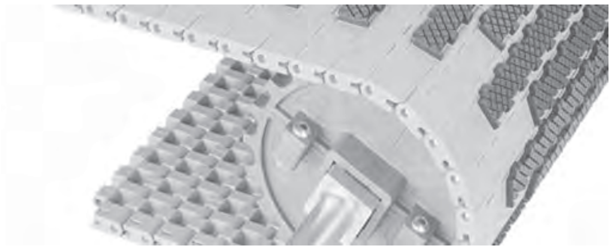


Belt Data											
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/grey	Nylon	1800	2678	34 to 150	1 to 66	2.62	12.79	64 Shore A		
Polypropylene	Grey/black	Nylon	1800	2678	34 to 150	1 to 66	2.62	12.79	55 Shore A	b	
Polypropylene	White/white	Nylon	1800	2678	34 to 150	1 to 66	2.62	12.79	55 Shore A	b	c
Polypropylene	Black/TPV 65A black	Nylon	1800	2678	34 to 150	1 to 66	2.62	12.79	65 Shore A		
Polyethylene	Black/black	Nylon	1000	1488	-50 to 120	-46 to 49	2.70	13.18	50 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

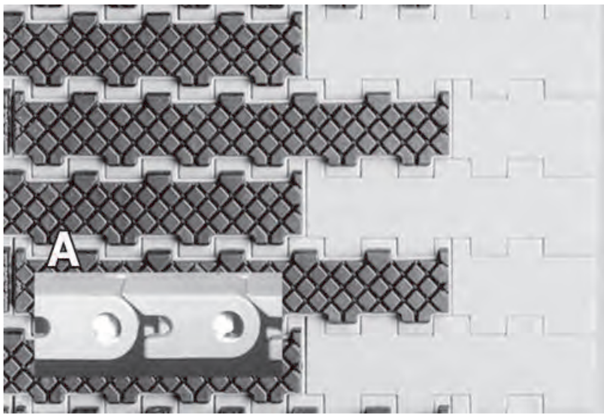
Square Friction Top

	in	mm
Pitch	1.00	25.4
Minimum Width	6	152
Width Increments	1.00	25.4
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

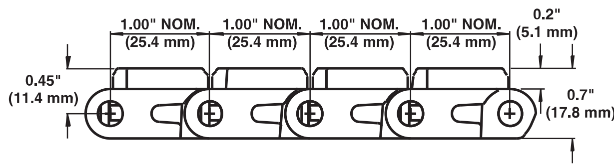


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with black rubber and black polyethylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- If a center-drive conveyor design is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).



A Inset: Slidelox rod retention feature



Belt Data

Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	1800	2678	34 to 150	1 to 66	2.60	12.69	50 Shore A	b	
Polyethylene	Black/black	Nylon	1000	1488	-50 to 120	-46 to 49	2.68	13.08	50 Shore A	b	

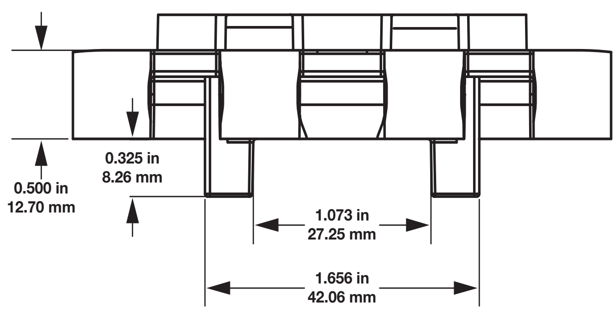
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

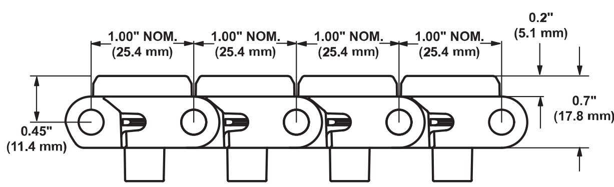
3.25 in Mold to Width Flat Friction Top with Tabs

	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Tracking tabs provide lateral tracking.
- Available in blue acetal with black rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design so shafts do not have to be removed for retrofits and changeovers.
- One sprocket can be placed on the 3.25 in (83 mm) Mold To Width tabbed belt.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Not recommended for product accumulation conditions.
- For information about friction values between product and belt, contact Intralox Customer Service
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Indent for Friction Top surface: 0.5 in (12.7 mm).
- Available in 10 ft (3 m) increments.





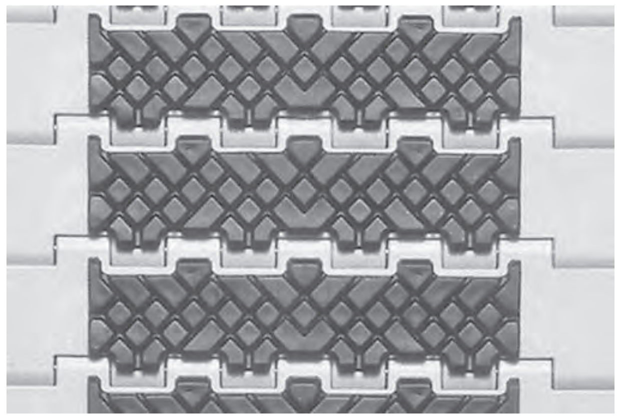
Belt Data

Base Belt Material	Base/Friction Color	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC
Acetal	Blue/black	Nylon	700	318	-10 to 130	-23 to 54	0.94	1.40	54 Shore A	a	b

a FDA compliant with restriction: Do not use in direct contact with fatty foods.
b European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

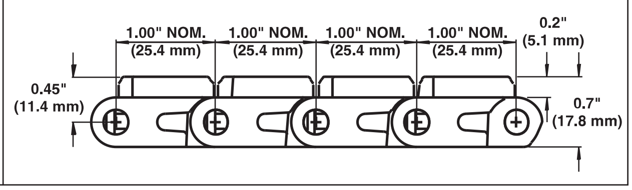
Mold to Width Square Friction Top

	in	mm
Pitch	1.00	25.4
Molded Width	6	152
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design so shafts do not have to be removed for retrofits and changeovers.
- Up to three sprockets can be placed on the 6.0 in (152 mm) mold to width belt.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- If a center-drive conveyor design is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Rubber indent: 1.0 in (25.4 mm).
- Available in 10 ft (3 m) increments.



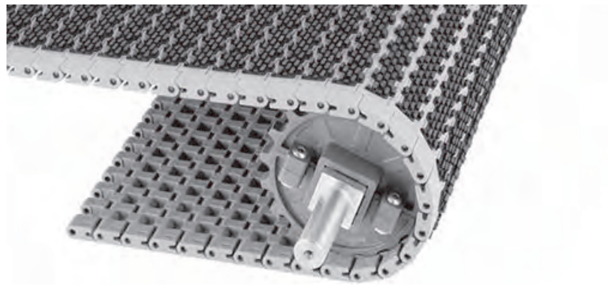
Belt Data

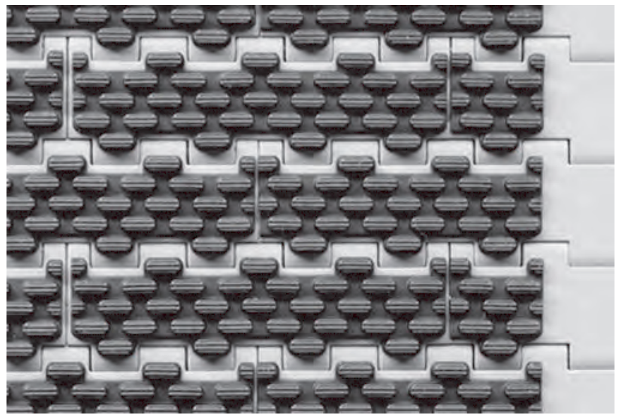
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	800	386	34 to 150	1 to 66	1.15	1.71	50 Shore A	b	

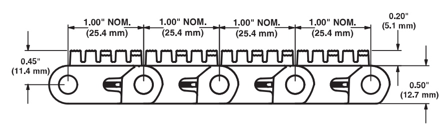
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

Oval Friction Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- If a center-drive conveyor design is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Rubber indent: 1.0 in (25.4 mm).

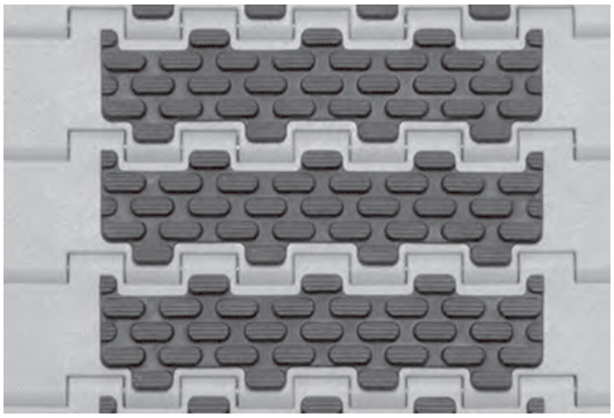
Belt Data

Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	1800	2678	34 to 150	1 to 66	2.29	11.18	55 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

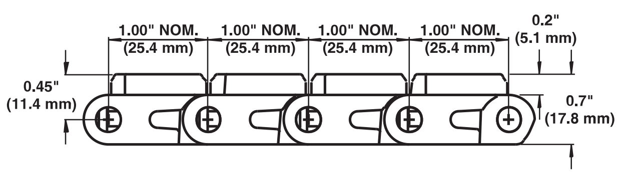
Mold to Width Oval Friction Top

	in	mm
Pitch	1.00	25.4
Molded Width	6	152
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in grey polypropylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets are all plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Up to three sprockets can be placed on the 6.0 in (152 mm) mold to width belt.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- When using this belt on a center-drive conveyor, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Consider these factors when designing conveyor systems to use these belts.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Rubber indent: 1.0 in (25.4 mm).
- Available in 10 ft (3 m) increments.



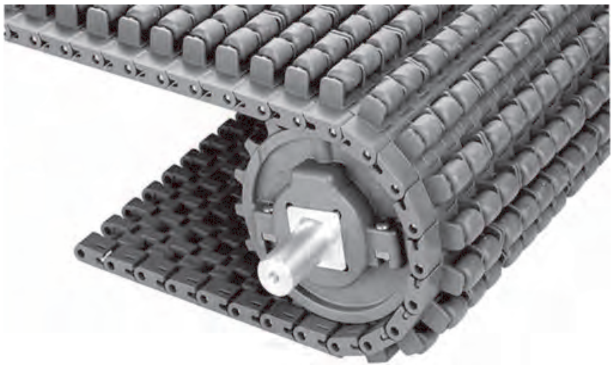
Belt Data

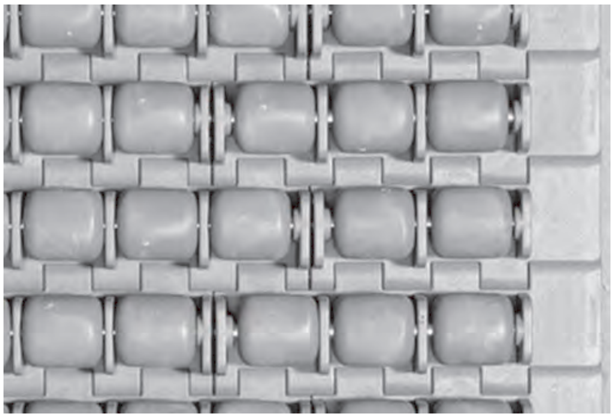
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[a]
Polypropylene	Grey/black	Nylon	800	386	34 to 150	1 to 66	1.15	1.71	55 Shore A	b	

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.

Roller Top

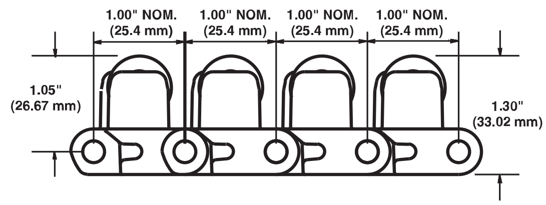
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Roller Diameter	0.70	17.8
Roller Length	0.83	21.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edges.
- Available in white or grey acetal.
- 144 rollers per square foot of belt provide greater product-to-roller contact.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Stainless steel roller axle pins provide durability.
- Robust design offers excellent belt and sprocket durability.
- Allows low back-pressure accumulation for gentle product handling.
- Product accumulation load: 5%–10% of product weight.
- Roller spacing: 1 in (25.4 mm).
- Standard roller indent: 0.75 in (19 mm).



Belt Data

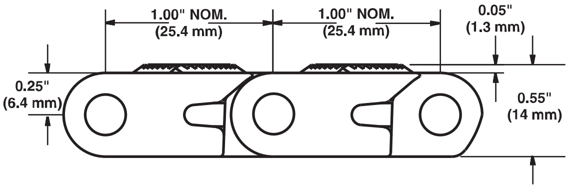
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2500	3720	-50 to 200	-46 to 93	5.83	28.47

Non Skid

	in	mm
Pitch	1.00	25.4
Minimum Width	9	229
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Robust design offers excellent belt and sprocket durability.
- Diamond tread pattern provides a non-skid walking surface to increase safety.
- Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Edges have a Flat Top surface, without treads.
- Slidelox are available in polypropylene or acetal.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- 1.00 (25.4 mm) pitch accommodates small drive sprockets for low-profile people carriers.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).

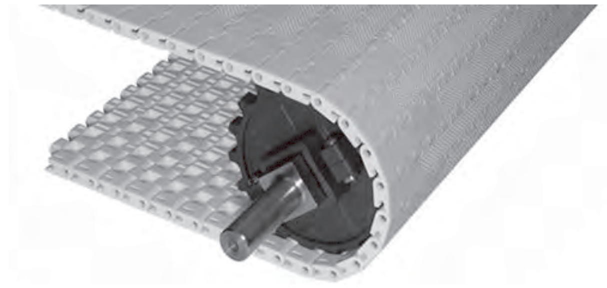


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
HSEC acetal	Nylon	1875	2790	-50 to 200	-46 to 93	2.78	13.57
Polypropylene	Nylon	1800	2678	34 to 220	1 to 104	2.32	11.33

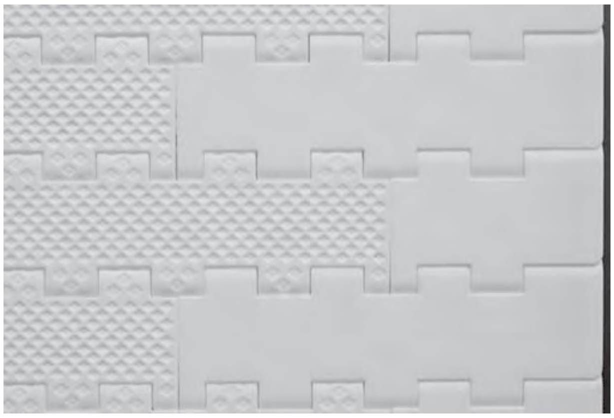
Embedded Diamond Top

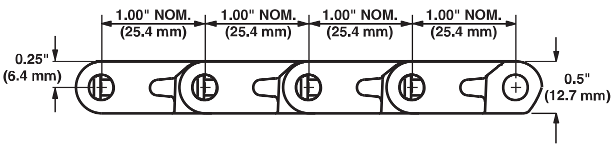
	in	mm
Pitch	1.00	25.4
Minimum Width	12.0	304.8
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Robust design offers excellent belt and sprocket durability.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Split sprockets are designed with thick, lug-style teeth for excellent durability and wear life.
- Minimum nominal alternating edge indents: 3 in (76 mm) and 4 in (102 mm).

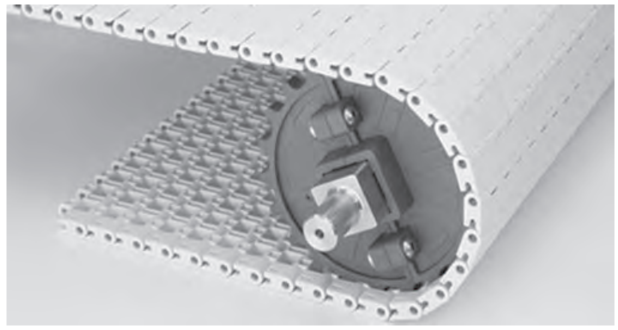


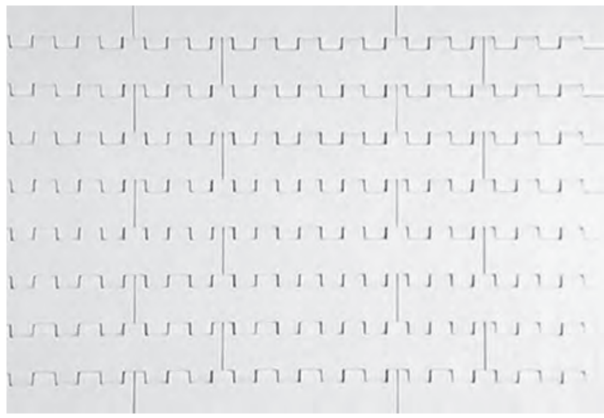


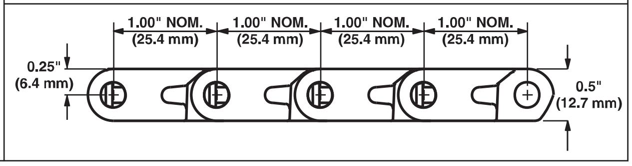
Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	1800	2678	34 to 220	1 to 104	1.70	8.30

Flat Top Easy Release PLUS

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	







Product Notes

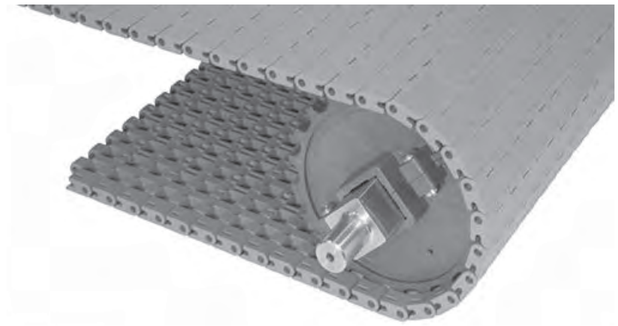
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Easy Release PLUS material resists rubber adhesion and has minimal dimensional expansion when exposed to oil and heat.
- Slidelox are polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Split sprockets are designed with thick, lug-style teeth for excellent durability and wear life.

Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Easy Release PLUS	Orange polypropylene (non-FDA)	1600	2380	34 to 220	1 to 104	2.00	9.78

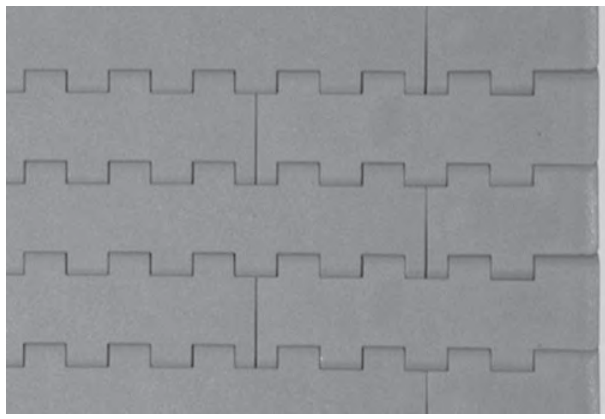
Flat Top Easy Release Traceable Polypropylene

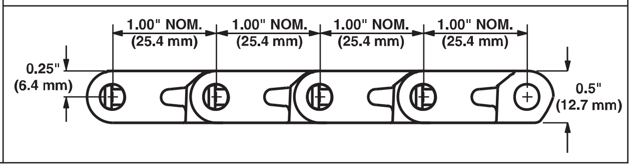
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Slidelox are detectable polypropylene.
- Sprockets are all plastic, with large, lug-style teeth for excellent durability and wear life.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Robust design offers excellent belt and sprocket durability, especially in tough glass applications.





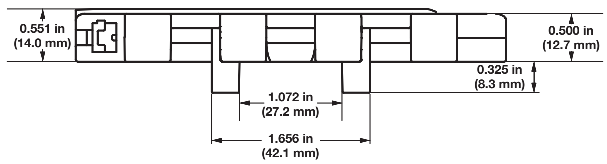
SERIES 1400

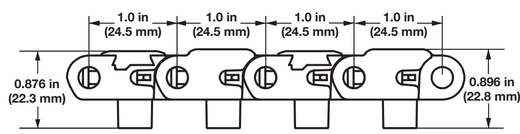
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Easy Release Traceable PP	Orange polypropylene (non-FDA)	1200	1790	34 to 220	1 to 104	1.86	9.08

ProTrax™ with Tabs

	in	mm
Pitch	1.00	25.4
Molded Widths	4.5	114.3
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Powerful magnets are embedded in the belts.
- Standard belt configuration consists of magnetic modules and S1400 Raised Flat Top modules alternating every other row to maximize wear resistance.
- Tracking tabs prevent lateral movement.
- Tabs fit into a straight track style carryway with 1.75 in (44.5 mm) spacing.
- Slidelox provide rod and cap retention.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Sprockets are all plastic with stainless steel fasteners and large, lug-style teeth for excellent durability and wear life.
- Most sprockets feature a split design so shafts do not have to be removed for retrofits and changeovers.
- Ideal for incline, decline, vertical switch, pan indexing, and metering applications.
- Install belt strands to run in the same direction.
- Determine belt spacing based on maximum surface area contact with the bottom surface of the conveyed product.

Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Nylon	550	250	-50 to 200	-46 to 93	1.46	2.18
HHR nylon	Nylon	550	250	-50 to 310	-46 to 154	1.296	1.95

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway[c]
5	127	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	2	3	2
12	305	3	3	2
14	356	3	4	3
16	406	3	4	3
18	457	3	4	3
20	508	5	5	3
24	610	5	5	3
30	762	5	6	4
32	813	7	7	4
36	914	7	7	4
42	1067	7	8	5
48	1219	9	9	5
54	1372	9	10	6
60	1524	11	11	6
72	1829	12	13	7
84	2134	15	15	8
96	2438	17	17	9
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing. [de]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

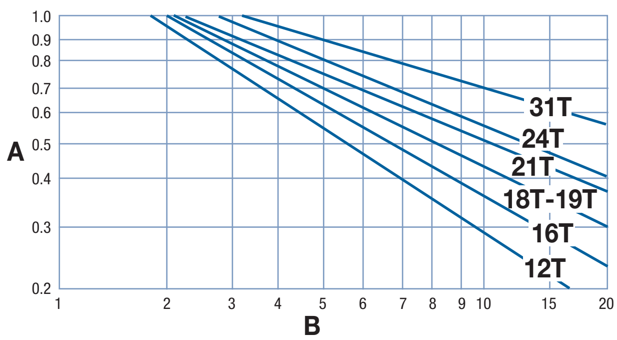
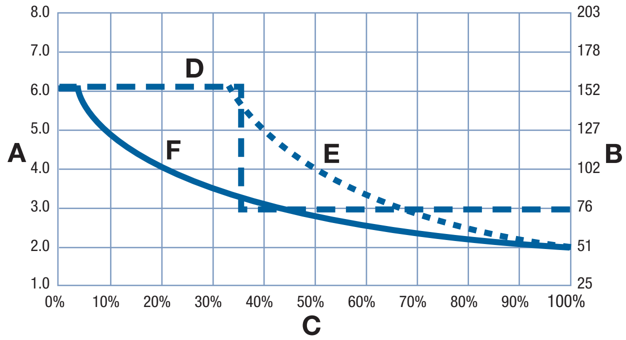
[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

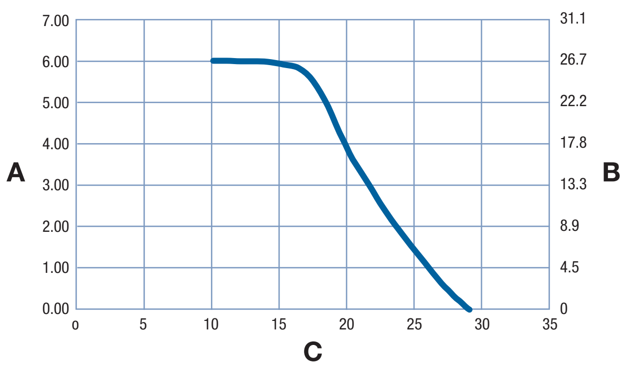
[c] For Friction Top applications, use caution and contact Intralox Customer Service.

[d] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

[e] For Flush Grid, see the locked sprocket location table in the Installation Instructions or contact Intralox Customer Service.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized
	
A strength factor **B** speed/length ratio (V/L) **T** number of teeth **V** belt speed, ft/min (m/min) **L** shaft centerline distance, ft (m) To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.	**A** sprocket spacing, in **B** sprocket spacing, mm **C** percentage of allowable belt strength utilized **D** long dashed line: Flush Grid **E** short dashed line: round bores **F** solid line: all other styles

MAGNET FORCE VS. METAL THICKNESS



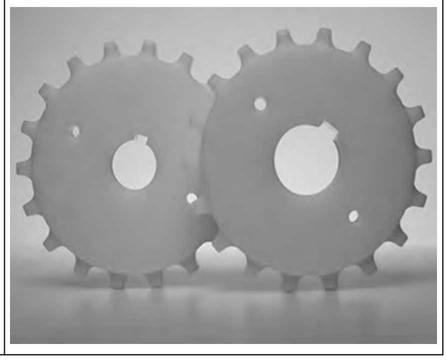
A magnet force (lbf)
B magnet force (N)
C metal thickness (steel gauge)

Figure 60: S1400 ProTrax with Tabs magnet force vs. metal thickness

NOTE: The magnet force shown is typical for an aluminized steel product with a flat surface and maximum surface area contact. Results can vary, based on material and surface texture.

Machined Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in	Available Bore Sizes Square in	Available Bore Sizes Round mm	Available Bore Sizes Square mm
18 (1.52%)	5.7	145	5.8	148	1.5	38			30, 40	



Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in	Available Bore Sizes Square in	Available Bore Sizes Round mm	Available Bore Sizes Square mm
12 (3.41%)	3.9	99	3.9	99	1.5	38		1.5		40
15 (2.19%)	4.9	124	4.9	124	1.5	38		2.5		60
18 (1.52%)	5.7	145	5.8	148	1.5	38	2	2.5	50	60
24 (0.86%)	7.7	196	7.8	198	1.5	38		2.5		60

Glass-Filled Nylon Split Sprocket

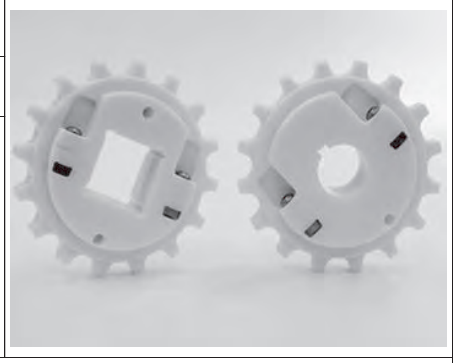
Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in[a]	Available Bore Sizes Square in	Available Bore Sizes Round mm[b]	Available Bore Sizes Square mm
16 (1.92%)	5.1	130	5.2	132	2.0	51	1 to 2[c]	1.5	25 to 50[d]	40
18 (1.52%)	5.7	145	5.8	148	2.0	51	1 to 2[c]	1.5, 2.5	25 to 50[d]	40, 60
21 (1.12%)	6.7	170	6.8	172	2.0	51	1 to 2[b, c]	1.5, 2.5	25 to 50[d]	40, 60

[a] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[b] Tight fit round bores are available in 1-1/4, 1-3/16, 1-1/2, and 1-7/16 in.
[c] Available in 1/16 in increments
[d] Available in 5 in increments

Maximum Belt Rating for Glass-Filled Nylon Round Bore Split Sprockets Based on Round Bore Size Range[a]															
Number of Teeth	Nom. Pitch Diameter		1 in to 1-3/16 in		1-1/4 in to 1-3/8 in		1-7/16 in to 1-3/4 in		1-13/16 in to 2 in		25 mm to 35 mm		40 mm to 50 mm	
	in	mm	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m
16	5.1	130	1500	2232	1740	2589	2100	3125	2160	3214	1140	1697	2160	3214
18	5.7	145	1800	2679	2040	3036	2400	3572	3240	4822	1440	2143	2460	3661
21	6.7	170	1350	2009	1650	2455	2100	3125	3000	4464	1050	1563	2400	3572

[a] The belt rating based on round bore sprocket size is used to determine sprocket spacing as a function of belt strength utilized. It can also be used for all other calculations. However, if the rating for the belt material and belt style is lower then the belt rating based on the round bore sprocket size, then the lower rating must be used for all calculations other than sprocket spacing.

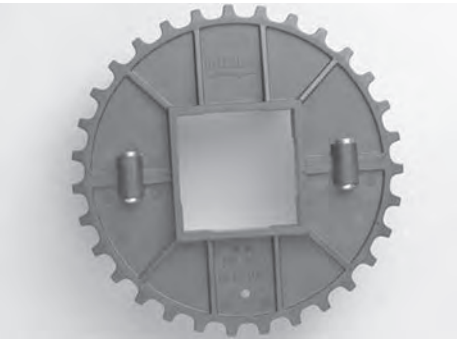
Nylon FDA Split Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
12 (3.41%)	3.9	99	3.9	99	0.75	19	1.25	1.5		40
16 (1.92%)	5.1	130	5.2	132	1.5	38	1.25, 1.5	1.5	30	40
18 (1.52%)	5.7	145	5.8	148	1.5	38	1.25	1.5	25, 30, 40	40



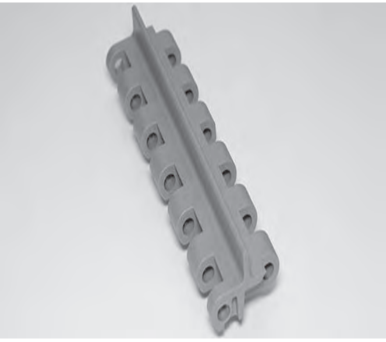
[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Enduralox Polypropylene Composite Split Sprocket										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
16 (1.92%)	5.1	130	5.2	132	2.0	51		1.5		40
18 (1.52%)	5.7	145	5.8	148	2.0	51		1.5, 2.5		40, 60
21 (1.12%)	6.7	170	6.8	172	2.0	51		1.5, 2.5		40
31 (0.51%)	9.9	251	10.1	257	2.0	51		3.5		

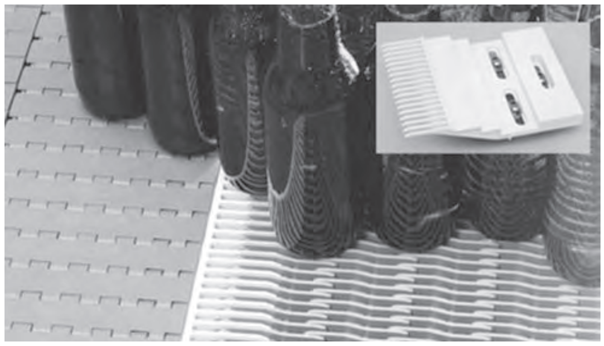
[a] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Polyurethane Composite Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
31 (0.51%)	9.9	251	10.1	257	1.50, 1.67	38, 44		3.5, 2.5[a]			

[a] The 2.5 in square bore is created by using a bore adapter in the 3.5 in square bore sprocket.

Flat Top Base Flights (Streamline)			
Available Flight Height		Available Materials	
in	mm		
0.43	11	Easy Release traceable polypropylene	

- Streamline flights are smooth on both sides.
- Each flight rises out of the center of a supporting module, molded as one part. No fasteners are required.
- The minimum indent is a function of belt width. Contact Intralox Customer Service for valid indent increments.

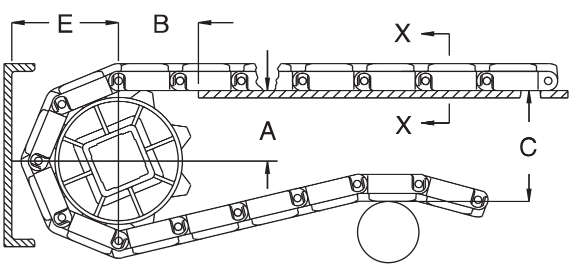
Self-Clearing Finger Transfer Plates[a]				
Available Width		No. of Fingers	Available Materials	
in	mm			
6	152	18	Glass-filled thermoplastic	

- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs for belt support in heavy side-loading conditions.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with belt expansion and contraction.
- Stainless steel hardware is sold separately.

[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



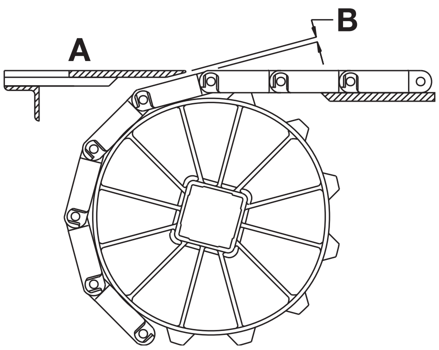
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 61: Basic dimensional requirements

S1400 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Embedded Diamond Top, Flat Top, Flush Grid										
3.9	99	12	1.62-1.68	41-43	1.80	46	3.86	98	2.24	57
4.9	124	15	2.10-2.15	53-55	2.06	52	4.81	122	2.72	69
5.1	130	16	2.26-2.32	57-59	2.11	54	5.13	130	2.88	73
5.7	145	18	2.59-2.63	66-67	2.22	56	5.76	146	3.19	81
6.7	170	21	3.07-3.10	78-79	2.44	62	6.71	170	3.75	95
7.7	196	24	3.55-3.58	90-91	2.64	67	7.66	195	4.14	105
9.9	251	31	4.67	119	3.07	78	9.88	251	5.25	133
Flat Friction Top, Oval Friction Top, Square Friction Top										
3.9	99	12	1.62-1.68	41-43	1.80	46	4.06	103	2.44	62
4.9	124	15	2.10-2.15	53-55	2.06	52	5.01	127	2.92	74
5.1	130	16	2.26-2.31	57-59	2.11	54	5.33	135	3.08	78
5.7	147	18	2.59-2.63	66-67	2.22	56	5.96	151	3.39	86
6.7	170	21	3.07-3.10	78-79	2.44	62	6.91	176	3.87	98
7.7	196	24	3.55-3.58	90-91	2.64	67	7.86	200	4.34	110
9.9	251	31	4.67	119	3.07	78	10.08	256	5.45	138
Roller Top										
3.9	99	12	1.62-1.68	41-43	1.80	46	4.66	118	3.04	77
4.9	124	15	2.10-2.15	53-55	2.06	52	5.61	142	3.52	89
5.1	130	16	2.26-2.31	57-59	2.11	54	5.93	151	3.68	93
5.7	145	18	2.59-2.63	66-67	2.22	56	6.56	167	3.99	101
6.7	170	21	3.07-3.10	78-79	2.44	62	7.51	191	4.47	113
7.7	196	24	3.55-3.58	90-91	2.64	67	8.46	215	4.94	125
9.9	251	31	4.67	119	3.07	78	10.68	271	6.05	154
Non Skid, ProTrax										
3.9	99	12	1.62-1.68	41-43	1.80	46	3.91	99	2.29	58
4.9	124	15	2.05-2.10	52-53	2.06	52	4.86	123	2.77	70
5.1	130	16	2.26-2.31	57-59	2.11	54	5.18	132	2.93	74
5.7	145	18	2.59-2.63	66-67	2.22	56	5.81	148	3.24	82
6.7	170	21	3.07-3.10	78-79	2.44	62	6.76	172	3.72	94
7.7	196	24	3.55-3.58	90-91	2.64	67	7.71	196	4.19	106
9.9	251	31	4.67	119	3.07	78	9.93	252	5.30	135

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 62: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter				
in	mm	Number of Teeth	in	mm
3.9	99	12	0.066	1.7
4.9	124	15	0.053	1.3
5.1	130	16	0.050	1.3
5.7	145	18	0.044	1.1
6.7	170	21	0.038	1.0
7.7	196	24	0.033	0.8
9.9	251	31	0.025	0.6

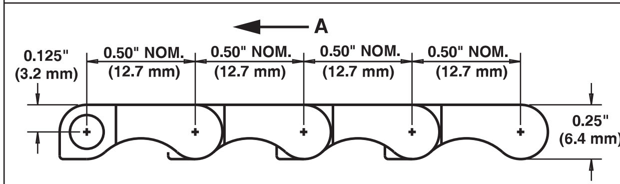
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Flush Grid

	in	mm
Pitch	0.50	12.7
Minimum Width	8	203
Width Increments	0.50	12.7
Opening Sizes (approximate)	0.87 × 0.30	22.1 × 7.6
	0.66 × 0.30	16.8 × 7.6
Open Area	48%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- The detectable material has surface resistivity per ASTM_D257 of 545 Ohms per square.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Rod diameter: 0.140 in (3.6 mm).
- Designed for a 0.5 in (12.7 mm) diameter nosebar.



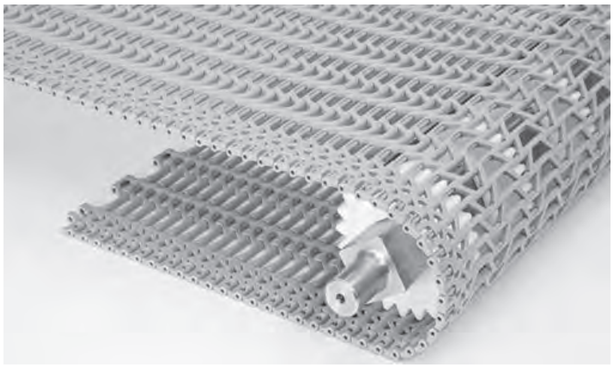
A preferred run direction

Belt Data							
Belt Material	Standard Rod Material, Diameter 0.14 in (3.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	125	186	34 to 220	1 to 104	0.44	2.12
Polypropylene	Acetal	150	223	34 to 200	1 to 93	0.51	2.40
HR nylon	Nylon	175	260	-50 to 240	-46 to 116	0.58	2.83
HHR nylon	HHR nylon	175	260	-50 to 310	-46 to 154	0.58	2.83
Acetal	Acetal	240	357	-50 to 200	-46 to 93	0.73	3.56
Detectable acetal	Acetal	200	298	-50 to 200	-46 to 93	0.69	3.35
Detectable polypropylene A22	Acetal	80	119	0 to 150	-18 to 66	0.57	2.78
X-ray detectable acetal[a]	Acetal	240	357	-50 to 200	-46 to 93	0.78	3.66

[a] Designed specifically for detection by X-ray machines.

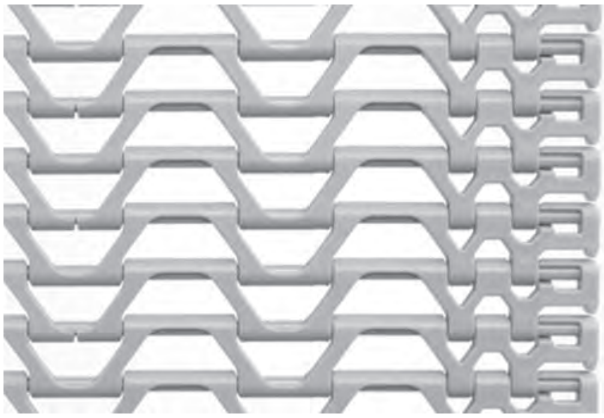
Flush Grid with Contained Edge

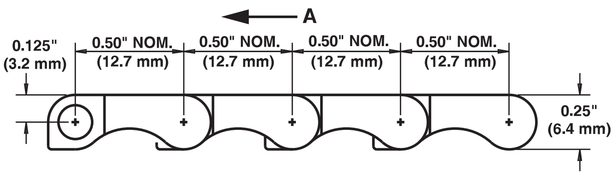
	in	mm
Pitch	0.50	12.7
Minimum Width	8	203
Width Increments	2.0	50.8
Minimum Opening Size (approximate)	0.87 × 0.30	22.1 × 7.6
Maximum Opening Size (approximate)	0.66 × 0.30	16.8 × 7.6
Open Area	48%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Recessed rod retention feature provides superior rod containment.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Available in 2 in (50.8 mm) increments.
- Designed for a 0.5 in (12.7 mm) diameter nosebar.
- Rod diameter: 0.140 in (3.6 mm).





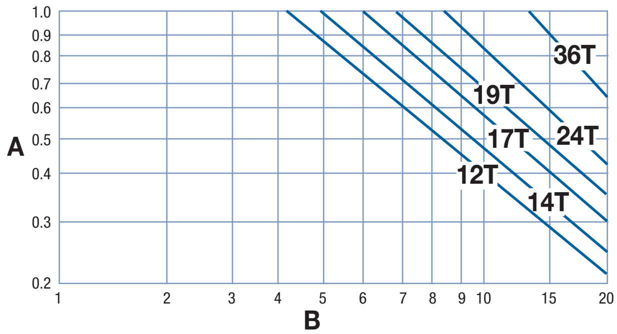
A preferred run direction

Belt Data							
	Standard Rod Material, Diameter 0.14 in (3.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
Belt Material		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
HR nylon	Nylon	175	260	-50 to 240	-46 to 116	0.58	2.83

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
8	203	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	3	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
22	559	5	5	3
24	610	7	5	3
26	660	7	6	4
28	711	7	6	4
30	762	7	6	4
32	813	9	7	4
34	864	9	7	4
36	914	9	7	4
38	965	9	8	5
40	1016	11	8	5
42	1067	11	8	5
44	1118	11	9	5
46	1168	11	9	5
48	1219	13	9	5
50	1270	13	10	6
52	1321	13	10	6
54	1372	13	10	6
56	1422	15	11	6
58	1473	15	11	6
60	1524	15	11	6
62	1575	15	12	7
64	1626	17	12	7
For other widths, use an odd number of sprockets at Maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

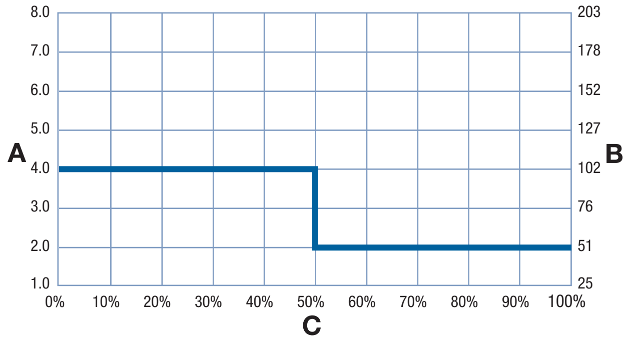
[a] Belts are available in 0.50 in (12.7 mm) increments beginning with 8 in (203 mm). If the actual width is critical, contact Intralox Customer Service.
[b] This number is a minimum. Heavy-load applications can require additional sprockets.
[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

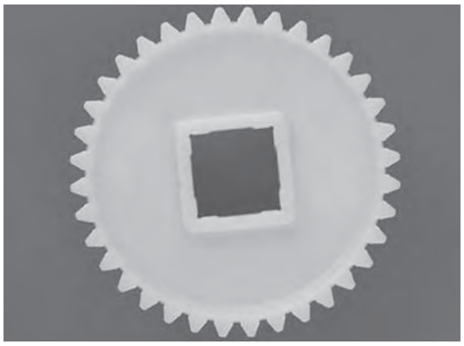
To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Molded Sprocket

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
10 (4.89%)	1.6	41	1.8	46	0.65	17		5/8		
12 (3.41%)	1.9	48	2.1	53	0.65	17	1	1.0	25	
14 (2.51%)	2.3	58	2.4	61	0.75	19	3/4, 1, 1-3/16, 1-1/4	1.0	25	
17 (1.70%)	2.7	69	2.9	73	0.75	19	3/4, 1, 1-3/16, 1-1/4, 1-3/8		25	
19 (1.36%)	3.1	79	3.2	82	0.75	19	1, 1-3/8			
24 (0.86%)	3.8	97	4.0	101	0.75	19	1	1.5	25	40
36 (0.38%)	5.7	145	5.9	150	0.75	19	1	1.5, 2		40



[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Nylon FDA Split Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
24 (0.86%)	3.8	97	4.0	101	1.5	38				40
36 (0.38%)	5.7	145	5.9	150	1.5	38				40

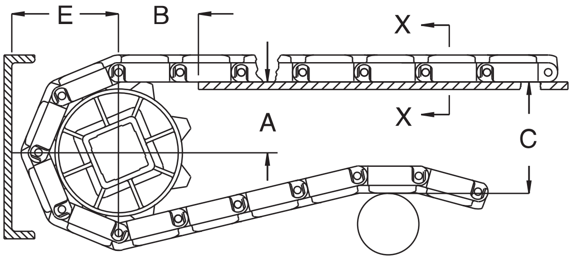
[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Flush Grid Base Flights (Streamline)		
Available Flight Height		Available Materials
in	mm	
1	25	Acetal, HR nylon

- Streamline flights are smooth on both sides.
- Each flight rises out of the center of a supporting module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent is a function of belt width. Minimum indent range: 3 in (76 mm) to 3.75 in (95 mm).

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



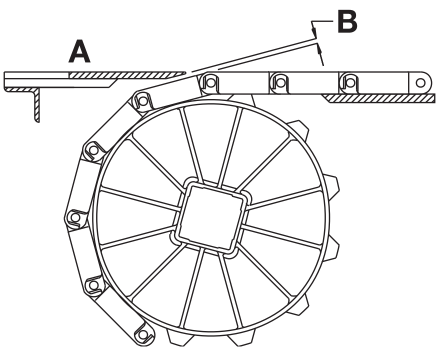
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 63: Basic dimensional requirements

S1500 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
Flush Grid, Flush Grid with Contained Edge											
1.6	41	10	0.64-0.68	16-17	1.13	29	1.62	41	1.00	25	
1.9	48	12	0.81-0.84	21	1.24	31	1.93	49	1.15	29	
2.3	58	14	0.97-1.00	25	1.34	34	2.25	57	1.31	33	
2.7	69	17	1.21-1.24	31	1.49	38	2.72	69	1.55	39	
3.1	79	19	1.37-1.39	35	1.59	40	3.04	77	1.71	43	
3.8	97	24	1.77-1.79	45	1.76	45	3.83	97	2.10	53	
5.7	145	36	2.73-2.74	69-70	2.71	55	5.74	146	3.06	78	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 64: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
1.6	41	10	0.040	1.0
1.9	48	12	0.033	0.8
2.3	58	14	0.028	0.7
2.7	69	17	0.023	0.6
3.1	79	19	0.021	0.5
3.8	97	24	0.017	0.4
5.7	145	36	0.011	0.3

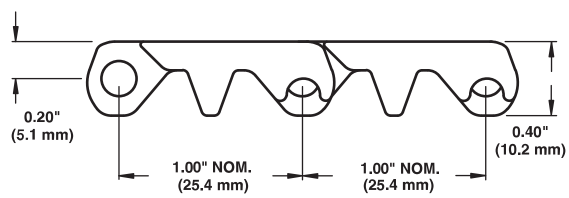
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Open Hinge Flat Top

	in	mm
Pitch (nominal)	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Opening Size (approximate)	—	—
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radius corners.
- No pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- No-Cling flights are available.
- Standard flight height: 4 in (102 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.



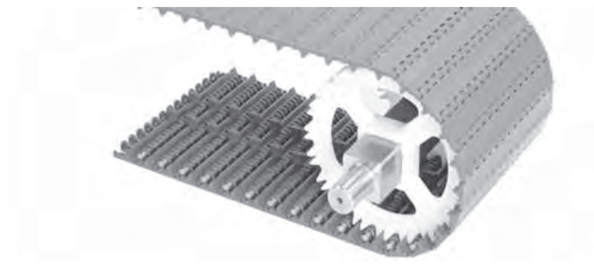
Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.05	5.13
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	1.10	5.37
Acetal	Polypropylene	1400	2100	34 to 200	1 to 93	1.58	7.71
Acetal	Polyethylene[a]	1000	1488	-50 to 150	-46 to 66	1.58	7.71
Hi-Temp	Hi-Temp	1000	1488	70 to 400	21 to 204	1.54	7.52
X-ray detectable acetal[b]	Blue polyethylene	1000	1488	-50 to 150	-46 to 66	1.92	9.35
PK	PK	1000	1488	-40 to 200	-40 to 93	1.39	6.79

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.
[b] Designed specifically for detection by X-ray machines.

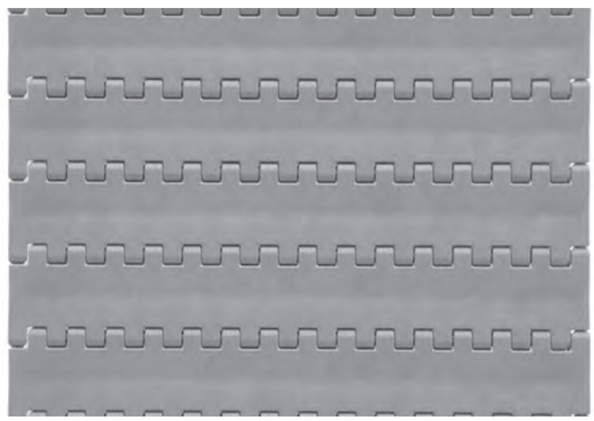
Mold to Width Open Hinge Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	7.5	190.5
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Tracking tabs provide lateral tracking.
- Uses recessed rods.
- Available in 10 ft (3 m) increments.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Do not use with sprockets smaller than a 3.9 in (99 mm) diameter (12 tooth) sprocket.



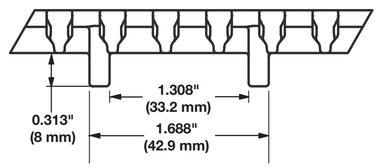


Figure 65: Front view

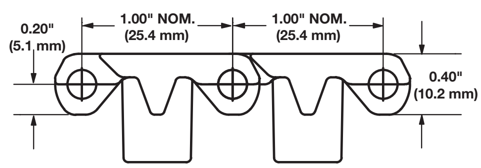


Figure 66: Side view

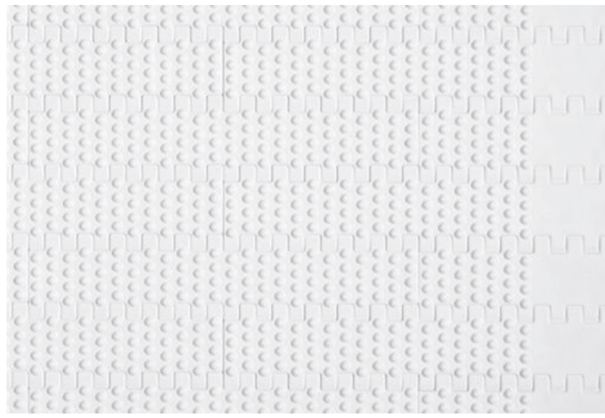
Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Polyethylene	625	283	-50 to 150	-46 to 66	1.02	1.52

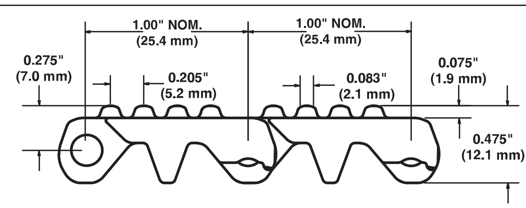
Nub Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Open Area	0%	
Product Contact Area	10%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Not recommended for product accumulation conditions. Contact Intralox Customer Service for information about friction values between product and belt.
- Standard flights available in polypropylene, polyethylene, and acetal. Flights are molded as part of the belt, and can be cut to any size.
- Recommended for products large enough to span the distance between the nubs [0.250 in (6.35 mm)].
- Standard nub indent: 1.3 in (33.0 mm).
- Flight height: 4 in (102 mm).





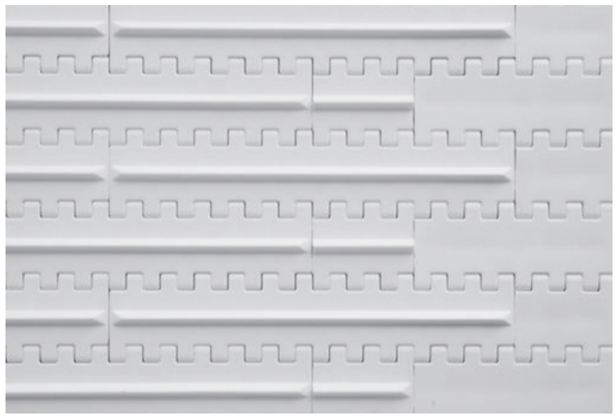
Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.13	5.52
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	1.18	5.76
Acetal	Polypropylene	1400	2100	34 to 200	1 to 93	1.74	8.49
Acetal	Polyethylene[a]	1000	1490	-50 to 150	-46 to 66	1.74	8.49
X-ray detectable acetal	X-ray detectable acetal	1400	2083	-50 to 200	-46 to 93	2.01	9.81

[a] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

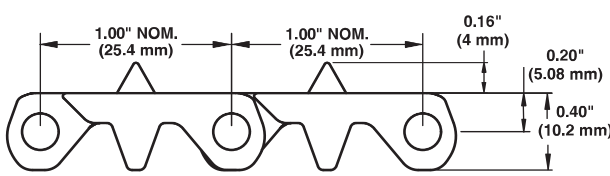
Mini Rib

	in	mm
Pitch (nominal)	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Opening Size (approximate)	—	—
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- 0.16 in (4 mm) Mini Rib on surface accommodates gradual inclines and declines. Not recommended for product accumulation applications.
- No-Cling flights are available.
- Standard flight height: 4 in (102 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum nominal alternating edge indents: 1.5 in (38 mm) and 2 in (51 mm).

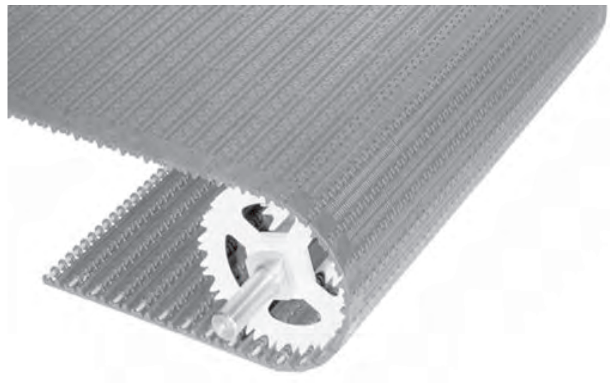


Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		Lb/ft	Kg/m	°F	°C	Lb/ft²	Kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.135	5.54
Acetal	Polypropylene	1400	2100	34 to 200	1 to 93	1.705	8.32

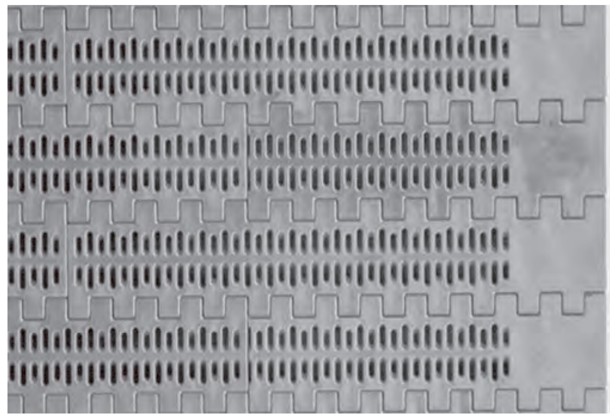
Mesh Top

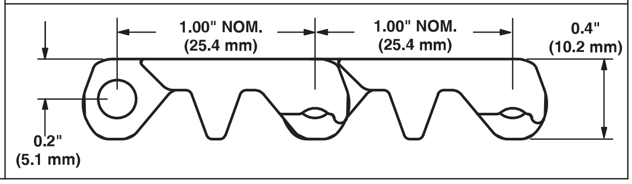
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Minimum Opening Size (approximate)	0.06 x 0.12	1.5 x 3.0
Maximum Opening Size (approximate)	0.06 x 0.20	1.5 x 5.1
Open Area	16%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Standard mesh top indent: 1.0 in (25.4 mm).
- No-Cling flights are available.
- Custom flight heights are available. Contact Intralox Customer Service for more information.

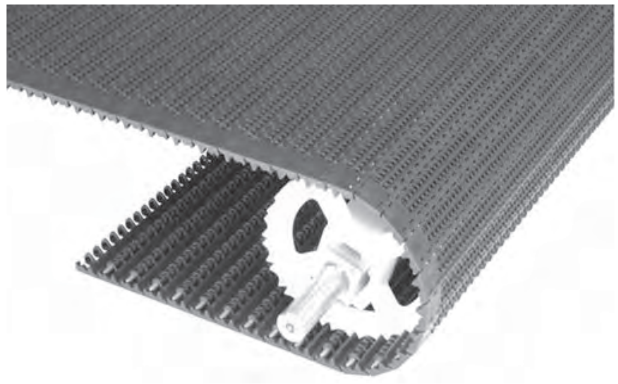




Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1200	1780	34 to 200	1 to 93	1.40	6.84
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.94	4.59
LMAR	HR nylon	1100	1637	0 to 240	-18 to 116	1.18	5.76

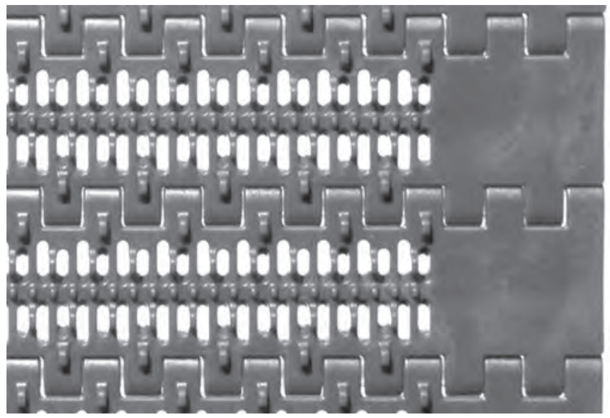
Mesh Nub Top

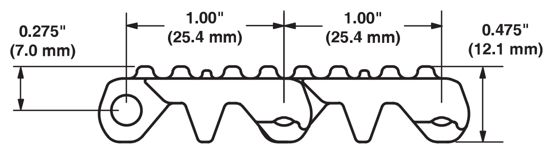
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Minimum Opening Size (approximate)	0.06 x 0.12	1.5 x 3.0
Maximum Opening Size (approximate)	0.06 x 0.20	1.5 x 5.1
Open Area	16%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- The drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Standard Mesh Nub Top indent: 1.0 in (25.4 mm).
- No Cling flights are available.
- Standard flight height: 4 in (102 mm).
- Custom flight heights are available. Contact Intralox Customer Service for more information.



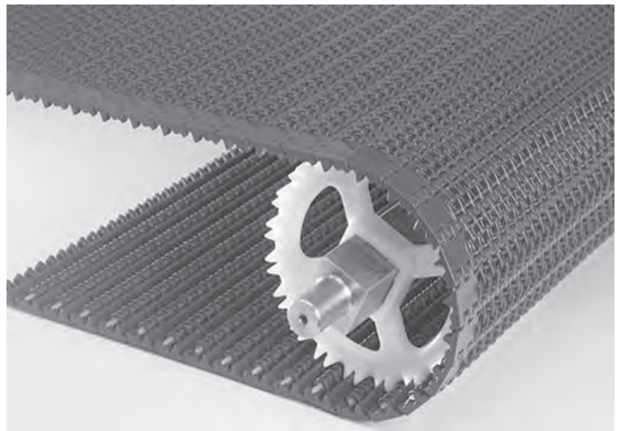


Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		Lb/ft	Kg/m	°F	°C	Lb/ft²	Kg/m²
Acetal	Polypropylene	1200	1780	34 to 200	1 to 93	1.45	7.08
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.98	4.81

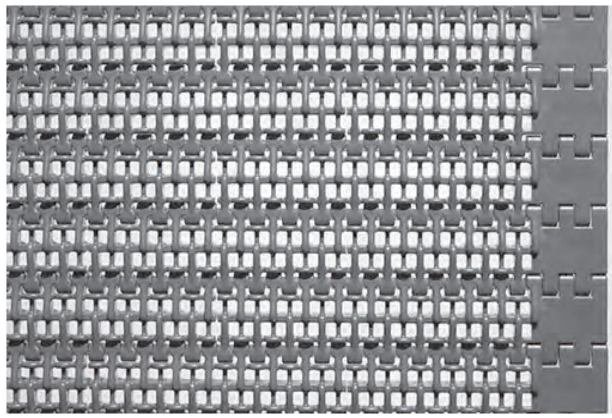
Raised Open Grid

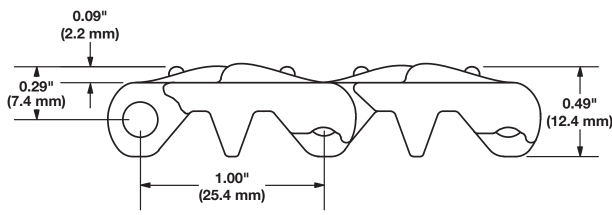
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.20 x 0.16	5.1 x 4.1
Open Area	28%	
Minimum Open Area	n/a	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Open area is designed to limit water film formation and maximize water drainage.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Like S800 and S1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Standard indent: 1 in (25.4 mm).



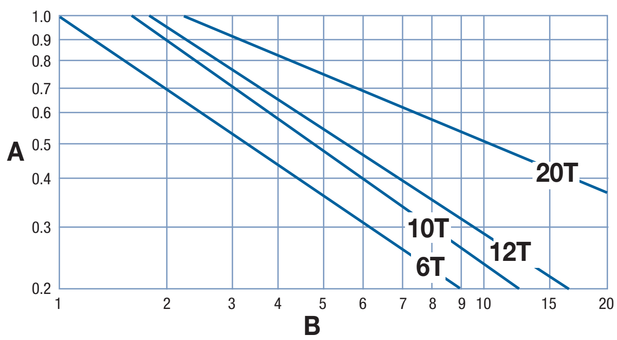


Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		Lb/ft	Kg/m	°F	°C	Lb/ft²	Kg/m²
Acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.32	6.44
Polypropylene	Polypropylene	400	595	34 to 220	1 to 104	0.89	4.35
Polyethylene	Polyethylene	200	298	-50 to 150	-46 to 66	0.92	4.49

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
5	127	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	3	3	2
9	229	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1067	11	8	5
48	1219	13	9	5
54	1372	15	10	6
60	1524	15	11	6
72	1829	19	13	7
84	2134	21	15	8
96	2438	25	17	9
120	3048	31	21	11
144	3658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing.	Maximum 12 in (305 mm) centerline spacing

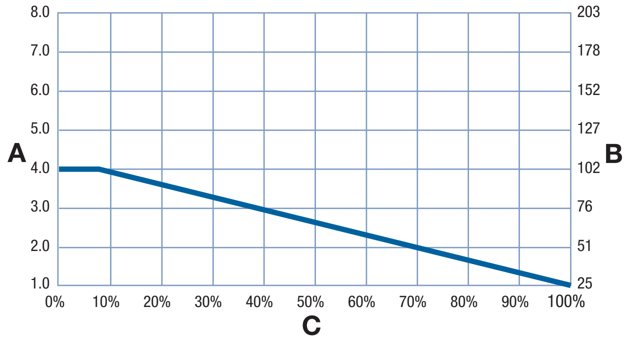
[a] Belts are available in 0.50 in (12.7 mm) increments beginning with 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.
[b] This number is a minimum. Heavy-load applications can require additional sprockets.
[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

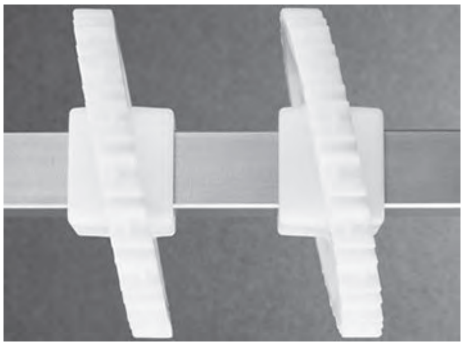
EZ Clean™ Sprocket[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in[b]	Available Bore Sizes Square in	Available Bore Sizes Round mm[b]	Available Bore Sizes Square mm
6 (13.40%)	2.0	51	1.8	46	1.0	25	1.0		25	
10 (4.89%)	3.2	81	3.2	81	1.0	25	1.0	1.5	25	40
12 (3.41%)	3.9	99	3.8	97	1.0	25		1.5		40
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5		40

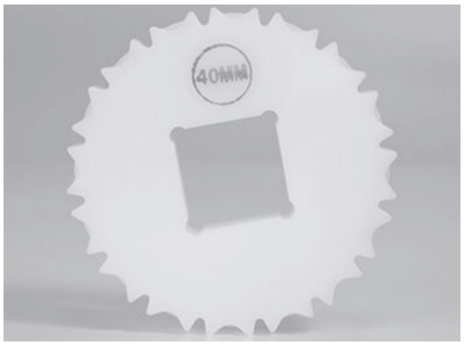
[a] When using polyurethane sprockets, the belt strength for belts rated over 500 lb/ft (744 kg/m) is de-rated to 500 lb/ft (744 kg/m) All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

[b] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Angled EZ Clean™ Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
12 (3.41%)	3.9	99	3.8	97	2.0	50.8		1.5		40
16 (1.92%)	5.2	132	5.1	130	2.0	50.8		1.5		40
20 (1.23%)	6.4	163	6.4	163	2.0	50.8		1.5		40

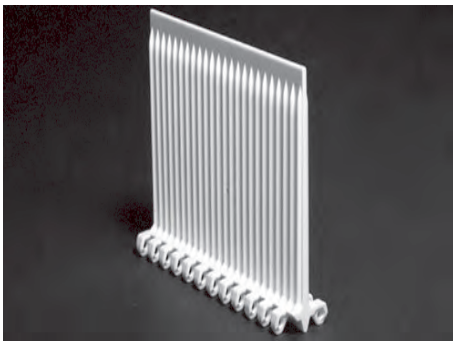


UHMW Polyethylene Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
16 (1.92%)	5.3	135	5.1	130	1.0	25				40



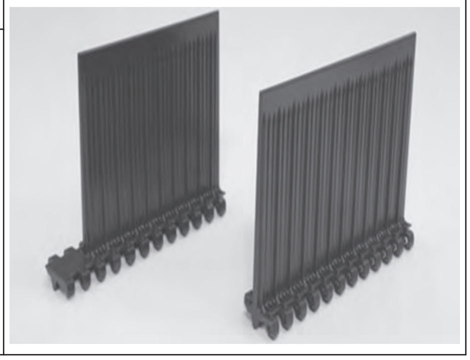
Open Hinge Flat Top Base Flight (No-Cling)		
Available Flight Height		Available Materials
in	mm	
4.0	102	Acetal, polyethylene, polypropylene, X-ray detectable acetal

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Minimum indent: 1.0 in (25.4 mm)
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).



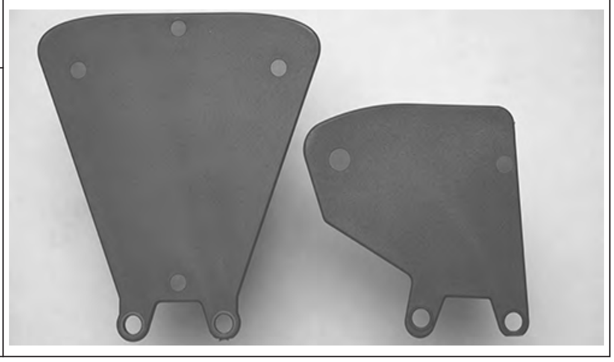
Mesh Nub Top Base Flights (No-Cling)		
Available Flight Height		
in	mm	Available Materials
4.0	102	Acetal, polyethylene

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent: 1.0 in (25.4 mm).



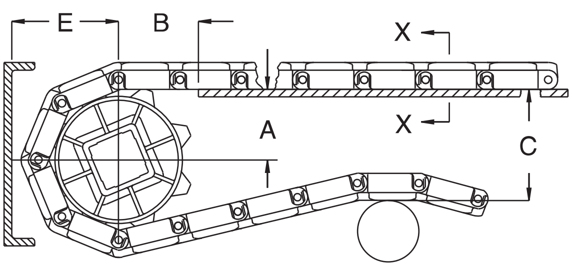
Sideguards		
Available Sizes		
in	mm	Available Materials
2	51	Polypropylene
3	76	

- Sideguards are installed with the back ends angled inward, toward the product. This is called a product-friendly orientation. On request, the back ends can be angled outward, toward the conveyor sides.
- When going around the 6- and 10-tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when going around the 12-, 16-, and 20-tooth sprockets.
- Standard gap between sideguards and flight edge: 0.3 in (7.6 mm).
- Minimum indent: 1.0 in (25 mm)



CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



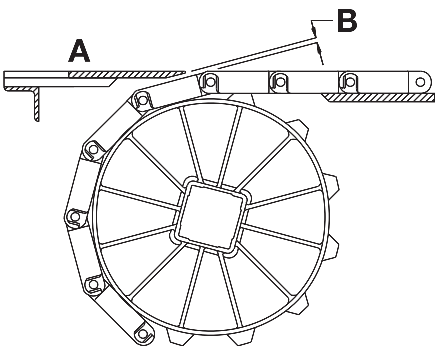
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 67: Basic dimensional requirements

S1600 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Mesh Top, Open Hinge Flat Top										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.00	51	1.26	32
3.2	81	10	1.34-1.42	34-36	1.56	40	3.24	82	1.88	48
3.9	99	12	1.67-1.73	42-44	1.70	43	3.86	98	2.19	56
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.39	162	3.46	88
Mesh Nub Top, Nub Top										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.08	53	1.34	34
3.2	81	10	1.34-1.42	34-36	1.56	40	3.31	84	1.96	50
3.9	99	12	1.67-1.73	42-44	1.70	43	3.94	100	2.27	58
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.47	164	3.53	90
Mini Rib										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.16	55	1.42	36
3.2	81	10	1.34-1.42	34-36	1.56	40	3.40	86	2.04	52
3.9	99	12	1.67-1.73	42-44	1.70	43	4.02	102	2.35	60
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.55	166	3.62	92

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 68: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
2.0	51	6	0.134	3.4
3.2	81	10	0.079	2.0
3.9	99	12	0.066	1.7
6.4	163	20	0.039	1.0

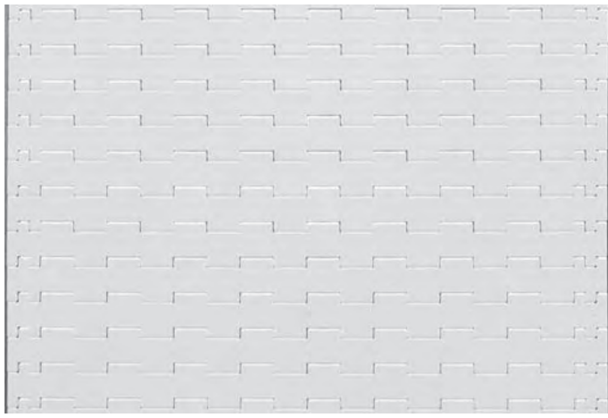
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

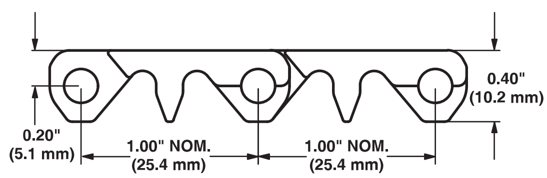
SeamFree™ Minimum Hinge Flat Top

	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Belts over 18 in (457 mm) are built with multiple modules per row, but seams are minimized.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- The drive bar on the underside of this belt combines with a patent-pending flume feature to channel water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for use with S1600 Angled EZ Clean sprockets. Also compatible with standard S1600 EZ Clean sprockets.





Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	350	520	-50 to 200	-46 to 93	1.47	7.18
Acetal	Polypropylene	325	480	34 to 200	1 to 93	1.40	6.84
Acetal	Polyethylene	225	330	-50 to 150	-46 to 66	1.40	6.83

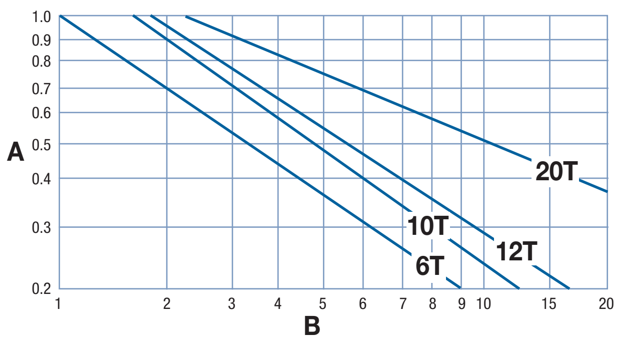
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
4	102	2	2	2
5	127	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	3	3	2
9	229	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1067	11	8	5
48	1219	13	9	5
54	1372	15	10	6
60	1524	15	11	6
72	1829	19	13	7
84	2134	21	15	8
96	2438	25	17	9
120	3048	31	21	11
144	3658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] Belts are available in 1.0 in (25.4 mm) increments beginning with 4 in (101.6 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

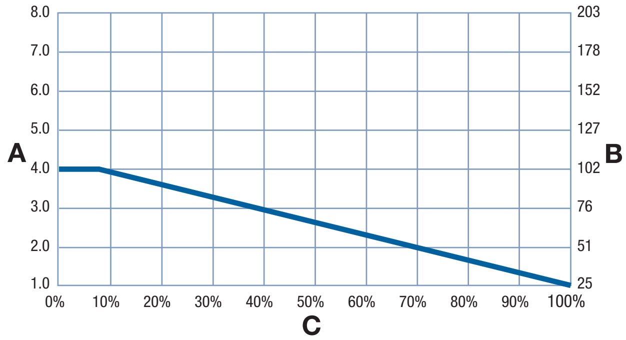
[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

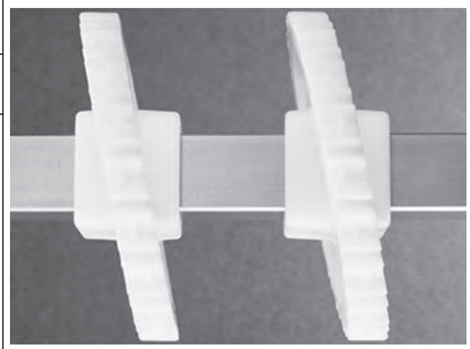
To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Angled EZ Clean™ Sprockets

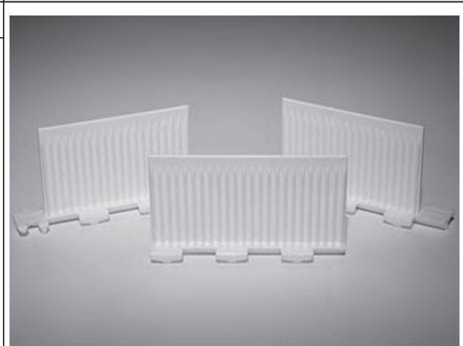
Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in	Available Bore Sizes Square in	Available Bore Sizes Round mm	Available Bore Sizes Square mm
12 (3.41%)	3.9	99	3.8	97	2.0	50.8		1.5		40
16 (1.92%)	5.2	132	5.1	130	2.0	50.8		1.5		40
20 (1.23%)	6.4	163	6.4	163	2.0	50.8		1.5		40



Minimum Hinge Flat Top Base Flights (Double No-Cling)

Available Flight Height in	Available Flight Height mm	Available Materials
3.0	76.2	Acetal

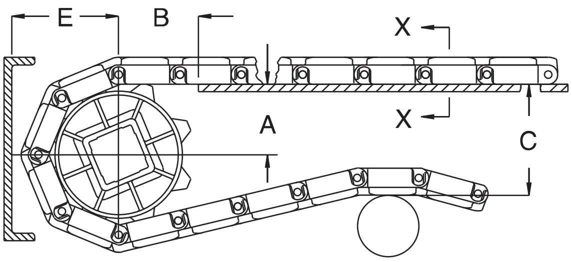
- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to a minimum height of 0.5 in (12.7 mm).
- Flights of even-inch widths come standard with 1 in (25.4 mm) indents. Flights of odd-inch widths are available for retrofits and require machined indents, which contain marks and evidence of modification.



SERIES 1650

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



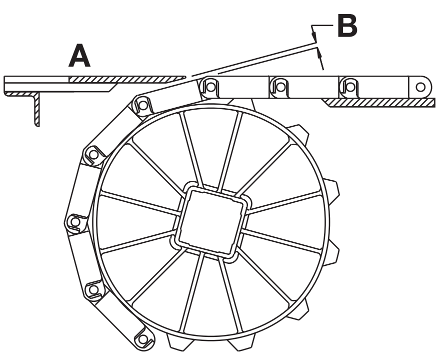
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 69: Basic dimensional requirements

S1650 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
SeamFree Minimum Hinge Flat Top										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.00	51	1.26	32
3.2	81	10	1.34-1.42	34-36	1.56	40	3.24	82	1.88	48
3.9	99	12	1.67-1.73	42-44	1.70	43	3.86	98	2.19	56
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.40	163	3.46	88

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 70: Gap at transfer point between belt and dead plate

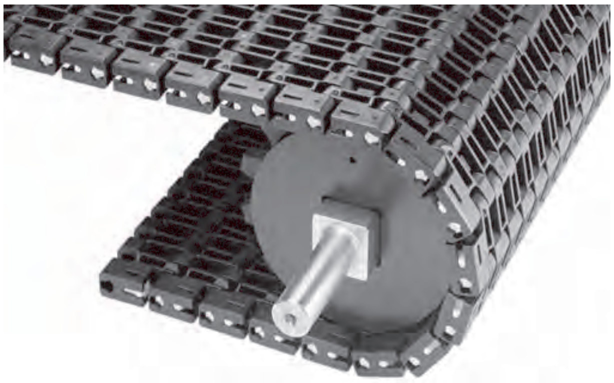
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
2.0	51	6	0.134	3.4
3.2	81	10	0.079	2.0
3.9	99	12	0.066	1.7
6.4	163	20	0.039	1.0

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

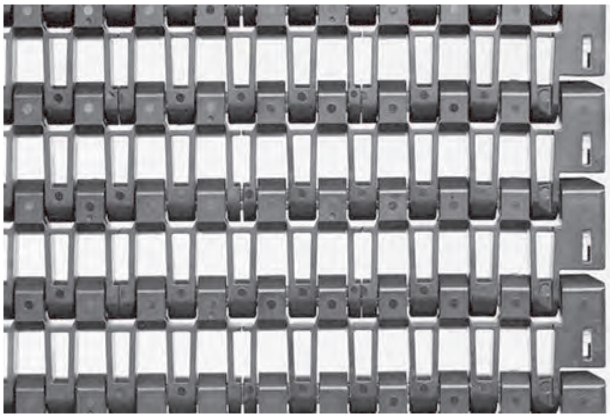
Flush Grid

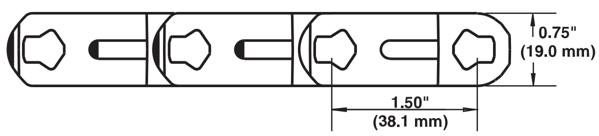
	in	mm
Pitch	1.50	38.1
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.62 × 0.50	15.7 × 12.7
	0.70 × 0.26	17.8 × 6.6
Open Area	37%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Slidelox are highly visible, orange acetal.
- Multi-rod hinge design significantly reduces cam shaft requirements. Every row contains two rectangular rods.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Ultra-abrasion-resistant polyurethane sprockets with large lug teeth.
- Abrasion resistant system lasts 2.5 to 3 times longer than conventional modular plastic belts.
- Provides excellent belt and sprocket durability, especially in tough material-handling applications.
- Conveyor requirements: Intralox recommends steel carryways with either a chevron pattern or a flat continuous carryway. Do not use straight, parallel wearstrips. Do not use on pusher conveyors.





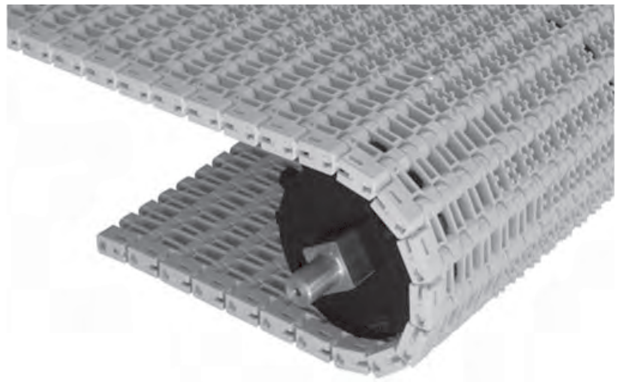
Belt Data							
Belt Material	Standard Rod Material 0.25 × 0.17 in (6.4 × 4.3 mm)	Belt Strength		Temperature Range (continuous)[a]		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
AR nylon	Nylon	1800	2678	-50 to 240	-46 to 116	2.21	10.78
Detectable nylon	Nylon	1500	2232	-50 to 180	-46 to 82	2.28	11.13
Low Wear Plus	Low Wear Plus	500	744	0 to 120	-18 to 49	2.56	12.50

[a] Sprocket temperatures must be limited to -40°F to 160°F (-40°C to 70°C). Belt used in temperature range of 212°F to 240°F (100°C to 116°C) are not FDA-compliant.

SERIES 1700

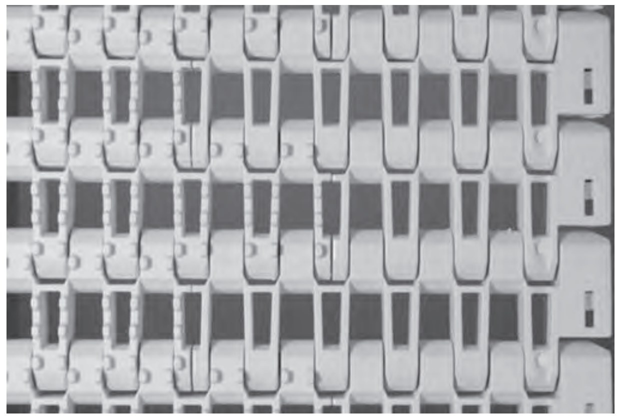
Flush Grid Nub Top

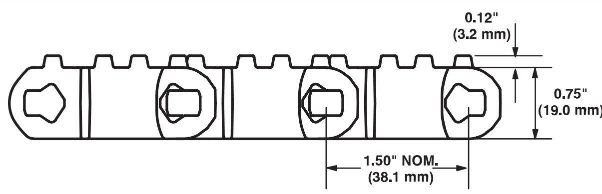
	in	mm
Pitch	1.50	38.1
Minimum Width	16	406.4
Width Increments	1.00	25.4
Opening Size (approximate)	0.70 × 0.26	18 × 7
Open Area	37%	
Product Contact Area	8%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Slidelox are highly visible, orange acetal.
- Multi-rod hinge design significantly reduces cam shaft requirements. Every row contains two rectangular rods.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Ultra-abrasion-resistant, polyurethane split sprockets with large lug teeth.
- Abrasion resistant system lasts 2.5 to 3 times longer than conventional modular plastic belts.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Conveyor requirements: Intralox recommends steel carryways with either a chevron pattern or a flat continuous carryway. Do not use straight, parallel wearstrips. Do not use on pusher conveyors.
- Minimum nominal alternating edge indents: 4 in (102 mm) and 6 in (152 mm).





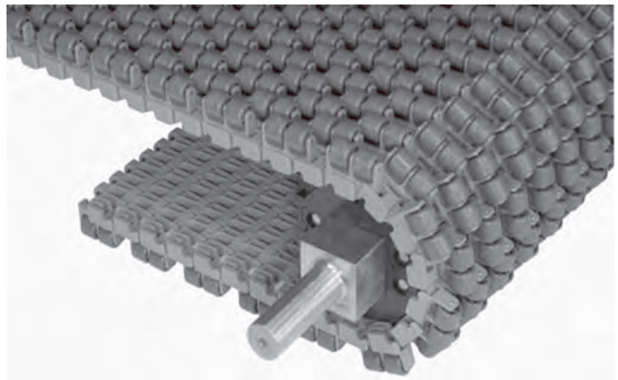
Belt Data

Belt Material	Standard Rod Material 0.25 × 0.17 in (6.4 × 4.3 mm)	Belt Strength		Temperature Range (continuous)[a]		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
AR nylon	Nylon	1800	2678	-50 to 240	-46 to 116	2.21	10.78
Easy Release Traceable PP	Nylon	1500	2230	34 to 220	1 to 104	1.84	8.98
Low Wear Plus	Low Wear Plus	500	744	0 to 120	-18 to 49	2.58	12.60

[a] Sprocket temperatures must be limited to -40°F to 160°F (-40°C to 70°C). Belt used in temperature range of -212°F to 240°F (100°C to 116°C) are not FDA-compliant.

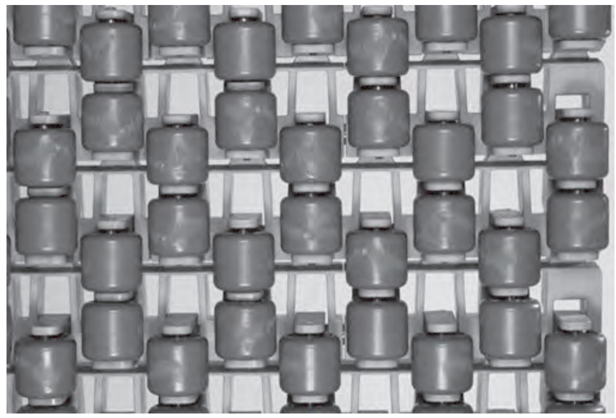
Transverse Roller Top™ (TRT™)

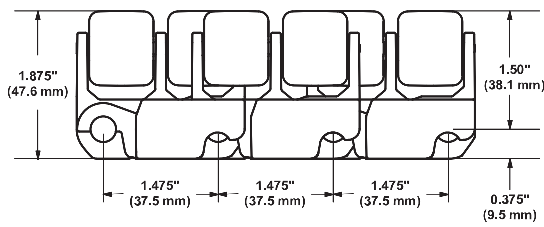
	in	mm
Pitch	1.475	37.5
Minimum Width	12	304.8
Width Increments (See *Product Notes*.)	2.00	50.8
Minimum Opening Size (approximate)	0.62 x 0.50	16 x 13
Maximum Opening Size (approximate)	0.70 x 0.26	18 x 7
Open Area	26%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Roller axles are stainless steel for durability and long-lasting performance.
- Must be assembled in two-row increments.
- Available in width increments of 2 in (50.8 mm) except 14 in (356 mm) belts are not available.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Ultra-abrasion-resistant, polyurethane split sprockets with large lug teeth.
- Split sprockets are available.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Roller diameter: 0.95 in (24.1 mm).
- Roller length: 0.825 in (21 mm).
- Roller spacing: 1.0 in (25.4 mm).
- Minimum return roller diameter: 6.0 in (152.4 mm).





Belt Data							
Belt Material	Standard Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	4.70	22.96

Sprocket and Support Quantity Reference Flush Grid and Flush Grid Nub Top				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
5	127	2	Place wearstrips in a chevron pattern or use a flat continuous carryway. Do not use straight, parallel wearstrips.	Place wearstrips in a chevron pattern or use a flat continuous returnway. Do not use straight, parallel wearstrips.
6	152	2		
7	178	3		
8	203	3		
9	229	3		
10	254	3		
12	305	3		
14	356	3		
15	381	3		
16	406	5		
18	457	5		
20	508	5		
24	610	5		
30	762	7		
32	813	9		
36	914	11		
42	1067	13		
48	1219	15		
54	1372	17		
60	1524	19		
72	1829	23		
84	2134	27		
96	2438	31		
120	3048	39		
144	3658	47		
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

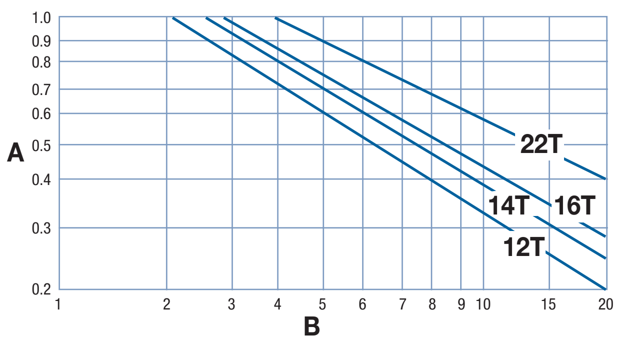
[a] Belts are available in 1.00 in (25.4 mm) increments, beginning at 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.
[b] This number is a minimum. Heavy-load applications can require additional sprockets.
[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

Sprocket and Support Quantity Reference for Transverse Roller Top				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
5	127	2	2	2
6	152	2	2	2
7	178	3	2	2
8	203	3	2	2
9	229	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	5	3	3
18	457	5	3	3
20	508	5	4	3

Sprocket and Support Quantity Reference for Transverse Roller Top				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
24	610	5	4	3
30	762	7	5	4
32	813	7	5	4
36	914	9	5	4
42	1067	9	6	5
48	1219	11	7	5
54	1372	11	7	6
60	1524	13	8	6
72	1829	15	9	7
84	2134	17	11	8
96	2438	21	12	9
120	3048	25	15	11
144	3658	29	17	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] Belts are available in 1.00 in (25.4 mm) increments beginning with 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.
[b] This number is a minimum. Heavy-load applications can require additional sprockets.
[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

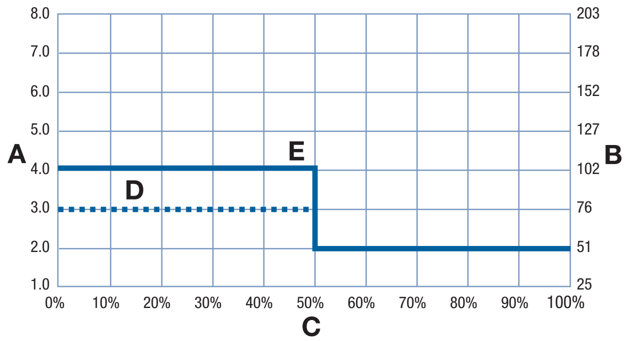
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized

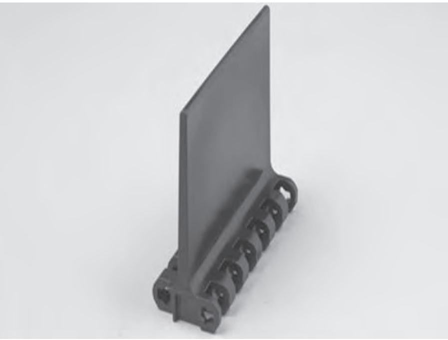


A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D dashed line: Transverse Roller Top
E solid line: Flush Grid and Flush Grid Nub Top

SERIES 1700

Ultra Abrasion Resistant Polyurethane Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
12 (3.41%)	5.8	147	5.85	149	1.5	38		1.5		40	
14 (2.51%)	6.7	170	6.80	173	1.5	38		1.5		40	
16 (1.92%)	7.7	196	7.74	197	1.5	38		1.5, 2.5		40, 60	
22 (1.02%)	10.5	267	10.59	269	1.5	38		2.5			

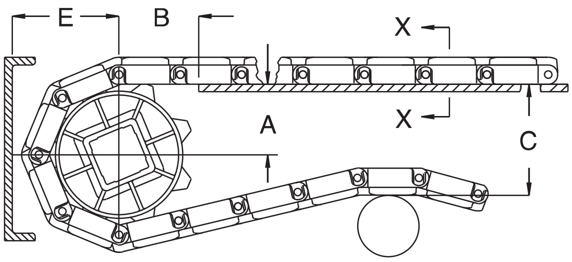
Ultra Abrasion Resistant Polyurethane Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
14 (2.51%)	6.7	170	6.80	173	1.5	38		1.5, 2.5		40, 60	
16 (1.92%)	7.7	196	7.74	197	1.5	38		1.5, 2.5		40, 60	
22 (1.02%)	10.5	267	10.59	269	1.5	38		2.5, 3.5		60	

Streamline Flights			
Available Flight Height		Available Materials	
in	mm		
4.0	102	Nylon (AR), detectable nylon	
6.0	152		

- Streamline flights are smooth on both sides.
- Each flight rises out of the center of a supporting module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent: 2.0 in (51 mm).

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



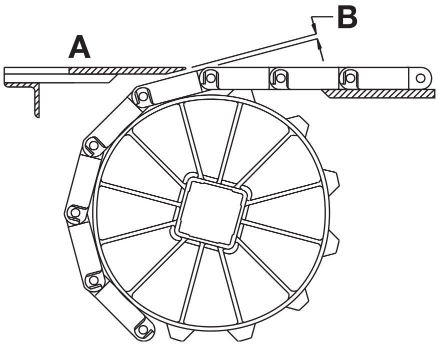
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 71: Basic dimensional requirements

S1700 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid										
5.8	147	12	2.36-2.46	60-62	2.42	61	5.67	144	3.27	83
6.7	170	14	2.85-2.93	72-74	2.63	67	6.61	168	3.74	95
7.7	196	16	3.33-3.40	85-86	2.81	71	7.56	192	4.22	107
10.5	267	22	4.78-4.83	121-123	3.30	84	10.41	264	5.64	143
Flush Grid Nub Top										
5.8	147	12	2.36-2.46	60-62	2.42	61	5.79	147	3.39	86
6.7	170	14	2.85-2.93	72-74	2.63	67	6.73	171	3.86	98
7.7	196	16	3.33-3.40	85-86	2.81	71	7.68	195	4.34	110
10.5	267	22	4.78-4.83	121-123	3.30	84	10.53	267	5.76	146
Transverse Roller Top										
5.8	147	12	2.42-2.52	61-64	2.36	60	6.92	176	4.46	113
6.7	170	14	2.91-3.00	74-76	2.56	65	7.87	200	4.93	125
7.7	196	16	3.40-3.47	86-88	2.73	69	8.81	224	5.41	137
10.5	267	22	4.84-4.90	123-124	3.20	81	11.67	296	6.83	173

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 72: Gap at transfer point between belt and dead plate

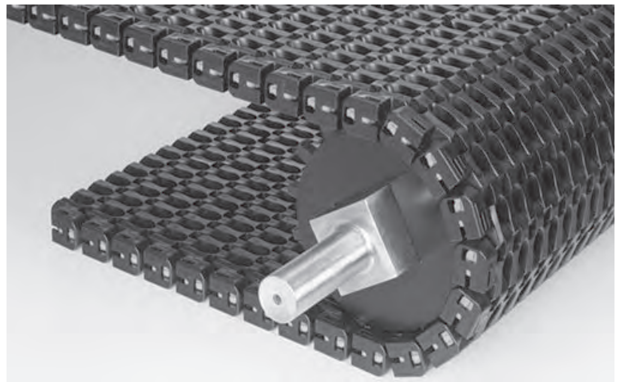
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
5.8	147	12	0.099	2.5
6.7	170	14	0.085	2.2
7.7	196	16	0.074	1.9
10.5	267	22	0.054	1.4

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

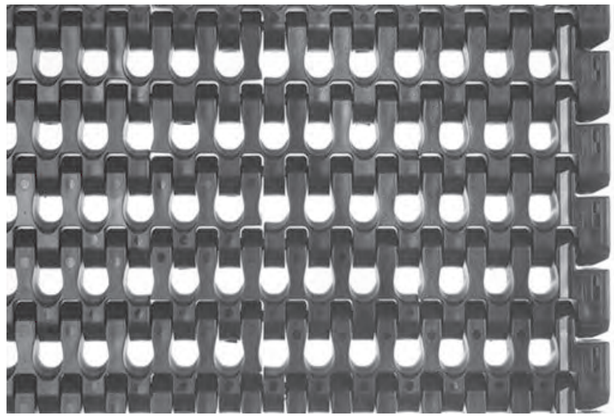
Flush Grid

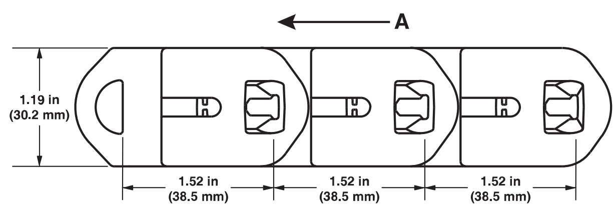
	in	mm
Pitch	1.52	38.6
Minimum Width	12	304.8
Maximum Width	120	3048
Width Increments	1.00	25.4
Opening Size (approximate)	0.66 x 0.53	16.7 x 13.5
Open Area	21%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Highly visible Slidelox rod retention feature.
- Large belt openings allow high-volume water flow and drainage.
- Semi-circle rod design significantly reduces rod wear and pitch elongation, and delivers predictable performance for maintenance planning in tough applications.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Ultra-abrasion-resistant polyurethane sprockets. Sprockets have large lug teeth that provide reliable engagement, extend sprocket life, and clear debris from the drive pockets.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Conveyor requirements: Intralox recommends steel carryways in either a chevron pattern or a flat continuous carryway. Do not use straight, parallel wearstrips. Do not use on pusher conveyors.
- For specific conveyor design guidelines, contact Intralox Customer Service.





A preferred run direction

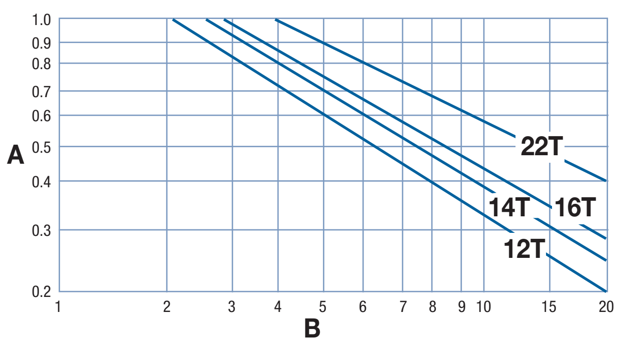
Belt Data

Belt Material	Standard Rod Material 0.5 in (12.5 mm) Half Round	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Low Wear Plus	Stainless steel	1200	1790	0 to 120	-18 to 49	7.10	34.66
LMAR	Stainless steel	1800	2680	0 to 212	-18 to 100	6.73	32.86

Sprocket and Support Quantity Reference Flush Grid				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
12-14	305-356	5	For specific carryway guidelines, contact Intralox Customer Service, or see the S1750 Design Guidelines.	For specific returnway guidelines, contact Intralox Customer Service, or see the S1750 Design Guidelines.
15-18	381-457	7		
20	508	9		
24	610	11		
30	762	13		
32	813	15		
36	914	17		
42	1067	19		
48	1219	23		
54	1372	25		
60	1524	29		
72	1829	35		
84	2134	41		
96	2438	47		
108	2743	53		
120	3038	59		
For other widths, use an odd number of sprockets at maximum 2 in (51 mm) centerline spacing.[c]				

[a] Belts are available in 1.00 in (25.4 mm) increments beginning with 12 in (305 mm). If the actual width is critical, contact Intralox Customer Service.
[b] This number is a minimum. Heavy-load applications can require additional sprockets.
[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

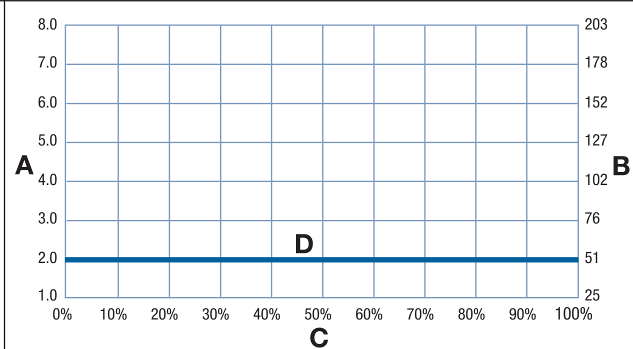
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

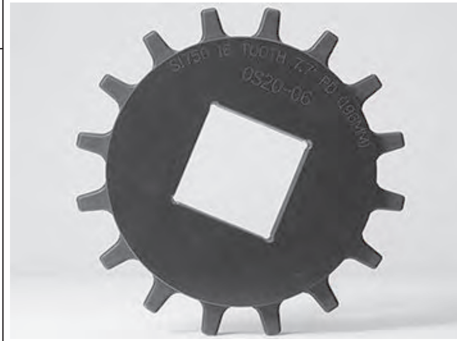
Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D solid line: Flush Grid

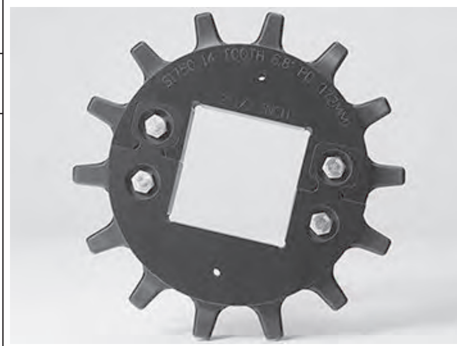
Ultra Abrasion Resistant Polyurethane Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
16 (1.92%)	7.8	198	7.9	201	1.5	38		2.5		60
22 (1.02%)	10.6	269	10.9	277	1.5	38		2.5, 3.5		60



Ultra Abrasion Resistant Split Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
14 (2.51%)	6.8	173	6.9	175	1.5	38		1.5, 2.5		40, 60
16 (1.92%)	7.8	198	7.9	201	1.5	38		1.5, 2.5		40, 60
22 (1.02%)	10.6	269	10.9	277	1.5	38		2.5, 3.5		60



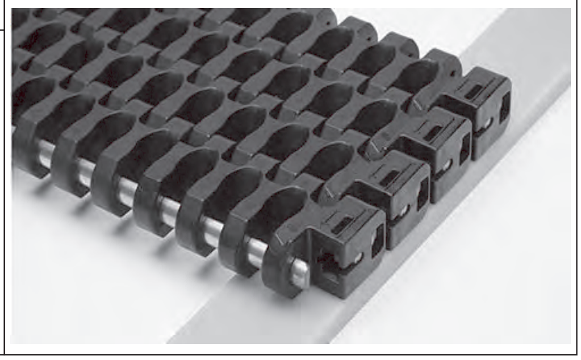
3-Piece Streamline Flights

Flight Height		Materials
in	mm	
3.0	76	Low Wear Plus, LMAR
4.0	102	

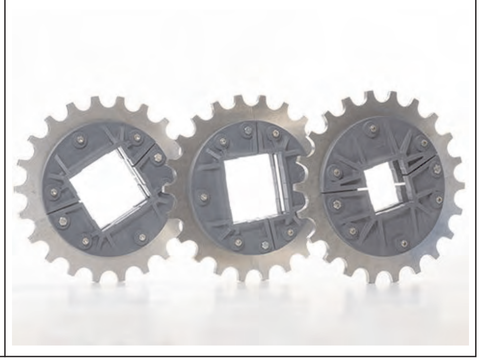
- Flight consists of three pieces: the base module, the attachment, and the rod.
- Streamline flights are smooth on both sides.
- Available with zero indent. The first available indent is 1.625 in (41 mm). Contact Intralox Customer Service for more information.
- Flights can be cut as short as 1.5 in (38 mm). If a shorter flight is needed, the flight base module without a flight attachment functions as a 0.75 in (19 mm) raised link. Contact Intralox Customer Service for more information.

Urethane Wearstrip		
Dimensions		
in	mm	Available Colors
0.50 x 2 x 216	13 x 51 x 5486	Blue

- Intended for dry, aqueous, and solid fatty food applications. Do not use for liquid-oil applications.
- Contact Intralox Customer Service for friction and belt strength analysis.
- Temperature range is 32°Fto 120°F (0°C to 49°C).

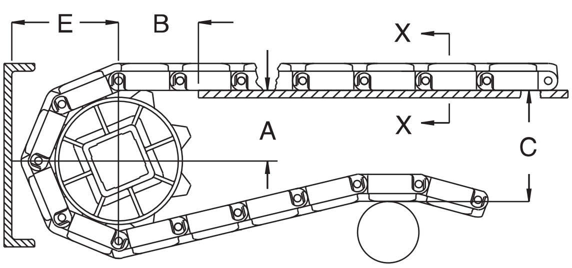


Split Metal Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
22 (1.02%)	10.6	269	10.7	272	1.625	41		2.5, 3.5		90



CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



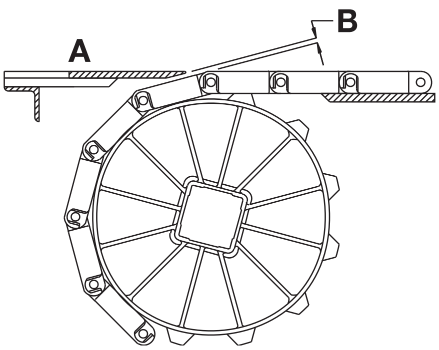
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 73: Basic dimensional requirements

S1750 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid											
6.8	173	14	2.72-2.81	69-71	2.83	72	6.81	173	4.06	103
7.8	198	16	3.21-3.29	82-84	3.04	77	7.77	197	4.54	115
10.6	269	22	4.67-4.73	119-120	3.68	93	10.65	271	5.98	152

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 74: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

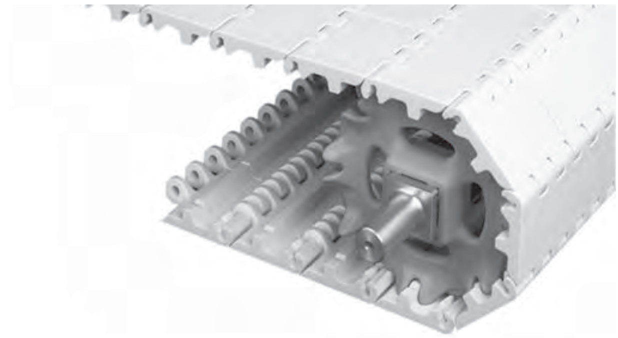
Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.8	173	14	0.085	2.2
7.8	198	16	0.075	1.9
10.6	269	22	0.054	1.4

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

SERIES 1750

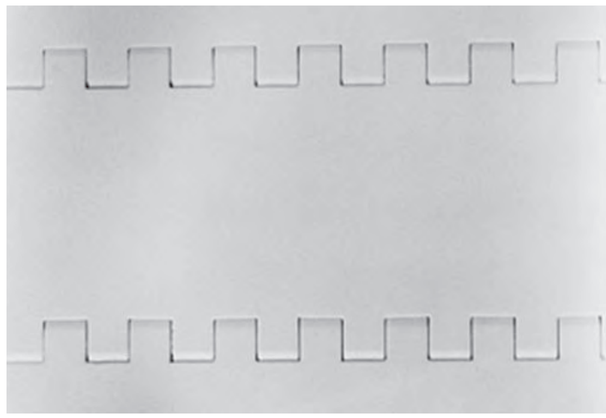
Flat Top

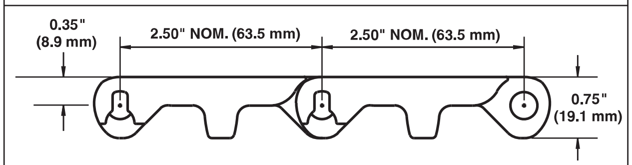
	in	mm
Pitch	2.50	63.5
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	0%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact resistant belt designed for abusive applications.
- Like S800 and S1600, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Easy retrofit from S800 without extensive conveyor frame changes for most meat industry applications since the A, B, C, and E dimensions are within 0.25 in (6 mm) of S800.



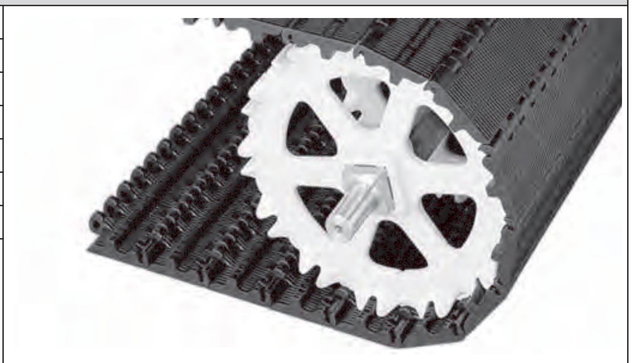


Belt Data							
Belt Material	Standard Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1200	1786	34 to 220	1 to 104	2.06	10.06
Acetal	Polyethylene	1200	1786	-50 to 150	-46 to 66	3.36	16.40
Acetal	Polypropylene	1500	2232	34 to 200	1 to 93	3.36	16.40
X-ray detectable acetal[a]	Polyethylene	1000	1490	-50 to 150	-46 to 66	3.77	18.41
PK	PK	1200	1786	-40 to 200	-40 to 93	3.02	14.74
X-ray detectable PK	X-ray detectable PK	1200	1786	-40 to 200	-40 to 93	3.52	17.19

[a] Designed specifically for detection by X-ray machines.

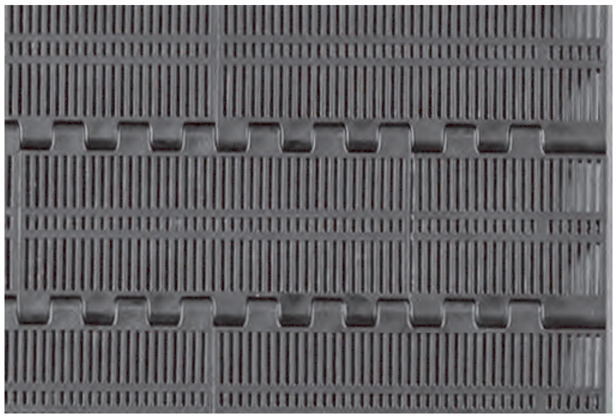
Mesh Top

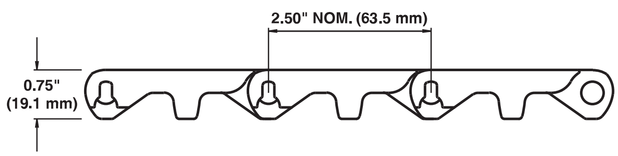
	in	mm
Pitch	2.50	63.5
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.07 × 0.75	1.7 × 19.1
Open Area	32%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges with recessed rods prevent edge damage and rod migration.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Flights and other accessories are available.





Belt Data

Belt Material	Standard Rod Material, Diameter 0.31 in (7.9 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	800	1190	34 to 220	1 to 104	1.44	7.03
UV resistant acetal	Acetal	1500	2230	-50 to 200	-46 to 93	2.27	11.08
Polyethylene	Polyethylene	400	595	-50 to 150	-46 to 66	1.50	7.32
Nylon	Nylon	1000	1488	-50 to 240	-46 to 116	1.81	8.84

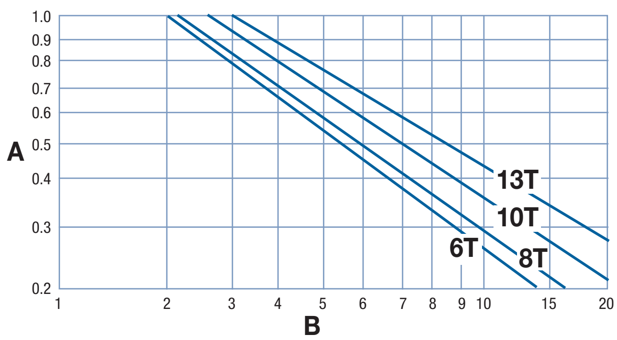
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
5	127	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
9	229	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	3	4	3
24	610	5	4	3
30	762	5	5	4
32	813	5	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	*8*	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
For other widths, use odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with 5.0 in (127 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

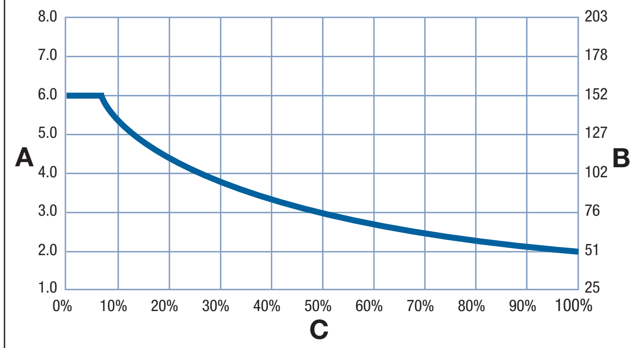
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



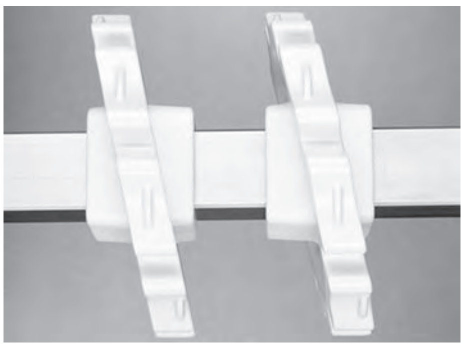
A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

EZ Clean™ Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
6 (13.40%)	5.0	127	4.6	117	1.5	38		1.5		40
8 (7.61%)	6.5	165	6.2	157	1.5	38		1.5		40
10 (4.89%)	8.1	206	7.8	198	1.5	38		1.5		40
13 (2.91%)	10.5	267	10.3	262	1.5	38		1.5, 2.5		40, 60

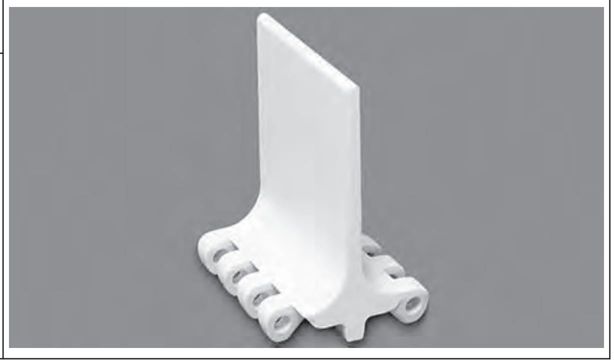
Angled EZ Clean™ Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
8 (7.61%)	6.5	165	6.2	157	2.0	50.8		1.5		40



Impact Resistant Flights		
Available Flight Height		Available Materials
in	mm	
4.0	102	Acetal, PK, polyethylene, polypropylene, X-ray detectable acetal

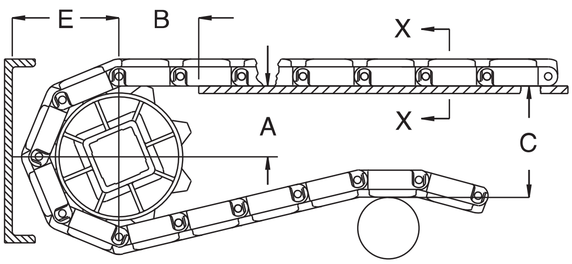
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.



Intralox Belt Puller Set		
Single Belt Puller	U.S. Units	Metric Units
Length	14.4 in	365.8 mm
Width	4.2 in	106.7 mm
Height	0.5 in	12.7 mm
Weight	2 lb	0.9 kg
Belt Puller Set		
Weight	6 lb	2.7 kg

- Can be used in carryways and returnways to install, close, or open compatible belts.
- Improves worker safety.
- Reduces the number of people required to install or remove large or inclined belts.
- Reduces the risk of belt damage that can lead to foreign material contamination.
- Set includes two belt pullers and one Intralox ratchet strap.
- Solid metal construction with dedicated metal rod that locks into the belt puller.
- Etched QR code on the tool links to an instructional video.
- Compatible with S800 and S1800 belts. For up-to-date compatibility information, contact Intralox Customer Service.

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



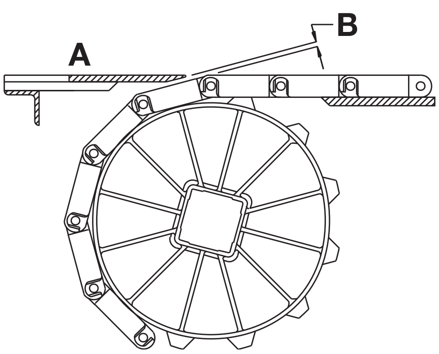
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 75: Basic dimensional requirements

S1800 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top, Mesh Top											
5.0	127	6	1.77-2.10	45-53	1.87	47	4.95	126	2.91	74
6.5	165	8	2.62-2.87	66-73	2.23	57	6.48	165	3.68	93
8.1	206	10	3.45-3.65	88-93	2.59	66	8.04	204	4.46	113
10.5	267	13	4.67-4.82	119-123	3.02	77	10.40	264	5.64	143

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 76: Gap at transfer point between belt and dead plate

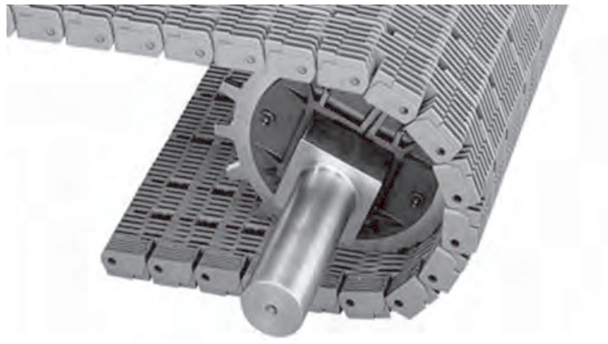
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

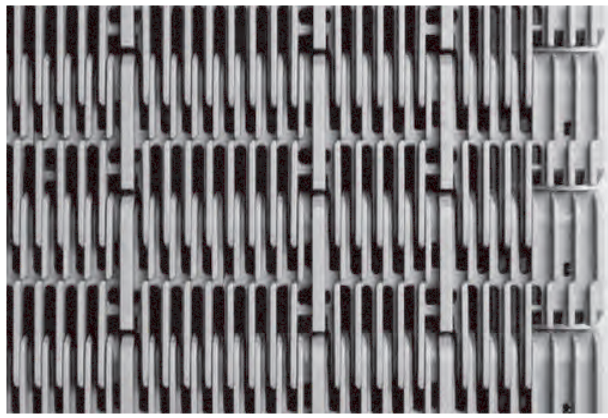
Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
5.0	127	6	0.150	3.8
6.5	165	8	0.108	2.8
8.1	206	10	0.091	2.3
10.5	267	13	0.074	1.9

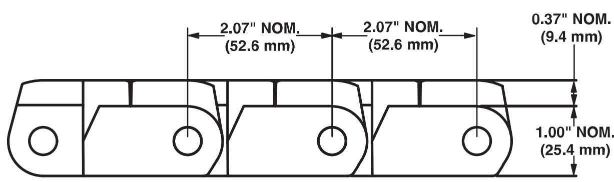
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Raised Rib

	in	mm
Pitch	2.07	52.6
Minimum Width	15	381
Width Increments	1.00	25.4
Opening Size	-	-
Open Area	27%	
Hinge Style	Closed	
Rod Retention; Rod Type	Shuttleplug; unheaded	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Increased module thickness and rod diameter provide superior belt strength and increased belt life.
- Tall belt ribs and strong fingers enable robust transfers.
- Engineered resin module material provides increased resistance to chemicals and temperature changes.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimal back tension required.
- Split sprockets available for easy installation.

Belt Data

Belt Material	Standard Rod Material, Diameter 0.38 in (9.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	Polypropylene	4000	5952	34 to 220	1 to 104	3.90	19.04

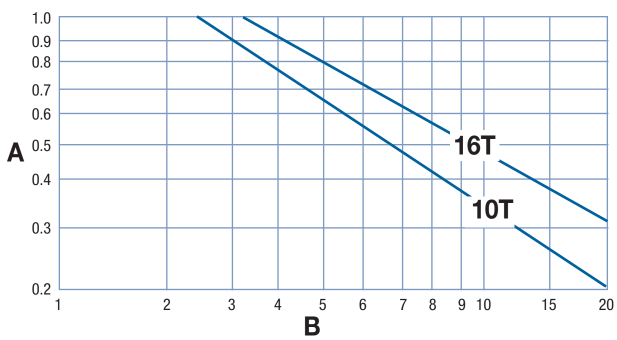
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
15	381	3	3	3
18	457	3	3	3
24	610	5	4	3
30	762	5	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[c]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

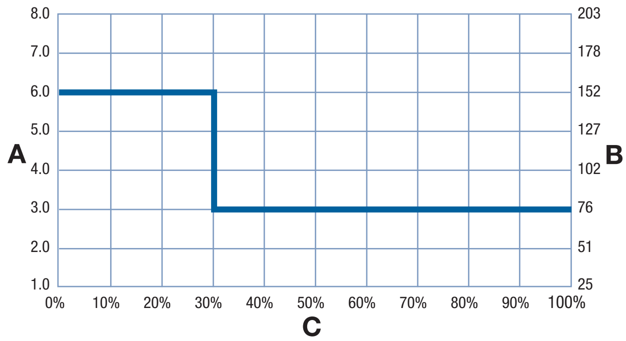
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

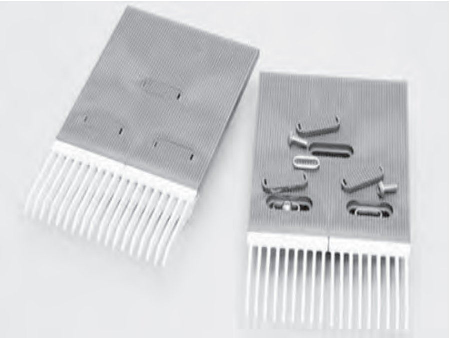
Split Metal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.89%)	6.7	170	7.0	177	1.7	43		2.5		60
15 (2.19%)	10.0	254	10.3	262	1.7	43		3.5		
16 (1.92%)	10.6	269	11.0	279	1.7	43	3.5	3.5		90

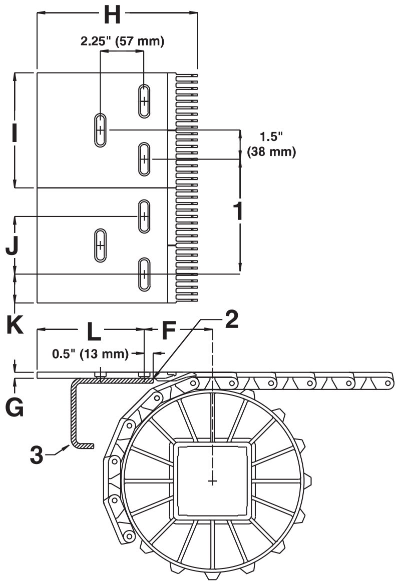
Two-Material Finger Transfer Plates

Available Widths in	Available Widths mm	Number of Fingers	Available Materials
6.0	152	18	Glass-filled thermoplastic fingers, acetal backplate

- Provides high-strength fingers combined with a low-friction backplate.
- Low-friction backplate is permanently attached to the two high-strength finger inserts.
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs, allowing smooth, continuous product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with supplied shoulder bolts. Caps snap easily into place over the bolts, keeping foreign materials out of the slots.
- The extended backplate has three attachment slots. Mounting hardware is sold separately and includes stainless steel oval washers and bolts. Plastic bolt covers are also included.

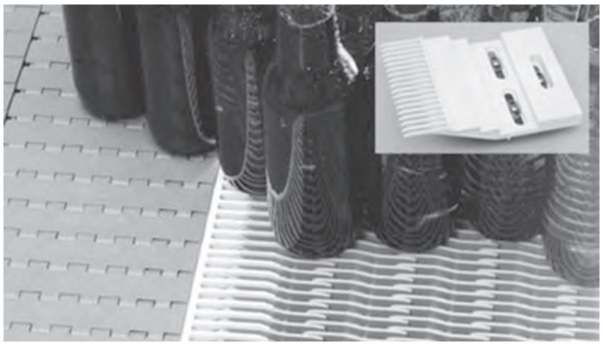


Dimensional Requirements for Finger Transfer Plate Installation			
	Two-Material		
	in	mm	
F	3.50	89	
G	0.31	8	
H	9.56	243	
I	5.91	150	
J	3.00	76	
K	1.45	37	
L	5.50	140	
Spacing at ambient temperature			
Enduralox PP	5.98	151.9	



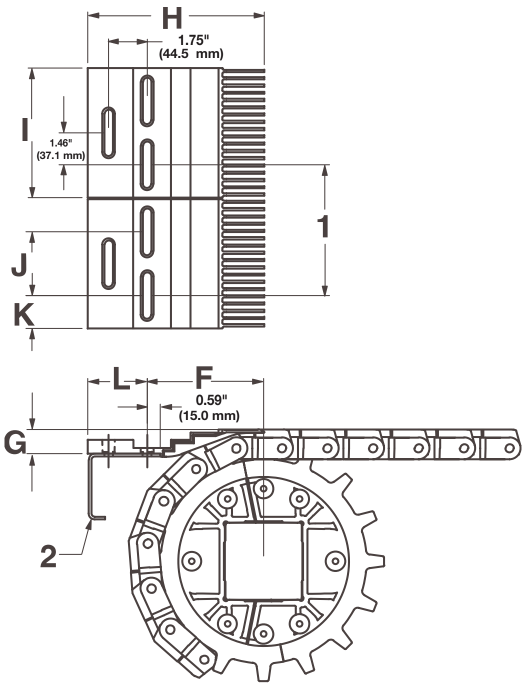
1 spacing
2 0.5 in (13 mm) radius (leading edge of frame member)
3 frame member
Figure 77: Two-material glass handling finger transfer plate

Self-Clearing Finger Transfer Plates[a]			
Available Width		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic



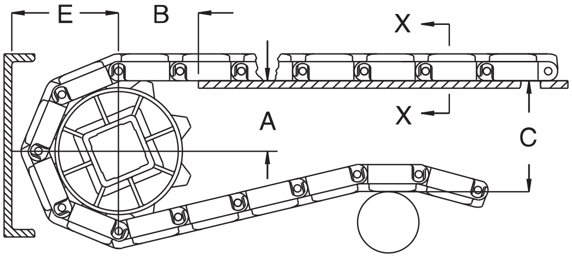
- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs for belt support in heavy side-loading conditions.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Intralox Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with belt expansion and contraction.
- Stainless steel hardware is sold separately.

[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Dimensional Requirements for Self-Clearing Finger Transfer Plate Installation[a]			
	Self-Clearing		
	in	mm	
F	5.25	133.4	
G	1.15	29.2	
H	8.05	204.5	
I	5.93	150.6	
J	2.92	74.2	
K	1.51	38.4	
L	2.71	68.8	
Spacing at ambient temperature			
PP	5.98 in	151.9 mm	**1** spacing **2** frame member
[a] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490			

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



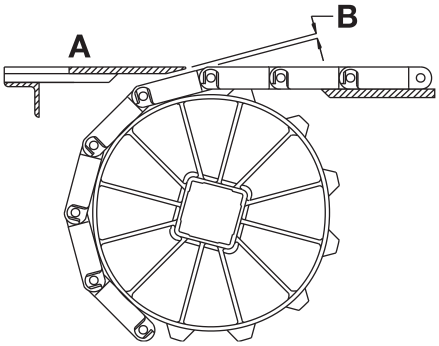
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 78: Basic dimensional requirements

S1900 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
Raised Rib											
6.7	170	10	2.69-2.85	68-72	2.82	72	7.08	180	4.29	109	
10.0	254	15	4.37-4.48	111-114	3.52	89	10.33	262	5.91	150	
10.6	269	16	4.71-4.81	120-122	3.65	93	11	279	6.25	159	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 79: Gap at transfer point between belt and dead plate

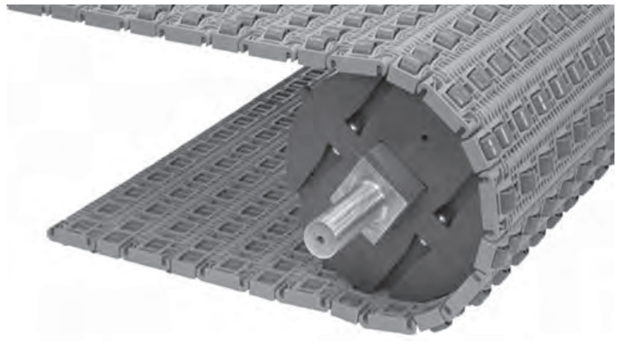
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.7	170	10	0.164	4.2
10.0	254	15	0.109	2.8
10.6	269	16	0.102	2.6

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

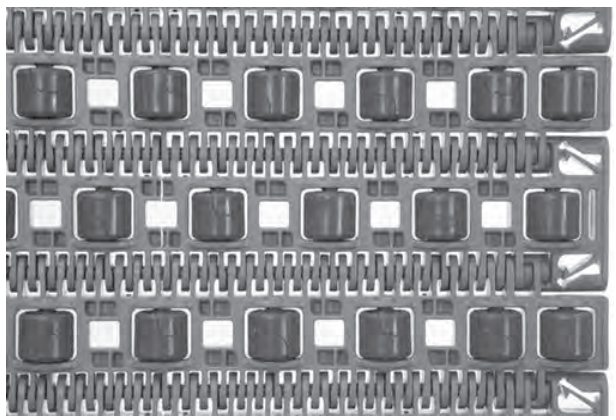
Transverse Roller Top™ (TRT™)

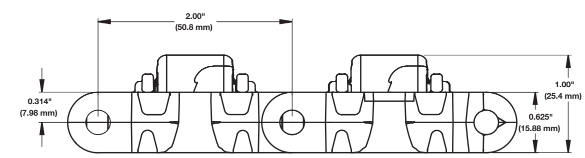
	in	mm
Pitch	2.00	50.8
Minimum Width	8	203
Width Increments	2.00	50.8
Opening Size (approximate)	0.43 x 0.53	10.9 x 13.5
Open Area	17.8%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers with plastic axles.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for 90-degree transfers.
- Sprockets have large lug teeth.
- S4400 alternating tooth, glass-filled split sprockets are recommended.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Adjust belt length in 4 in (10.16 cm), two-row increments.
- Roller diameter: 0.95 in (24.1 mm).
- Roller length: 0.825 in (20.9 mm).
- Standard roller indent: 0.26 in (6.6 mm).
- Roller spacing: 2 in (50.8 mm), alternating.





Belt Data

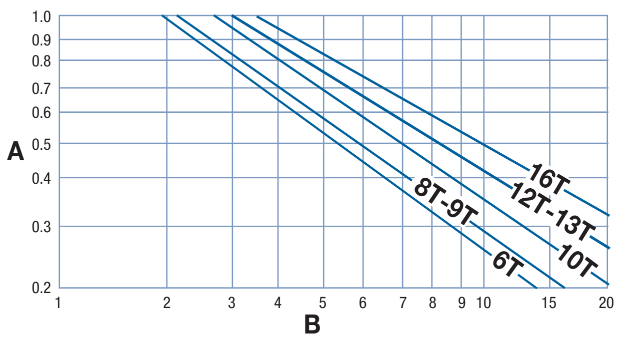
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	2.25	10.985

SERIES 4400

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
10-14	254-356	2	3	2
16-18	406-457	3	3	3
20-24	508-610	3	4	3
26	660	4	4	3
28-32	711-813	4	5	3
34-36	864-914	5	5	4
38-42	965-1067	5	6	4
44	1118	6	6	5
46-50	1168-1270	6	7	5
52-54	1321-1372	7	7	5
56-60	1422-1524	7	8	6
62	1575	8	8	6
64-68	1626-1727	8	9	6
70-72	1778-1829	9	9	6
74-78	1879-1981	9	10	7
80	2032	10	10	7
Maximum 9 in (229 mm) centerline spacing, minimum indent from flush edge			Maximum 9 in (229 mm) centerline spacing	Maximum spacing 12 in (304.8 mm)

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 2.00 in (51 mm) increments beginning with minimum width of 10 in (254 mm). If the actual width is critical, contact Intralox Customer Service.
[b] This number is a minimum. Heavy-load applications can require additional sprockets.

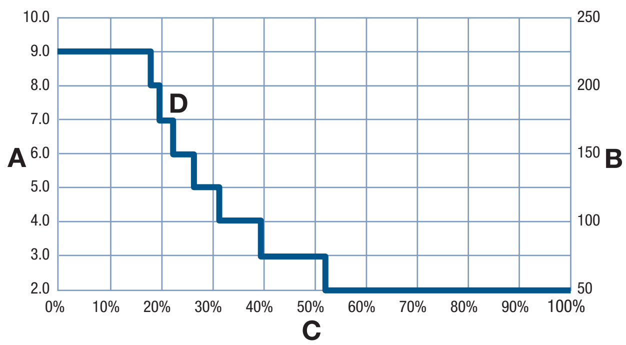
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

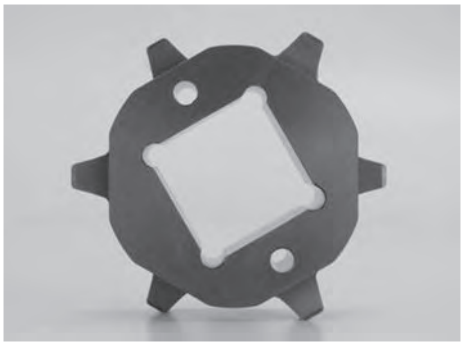
Sprocket Spacing as a Function of Belt Strength Utilized



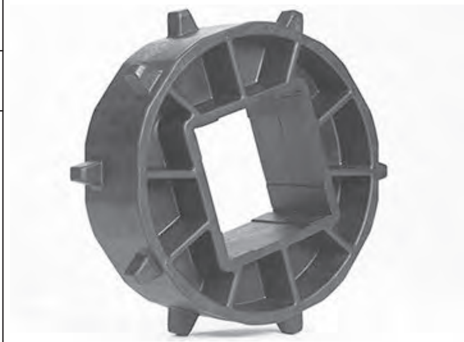
A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D solid line: square bore sprockets

Glass-Filled Nylon Alternating Tooth Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.5	165	1.95	50		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.8	198	1.95	50		1.5, 2.5		40, 60	
16 (1.92%)	10.3	262	10.4	264	1.95	50		1.5, 2.5		40, 60	

Nylon Alternating Tooth Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
8 (7.61%)	5.3	135	5.5	140	1.9	48		1.5		40	
16 (1.92%)	10.3	262	10.5	267	1.9	48		3.5			

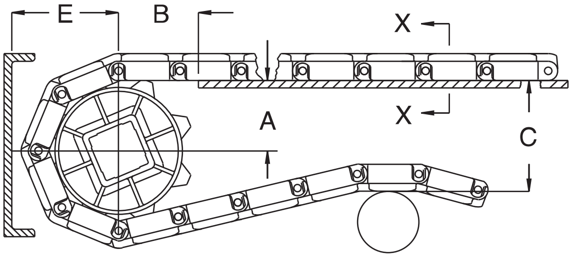
Nylon Alternating Tooth Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
6 (13.40%)	4.0	102	3.8	97	1.9	48		1.5		40	

SERIES 4400

Glass Filled Nylon Alternating Tooth Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.5	165	2.0	51		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.8	198	2	51		1.5, 2.5		40, 60	
16 (1.92%)	10.3	262	10.4	264	2	51		2.5		60	

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



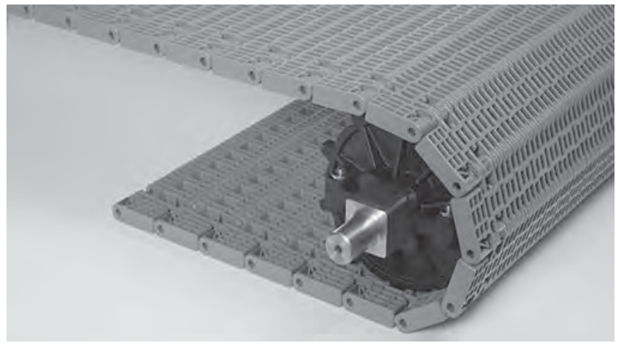
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 80: Basic dimensional requirements

S4400 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
Transverse Roller Top											
4.0	102	6	1.43-1.70	36-43	1.85	47	4.40	112	2.76	70	
5.3	135	8	2.12-2.32	54-59	2.24	57	5.64	143	3.38	86	
6.5	165	10	2.79-2.95	71-75	2.39	61	6.90	175	4.01	102	
7.8	198	12	3.45-3.58	88-91	2.64	67	8.16	207	4.64	118	
10.3	262	16	4.75-4.85	121-123	3.10	79	10.70	272	5.91	150	

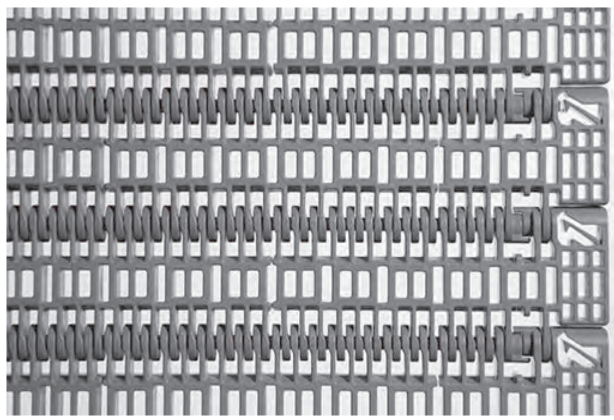
Flush Grid

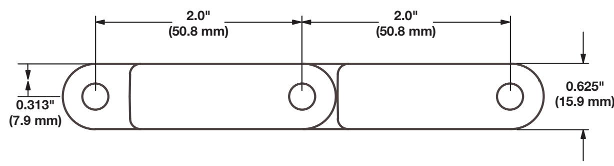
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.24 x 0.23	6.1 x 5.8
Open Area	35%	
Hinge Style	Open	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface and straightforward design provide free product movement.
- Opening size prevents 0.25 in (6.35 mm) or larger bolt from falling through the belt surface.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets have large lug teeth.

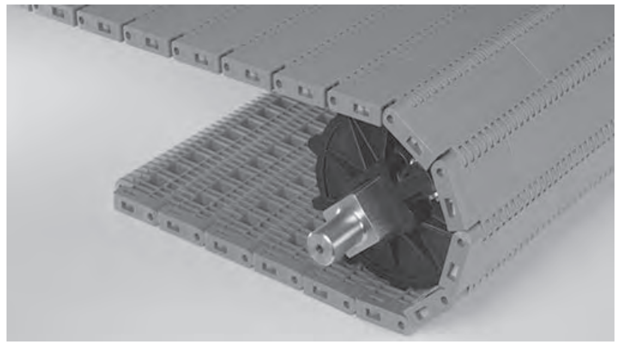




Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2400	3572	34 to 220	1 to 104	1.54	7.52
Polypropylene	Polypropylene	2200	3274	34 to 220	1 to 104	1.54	7.52

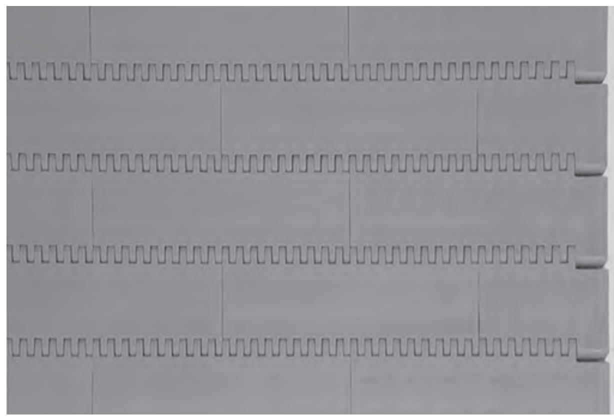
Flat Top

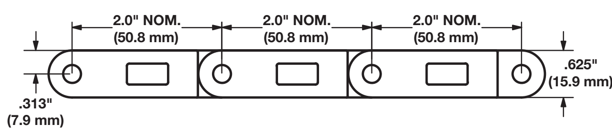
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Size	—	—
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface.
- Fully flush edges.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.

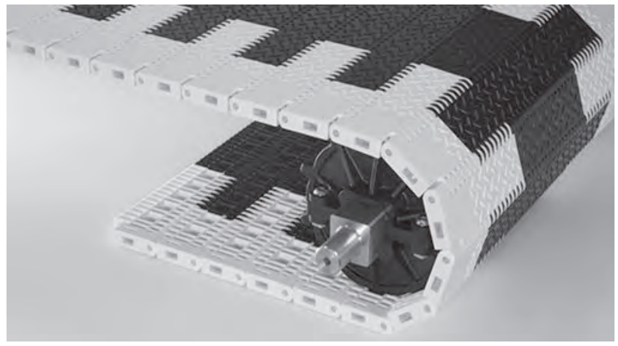




Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	4400	6548	-50 to 200	-46 to 93	3.07	14.96
HSEC acetal	Nylon	4100	6101	-50 to 200	-46 to 93	3.08	15.04
AC/EC	Nylon	4400	6548	-50 to 200	-46 to 93	3.08	15.04
Polypropylene	Nylon	2900	4316	34 to 220	1 to 104	1.97	9.62
Easy Release Traceable polypropylene	Nylon	2500	3720	34 to 220	1 to 104	2.26	11.03

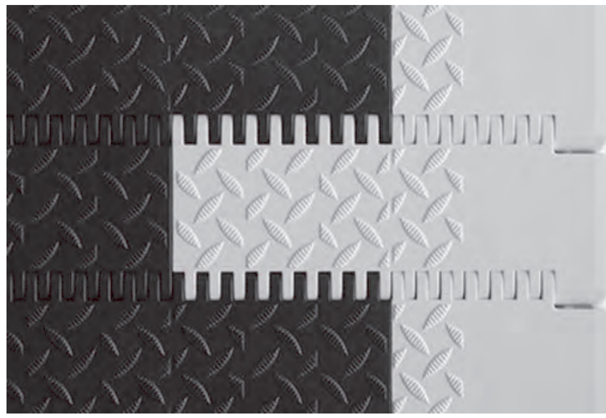
Non Skid

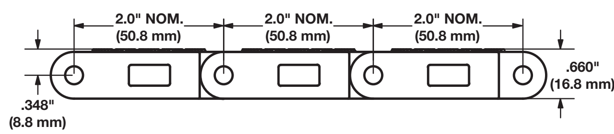
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Size	—	—
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Edges have Flat Top surface with no tread pattern.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Diamond tread pattern provides a non-skid walking surface to increase safety.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Flat Top indent: 2.0 in (50 mm) from the belt edge.



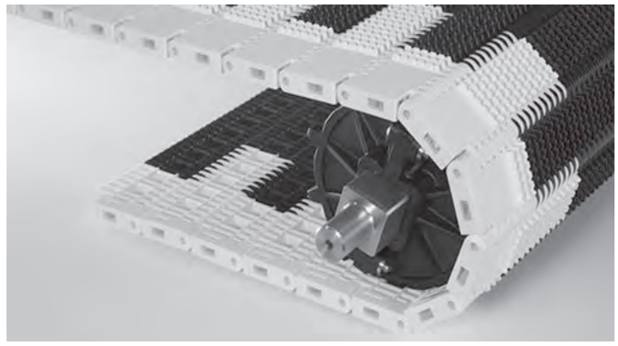


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	4400	6548	-50 to 200	-46 to 93	3.09	15.09
HSEC acetal	Nylon	4100	6101	-50 to 200	-46 to 93	3.10	15.14
AC/EC	Nylon	4400	6548	-50 to 200	-46 to 93	3.10	15.14
Polypropylene	Nylon	2900	4316	34 to 220	1 to 104	1.98	9.67
FR anti-static	Nylon	2000	2976	-50 to 150	-46 to 66	3.00	14.65

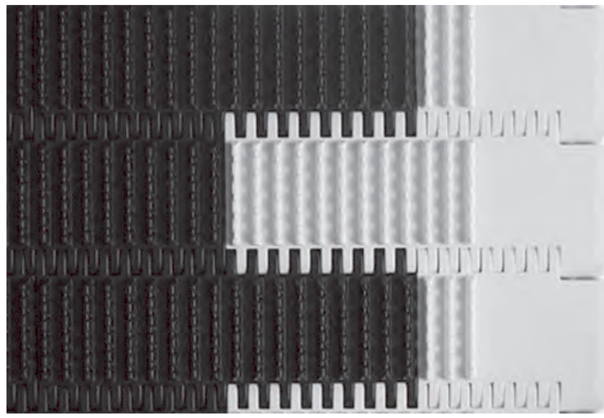
Non Skid Raised Rib

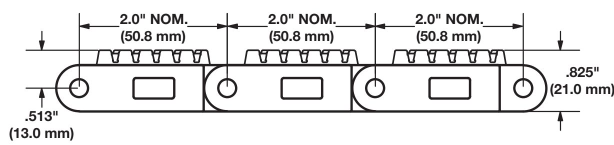
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Size	—	—
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Edges have Flat Top surface with no tread pattern.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Non-skid tread pattern increases safety.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Finger transfer plates are available. Finger transfer plates remove debris from the belt surface.
- Flat Top indent: 2.0 in (50 mm) from the belt edge.





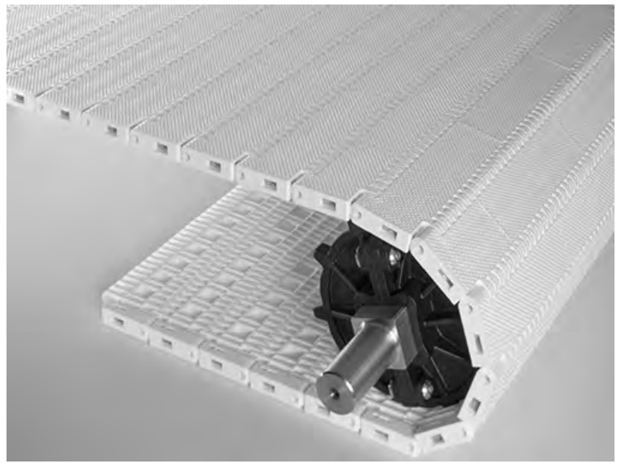
Belt Data							
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	4400	6548	-50 to 200	-46 to 93	3.39	16.55
HSEC acetal	Nylon	4100	6101	-50 to 200	-46 to 93	3.39	16.55
AC/EC	Nylon	4400	6548	-50 to 200	-46 to 93	3.39	16.55

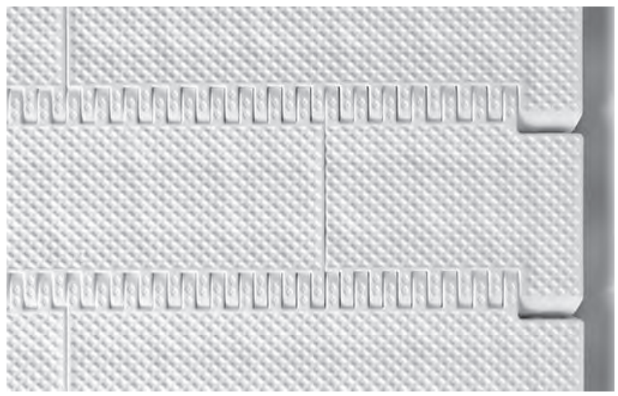
Embedded Diamond Top

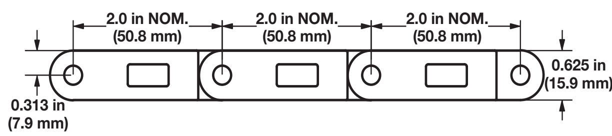
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127.0
Width Increments	1.00	25.4
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox®; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- The Embedded Diamond Top pattern allows sticky materials to release easily from the belt.
- Slidelox are glass-reinforced polypropylene.
- Detailed material information is provided at the beginning of Section 2: Product Line.







Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2900	4316	34 to 220	1 to 104	1.97	9.62
Easy Release traceable polypropylene	Nylon	2500	3720	34 to 220	1 to 104	2.26	11.03

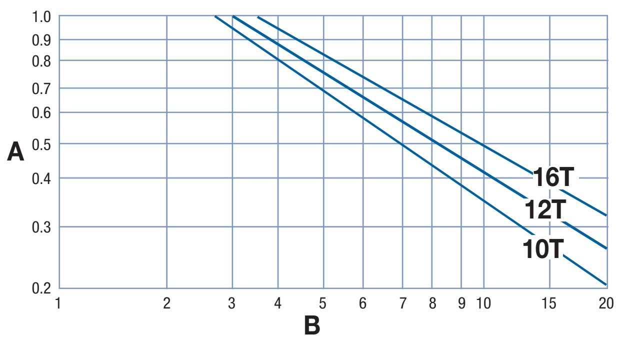
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1087	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

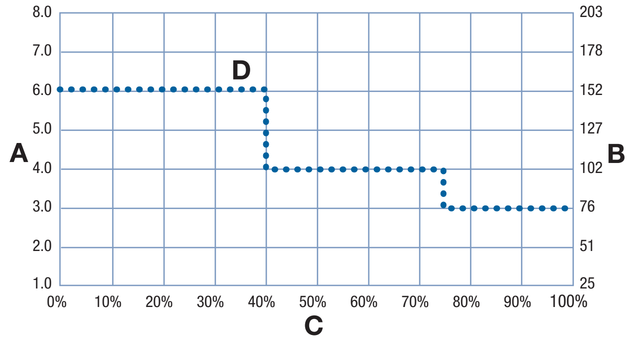
Strength Factor



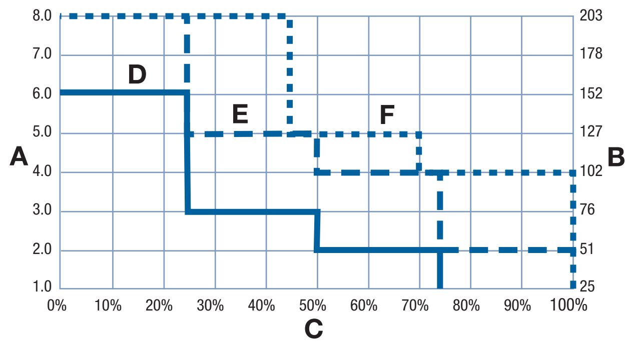
A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



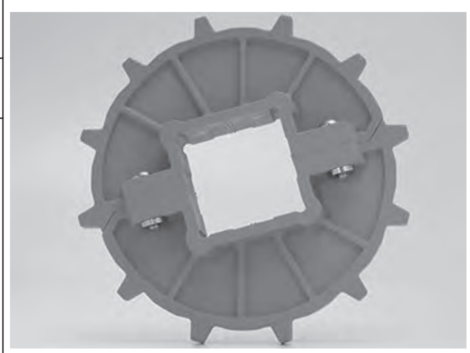
A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D dashed line: Flat Top, Non Skid, Non Skid Raised Rib square bore



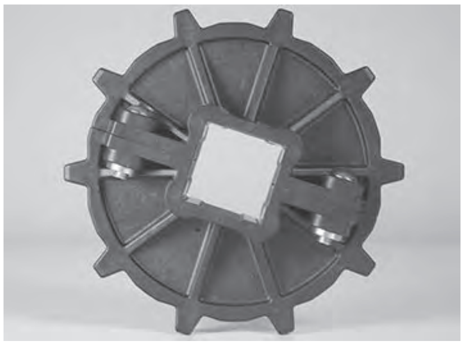
A sprocket spacing, in
B sprocket spacing, mm
C Percentage of allowable belt strength utilized
D solid line: Flush Grid–Round Bore
E long dashed line: Flush Grid–Square Bore
F short dashed line: Flush Grid Dual Tooth

Enduralox Polypropylene Composite Split Sprockets[a]

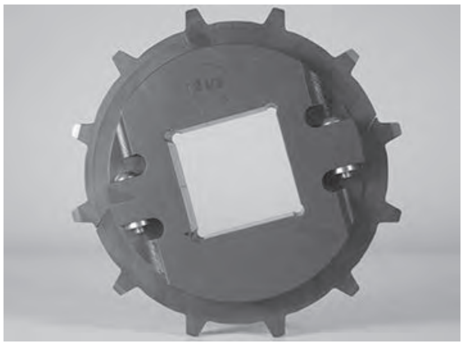
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.89%)	6.5	165	6.7	170	1.5	38		1.5, 2.5		40, 60
12 (3.41%)	7.8	198	8	203	1.5	38		1.5, 2.5		40, 60
16 (1.92%)[b]	10.3	262	10.5	267	1.5	38	2.5, 3.5	2.5	60, 90	60

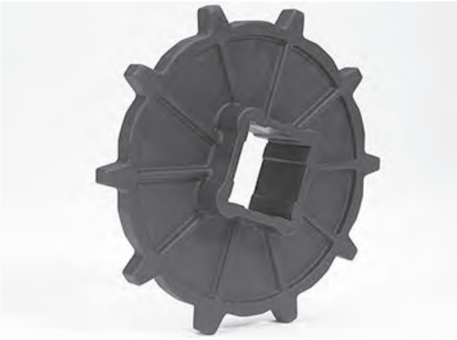


[a] Hardware made from 316 stainless steel.
[b] Bores are over-sized.

Glass-Filled Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.7	170	1.45	37		1.5[a], 2.5		40[a], 60	
12 (3.41%)	7.8	198	8	203	1.45	37		1.5[a], 2.5, 3.5		40[a], 60, 90	
16 (1.92%)	10.3	262	10.5	267	1.45	37		2.5, 3.5		60, 90	

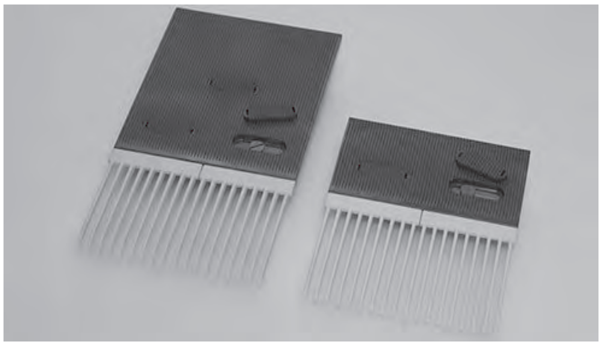
[a] 1.5 in and 40-mm bores have a hub width of 1.95 in (50 mm).

Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	10.3	262	10.5	267	1.95	50		1.5		40	

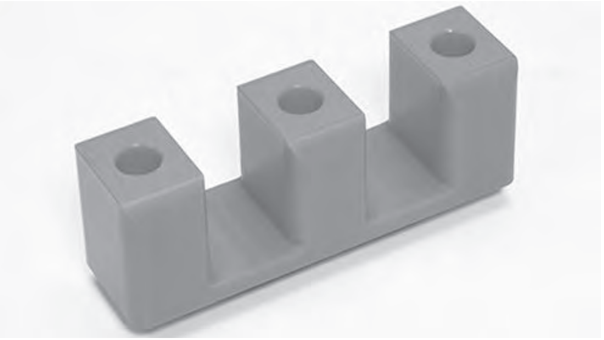
Glass-Filled Nylon Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
10 (4.89%)	6.5	165	6.5	165	1.45	37		1.5, 2.5		40, 60	
12 (3.41%)	7.8	198	7.8	198	1.45	37		1.5, 2.5		40, 60	

Enduralox Polypropylene Composite Dual Tooth Split Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	10.3	262	10.5	267	1.5	38		3.5[b]		90[b]	

[a] Hardware made from 316 stainless steel
[b] Bores are over-sized.

Finger Transfer Plates				
Available Widths		Number of Fingers	Available Materials	
in	mm			
6	152	18	Glass-filled thermoplastic fingers, acetal backplate	

- For use with Series 4500 Non Skid Raised Rib belt styles.
- Fingers extend between the ribs to prevent hardware from dropping off the end of the conveyor.
- Plastic shoulder bolts and bolt covers are included for installing the standard two-material finger transfer plates.
- Easily installed on the conveyor frame.
- Available in two different configurations. The standard configuration features long fingers with a short backplate. Standard Extended Back configuration features long fingers with an extended backplate. The short backplate has two attachment slots and the extended backplate has three attachment slots.

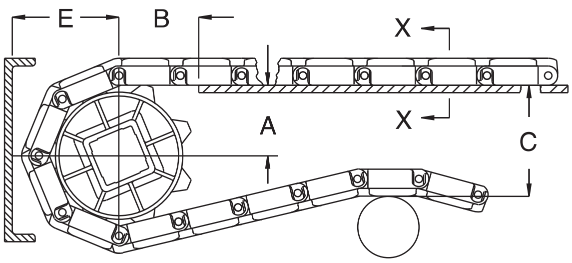
Flat Top Wheel Chocks					
Available Height		Available Width		Available Materials	
in	mm	in	mm		
1.6	41	5	127	UHMW	
1.97	50	5	127	UHMW	

- Fasteners and modified S4500 Flat Top modules are required.
- Fastener torque specification: 40-45 in/lb (4.5-5 N/m).
- Minimum indent from the edge of the belt without wheel chocks: 2.0 in (50 mm).

Insert Nuts		
Available Base Belt Style; Material	**Available Insert Nut Sizes**	
Flat Top; Acetal	6 mm –1 mm	
Flat Top; Polypropylene	6 mm –1 mm	
• Insert nuts allow easy attachment of fixtures to the belt. • Square insert nuts are provided. The square flange ensures that the insert nut stays in place when the bolt is tightened or loosened. • Ensure that attachments connected to more than one row do not prohibit belt rotation around the sprockets. • Do not locate sprockets in-line with the insert nuts. Contact Intralox Customer Service for sprocket and insert nut placement. • Fasteners and modified Series 4500 Flat Top modules are required. • Fastener torque specification: 40-45 in-lb (4.5-5.0 N-m). • Minimum indent from the belt edge: 3.5 in (89 mm) • Minimum distance between nuts along the length of the belt: 1.0 in (25 mm) • Contact Intralox Customer Service for assistance with insert nut placement.		

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

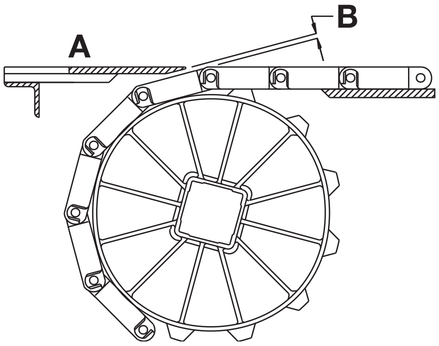
Figure 81: Basic dimensional requirements

S4500 Conveyor Frame Dimensions										
Sprocket Description			**A**		**B**		**C**		**E**	
Pitch Diameter		**Number of Teeth**	**Range (Bottom to Top)**							
in	**mm**		**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**
Flat Top, Flush Grid										
6.5	165	10	2.77-2.92	70-74	2.40	61	6.47	164	3.61	92
7.8	198	12	3.46-3.59	88-91	2.63	67	7.80	198	4.28	109
10.3	262	16	4.71-4.81	120-122	3.15	80	10.25	260	5.50	140
Non Skid										
6.5	165	10	2.77-2.92	70-74	2.40	61	6.56	167	3.70	94
7.8	198	12	3.46-3.59	88-91	2.63	67	7.89	200	4.36	111
10.3	262	16	4.71-4.81	120-122	3.15	80	10.34	263	5.59	142

S4500 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Non Skid Raised Rib										
6.5	165	10	2.77-2.92	70-74	2.40	61	6.67	169	3.81	97
7.8	198	12	3.46-3.59	88-91	2.63	67	8.00	203	4.48	114
10.3	262	16	4.71-4.81	120-122	3.15	80	10.45	265	5.70	145

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 82: Gap at transfer point between belt and dead plate

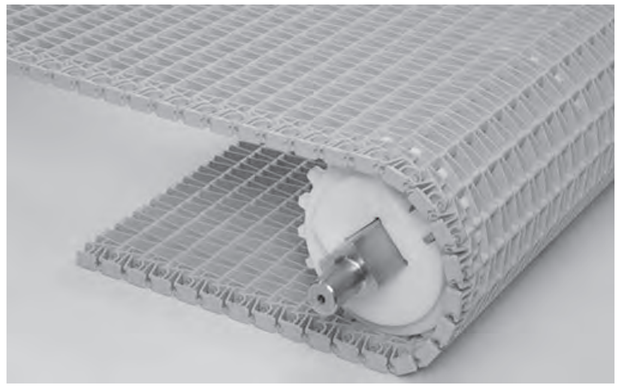
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.4	163	10	0.160	4.1
7.8	198	12	0.130	3.3
10.1	257	16	0.100	2.5

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

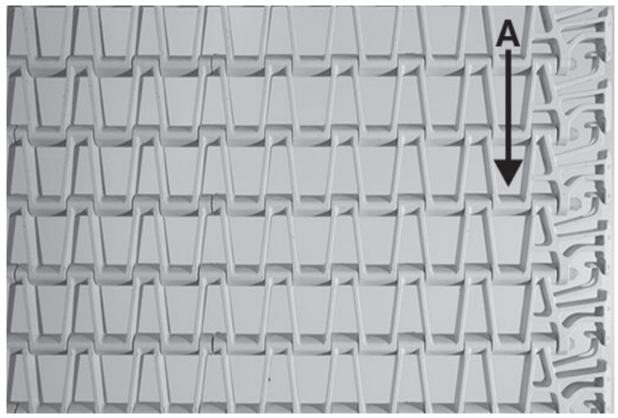
Flush Grid

	in	mm
Pitch	1.01	25.7
Minimum Width	6	152.4
Width Increments	1.00	25.4
Opening Size (approximate)	0.7 x 0.5	17.8 x 12.7
Open Area	58%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	

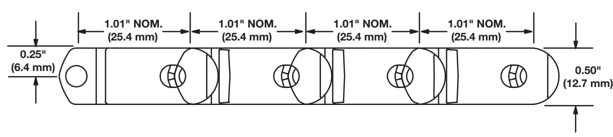


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open surface enhances spray-through cleaning performance and airflow cooling performance, depending on the application.
- PVDF is a polymer material proven for long-term use in washer environments.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Available with split steel sprockets for longer sprocket life and easier replacement.
- Easy to retrofit from existing steel belting with virtually no conveyor changes.



A preferred run direction



Belt Data							
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
PVDF	PVDF	1000	1490	34 to 200	1 to 93	1.57	7.64
Polypropylene	Polypropylene	750	1120	34 to 220	1 to 104	0.82	4.00
Acetal	Polypropylene	900	1340	34 to 200	1 to 93	1.14	5.57

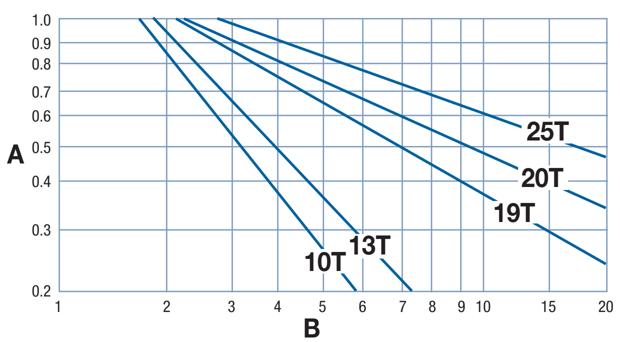
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
12	305	3	2	Minimum 3 in (76.2 mm) diameter rollers.
24	610	6	4	
36	914	9	6	
48	1219	12	8	
60	1524	15	10	
72	1829	18	12	
84	2134	21	14	
96	2438	24	16	
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[c]				

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 6 in (152.4 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

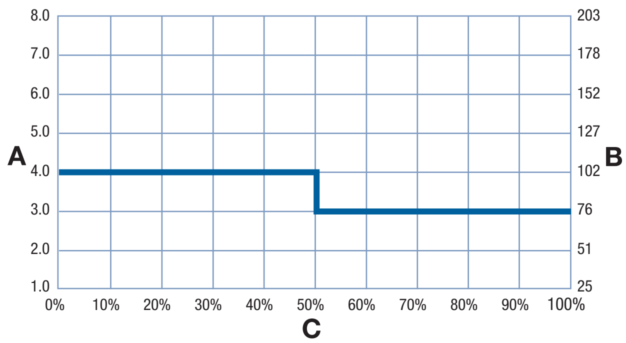
Strength Factor



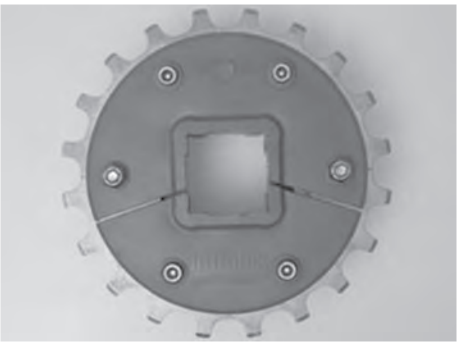
A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Split Metal Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
20 (1.23%)	6.5	165	6.5	165	1.7	43	2-3/16, 2-7/16, 2-11/16, 3-7/16	2.5			
25 (0.8%)	8.1	206	8.1	206	1.7	43	2-7/16, 2-11/16, 3-7/16	2.5	90		

[a] Split metal sprocket is made of 316 stainless steel.

UHMW Polyethylene Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
40 (0.31%)	12.9	328	13.0	330	1.48	38	2-7/16, 2-11/16, 3-7/16		60		

Nylon FDA Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (2.90%)	4.2	107	4.2	107	1.48	38	1-1/4	1-1/2		40	
19 (1.38%)	6.1	155	6.1	155	1.48	38	1-1/4	1-1/2		40	

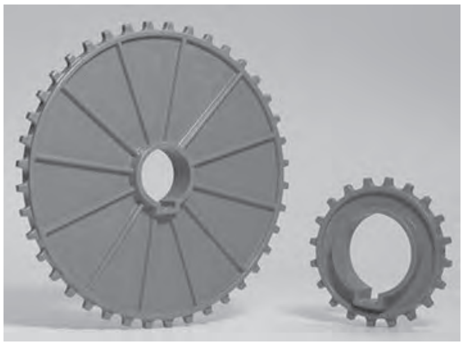
SERIES 9000

Acetal Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in	Available Bore Sizes Square in	Available Bore Sizes Round mm	Available Bore Sizes Square mm
20 (1.23%)	6.5	165	6.5	165	0.75	19		1.5		

Enduralox Polypropylene Composite Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in	Available Bore Sizes Square in	Available Bore Sizes Round mm	Available Bore Sizes Square mm
20 (1.23%)	6.5	165	6.5	165	1.48	38	2-7/16, 3-7/16		90	
25 (0.8%)	8.1	206	8.1	206	1.48	38	2-7/16, 3-7/16		90	
40 (0.31%)	12.9	328	13.0	330	1.48	38	2-11/16		60	



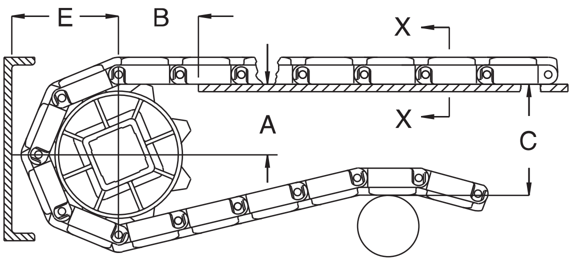
Flat Top Base Flights (No-Cling)

Available Flight Height in	Available Flight Height mm	Available Materials
3	76	Polypropylene, nylon

- No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards: 2.0 in (50.8 mm).

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



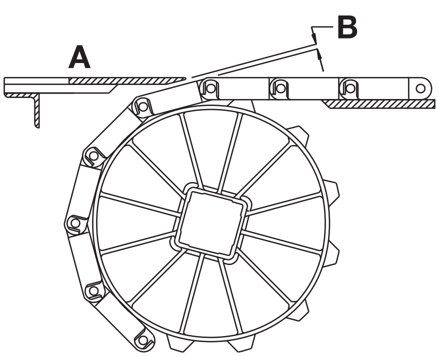
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 83: Basic dimensional requirements

S9000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flush Grid										
3.3	84	10	1.30-1.38	33-35	1.65	42	3.26	83	1.95	50
4.2	107	13	1.80-1.86	46-47	1.85	47	4.22	107	2.42	61
6.1	155	19	2.78-2.82	71-72	2.23	57	6.14	156	3.38	86
6.5	165	20	2.94-2.98	75-76	2.35	60	6.46	164	3.54	90
8.1	206	25	3.75-3.78	95-96	2.63	67	8.06	205	4.34	110

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 84: Gap at transfer point between belt and dead plate

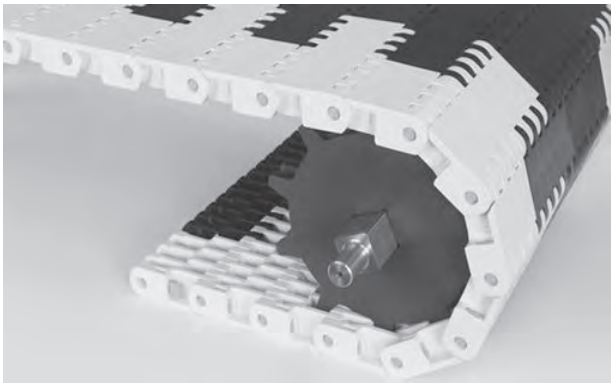
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
3.3	84	10	0.081	2.1
4.2	107	13	0.061	1.5
6.1	155	19	0.042	1.1
6.5	164	20	0.040	1.0
8.1	205	25	0.032	0.8

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

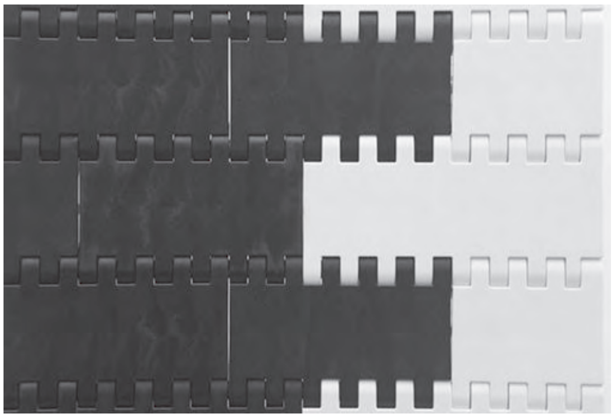
Flat Top

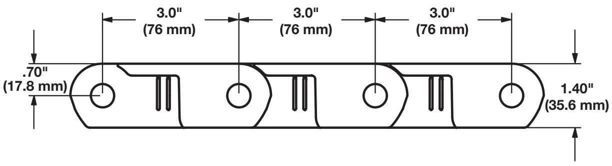
	in	mm
Pitch	3.0	76
Minimum Width	5.9	150
Maximum Width	153.5	3900
Width Increments	0.98	25
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 10^5 ohms per square.
- Slidelox are an acetal copolymer.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Wheel chock attachments are available.



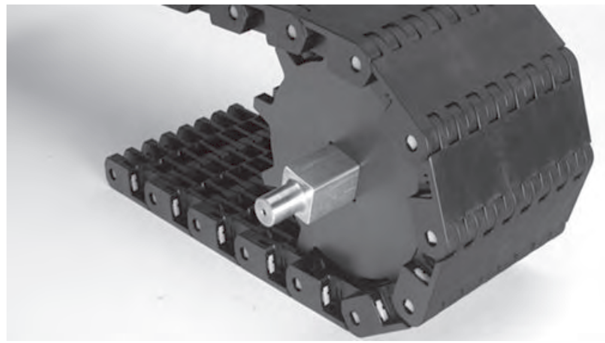


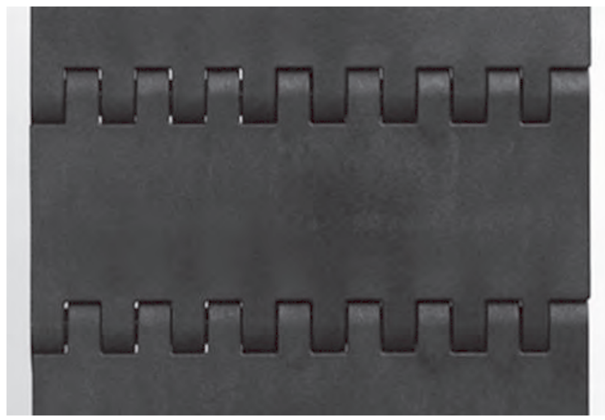
Belt Data

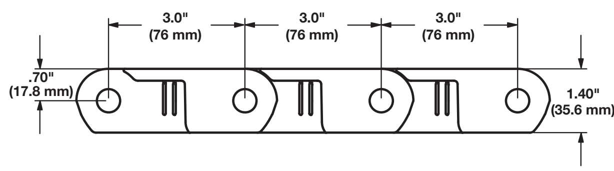
Belt Material	Standard Rod Material, Diameter 0.50 in (12.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	10,000	14,882	-50 to 200	-46 to 93	6.36	31.05
HSEC acetal	Nylon	8,000	11,905	-50 to 200	-46 to 93	6.36	31.05

Mold to Width Flat Top

	in	mm
Pitch	3.0	76
Molded Widths	3.9	100
	7.9	200
Opening Size	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	







Product Notes

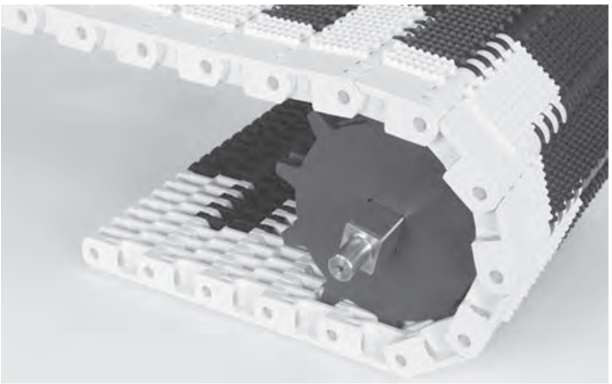
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 10^5 ohms per square.
- Slidelox are an acetal copolymer.
- Detailed material information is provided at the beginning of Section 2: Product Line.

Belt Data

Belt Material	Belt Width		Standard Rod Material, Diameter 0.50 in (12.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m
Acetal	3.9	100	Nylon	2,500	1,134	-50 to 200	-46 to 93	2.08	3.10
Acetal	7.9	200	Nylon	5,800	2,631	-50 to 200	-46 to 93	4.15	6.18
HSEC acetal	3.9	100	Nylon	2,000	907	-50 to 200	-46 to 93	2.08	3.10
HSEC acetal	7.9	200	Nylon	4,700	2,132	-50 to 200	-46 to 93	4.15	6.18

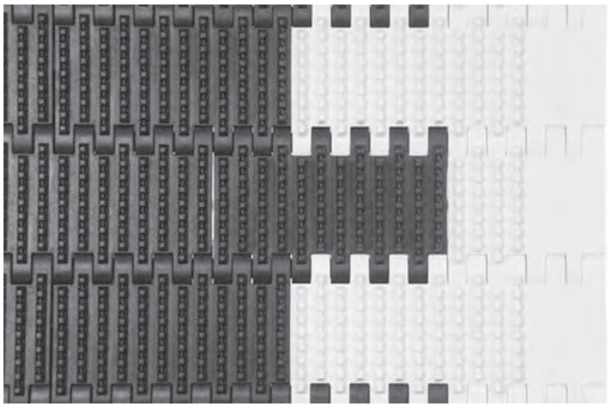
Non Skid Raised Rib

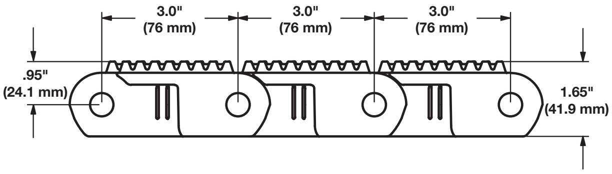
	in	mm
Pitch	3.0	76
Minimum Width	5.9	150
Maximum Width	153.5	3900
Width Increments	0.98	25
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Tread pattern provides a non-skid walking surface to increase safety.
- Edges have a Flat Top surface, with no tread pattern.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are an acetal copolymer.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 10^5 ohms per square.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Wheel chocks are available. Use Series 10000 Flat Top modules to mount the wheel chocks.
- Flat Top indent: 2.0 in (50 mm) from belt edge.



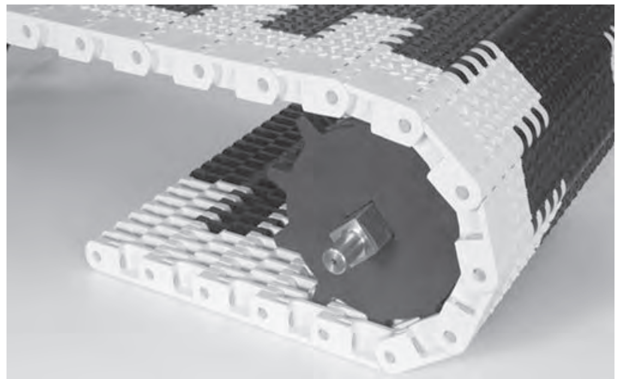


SERIES 10000

Belt Data							
Belt Material	Standard Rod Material, Diameter 0.50 in (12.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
HSEC acetal	Nylon	8,000	11,905	-50 to 200	-46 to 93	6.85	33.44

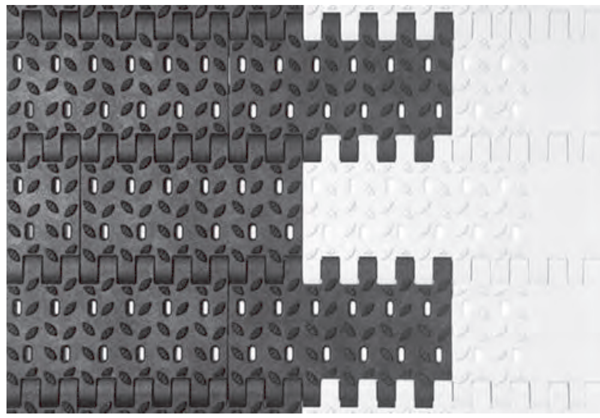
Non Skid Perforated

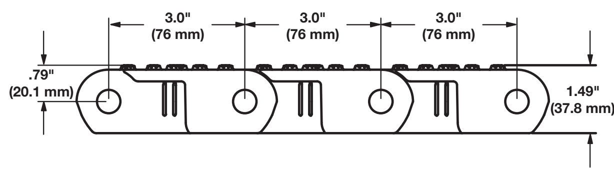
	in	mm
Pitch	3.00	76.2
Minimum Width	5.9	150
Maximum Width	153.5	3900
Width Increments	0.98	25
Opening Size (approximate)	0.10 x 0.31	2.8 x 7.9
Open Area	3%	
Hinge Style	Closed	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges have a Flat Top surface with no tread pattern.
- Open slots improve drainage. Diamond tread pattern provides a non-skid walking surface to increase safety.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are an acetal copolymer.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 10^5 ohms per square.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Wheel chocks are available. Use Series 10000 Flat Top modules to mount the wheel chocks.
- Flat Top indent: 1.97 in (50.0 mm) from edge of belt.





Belt Data							
Belt Material	Standard Rod Material, Diameter 0.50 in (12.7 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	10,000	14,882	-50 to 200	-46 to 93	6.48	31.64
HSEC acetal	Nylon	8,000	11,905	-50 to 200	-46 to 93	6.48	31.64

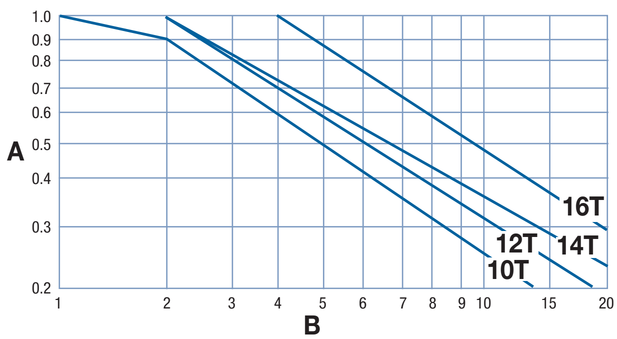
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips	
in	mm		Carryway	Returnway
3	100	1	2	2
5.9	150	1	2	2
7.9	200	2	2	2
9.8	250	2	3	2
11.9	300	3	3	2
13.8	350	3	3	3
15.7	400	3	3	3
17.7	450	3	3	3
19.7	500	3	4	3
23.6	600	5	4	3
29.5	750	5	5	4
31.5	800	5	5	4
35.4	900	7	5	4
41.3	1050	7	6	5
47.2	1200	7	7	5
53.1	1350	9	7	6
59.1	1500	9	8	6
70.9	1800	13	9	7
82.7	2100	21	11	8
94.5	2400	23	12	9
118.1	3000	29	15	11
143.7	3650	35	17	13
145.7	3700	37	18	14
147.6	3750	37	18	14
149.6	3800	37	18	14
151.6	3850	37	18	14
153.5	3900	41	19	14
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[c]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.97 in (50 mm) increments beginning with a minimum width of 3.94 in (100 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets. Sprockets require a maximum 5.91 in (150 mm) centerline spacing.

[c] Lock the center sprocket. If only two sprockets are used, lock the sprocket on the drive journal side. For locked sprocket locations, see Retainer Rings and Center Sprocket Offset.

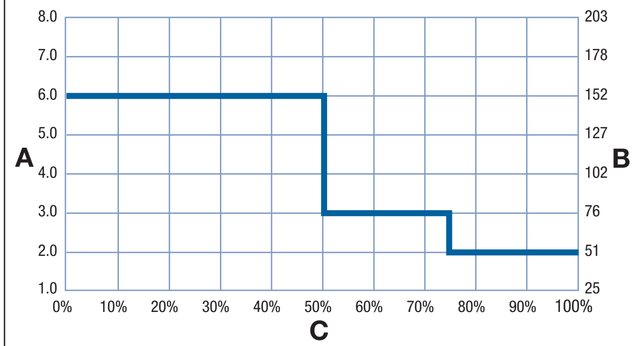
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

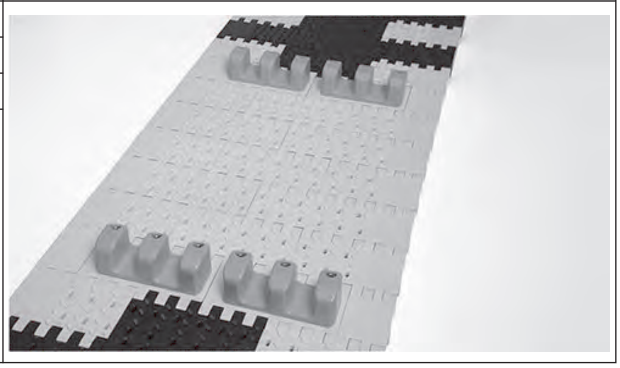
Nylon Sprockets

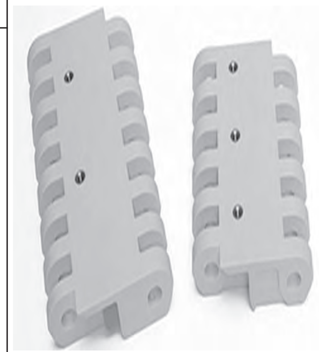
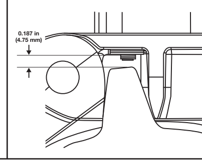
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.70%)	9.9	251	9.7	246	1.5	38		3.5		90
12 (3.29%)	11.8	300	11.7	297	1.5	38		3.5		90
14 (2.43%)	13.7	348	13.6	345	1.5	38		3.5		90
16 (1.84%)	15.7	399	15.6	396	1.5	38		3.5	100, 120, 140	90

Flat Top Wheel Chocks and Side Wheel Chocks

Available Height		Available Width		Available Materials
in	mm	in	mm	
0.8	20	1.5	37	Nylon
1.6	40	4.9	125	Nylon
2	50	4.9	125	Nylon

- Fasteners and modified S10000 Flat Top modules are required.
- Minimum indent without wheel chocks is 2.0 in (50 mm).

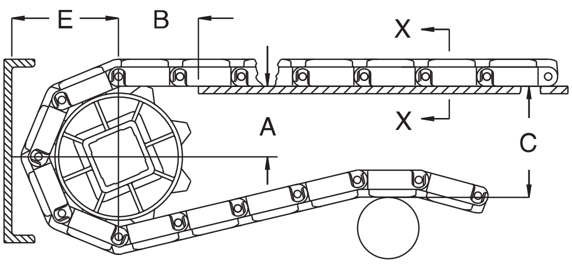


Insert Nuts			
Base Belt Style	Material	Insert Nut Sizes	
Flat Top	Acetal	6 mm–1 mm, 8 mm–1.25 mm	 

- Insert Nuts easily allow the attachment of fixtures to the belt.
- Insert nuts are square. The square flange ensures that the insert nut stays in place when the bolt is tightened or loosened.
- Ensure that attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- All nut placement dimensions are referenced from the edge of the belt when placing an order. Contact Intralox Customer Service for nut location options available for your individual belt specifications.
- Sprockets can be located in-line with insert nuts if a 0.187 (4.75 mm) clearance is maintained. Contact Intralox Customer Service for the appropriate bolt length to fit the application.
- The fastener torque specification: 40-45 in lb (4.5-5.0 N-m).
- Minimal indent from the edge of the belt: 1.22 in (31 mm)
- Minimal distance between nuts across the width of the belt 0.492 in (12.5 mm)
- Spacing along the length of the belt: 3 in (76 mm) increments.

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

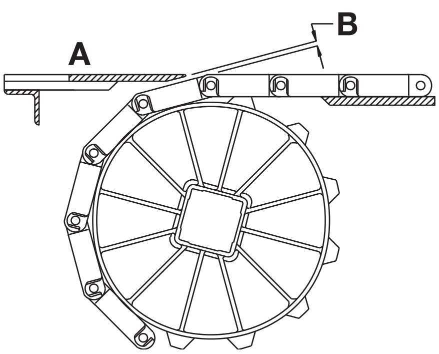
Figure 85: Basic dimensional requirements

S10000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Flat Top										
9.9	251	10	4.02-4.25	102-108	3.33	85	9.90	251	5.71	145
11.8	300	12	5.01-5.20	127-132	3.73	95	11.80	300	6.66	169
13.7	348	14	5.98-6.15	152-156	4.03	102	13.70	348	7.61	193
15.7	399	16	7.01-7.15	178-182	4.33	110	15.70	399	8.61	219

S10000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Non Skid Raised Rib										
9.9	251	10	4.02-4.25	102-108	3.33	85	10.15	258	5.96	151
11.8	300	12	5.01-5.20	127-132	3.73	95	12.05	306	6.91	176
13.7	348	14	5.98-6.15	152-156	4.03	102	13.95	354	7.86	200
15.7	399	16	7.01-7.15	178-182	4.33	110	15.95	405	8.86	225
Non Skid Perforated										
9.9	251	10	4.02-4.25	102-108	3.33	85	9.99	254	5.80	147
11.8	300	12	5.01-5.20	127-132	3.73	95	11.89	302	6.75	171
13.7	348	14	5.98-6.15	152-156	4.03	102	13.79	350	7.70	196
15.7	399	16	7.01-7.15	178-182	4.33	110	15.79	401	8.70	221

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 86: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
9.9	251	10	0.233	5.9
11.8	300	12	0.194	4.9
13.7	348	14	0.166	4.2
15.7	399	16	0.145	3.7

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

RADIUS BELTS

ENGINEERING PROGRAM ANALYSIS FOR SPIRAL AND RADIUS BELTS

Use the Intralox Engineering Program to calculate the estimated belt pull for radius applications and ensure that the belt is strong enough for the application. Contact Intralox Customer Service for more information.

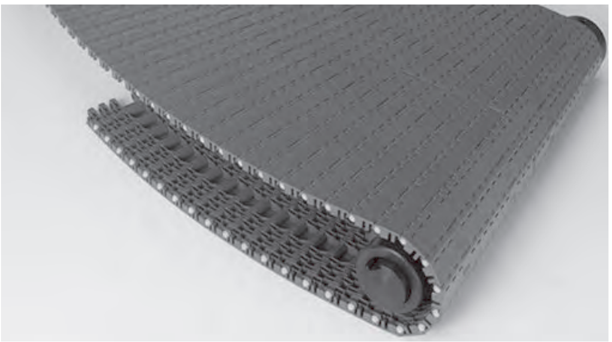
The following information required for an engineering analysis:

- Any environmental conditions which can affect the friction coefficient. For dirty or abrasive conditions, use higher-than-normal friction coefficients.
- Belt width
- Length of each straight run
- Turning angle of each turn
- Turn direction of each turn
- Inside radius of each turn
- Carryway and hold down rail material.
- Product load lbf/ft^2 (kgf/m^2)
- Product accumulation conditions
- Belt speed
- Elevation changes in each section
- Operating temperatures
- Sprocket and shaft specifications

Intralox can help select radius belt and low-tension capstan drive spiral belts for your application. Contact Intralox Customer Service for more information.

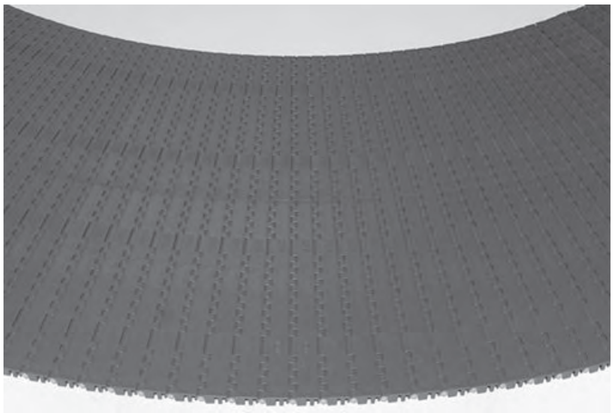
ZERO TANGENT™ Radius Flat Top

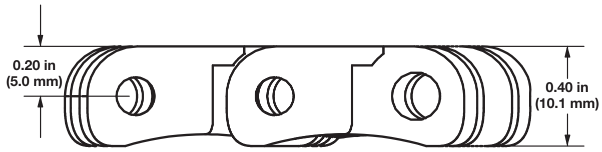
	in	mm
Row-to-Row Angle	1.33 degrees	
Maximum Width	55.12	1400
Minimum Width	7.87	200
Width Increments	7.87	200
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt shape completely eliminates the need for straight sections before and after turns.
- Pitch distance changes, depending upon the location of the module from the center of the turn.
- Uses nylon rods.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Intralox provides complete design guidelines, which minimize engineering design investment.
- Designed for radius applications with a minimum inside-turn radius of 23.62 in (600 mm).





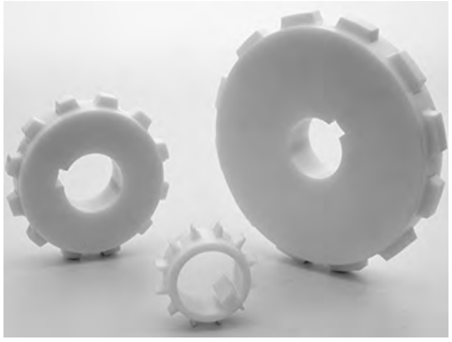
Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	907	1350	-50 to 200	-46 to 93	1.89	9.25

Sprocket and Support Quantity Reference				
Belt Width Range[ab]		Minimum Number of Sprockets per Shaft[c]	Wearstrips	
in	mm		Carryway	Returnway
7.87	200	2	2	2
15.75	400	4	3	2
23.62	600	6	4	2
31.50	800	8	5	3
39.37	1000	10	6	3

[a] If the actual width is critical, contact Intralox Customer Service.
[b] For other widths, use an even number of sprockets at maximum sprocket spacing: 3.94 in (100 mm). Maximum carryway spacing: 7.87 in (200 mm). Maximum returnway spacing: 15.75 in (400 mm)
[c] Lock all sprockets.

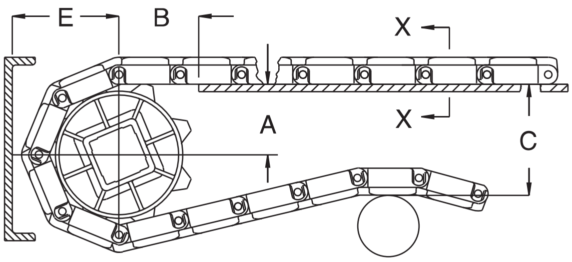
Nylon (FDA) Sprocket										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
12 (3.41%)	2.3	58	2.4	61	1.0	25	1-7/16	–	40	–
12 (3.41%)	2.6	66	2.7	70	1.0	25	1-7/16	–	40	–
12 (3.41%)	3.0	76	3.1	78	1.0	25	1-7/16	–	40	–
12 (3.41%)	3.3	84	3.4	87	1.0	25	1-7/16	–	40	–
12 (3.41%)	3.7	94	3.8	96	1.0	25	1-7/16	–	40	–
12 (3.41%)	4.0	102	4.1	104	1.0	25	1-7/16	–	40	–
12 (3.41%)	4.4	112	4.5	113	1.0	25	1-7/16	–	40	–
12 (3.41%)	4.7	119	4.8	122	1.0	25	1-7/16	–	40	–
12 (3.41%)	5.1	130	5.1	131	1.0	25	1-7/16	–	40	–
12 (3.41%)	5.4	137	5.5	139	1.0	25	1-7/16	–	40	–
12 (3.41%)	5.8	147	5.8	148	1.0	25	1-7/16	–	40	–
12 (3.41%)	6.2	157	6.2	157	1.0	25	1-7/16	–	40	–
12 (3.41%)	6.5	165	6.5	165	1.0	25	1-7/16	–	40	–
12 (3.41%)	6.9	175	6.9	174	1.0	25	1-7/16	–	40	–



[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

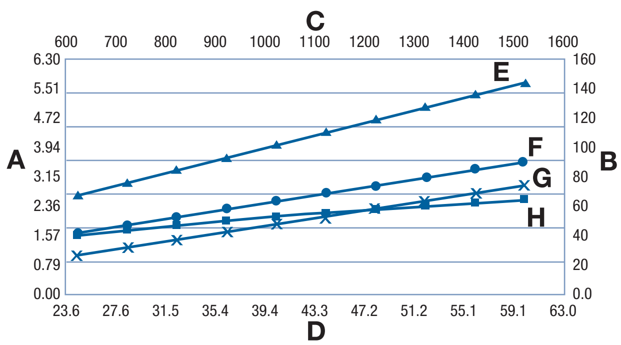
CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 87: Basic dimensional requirements

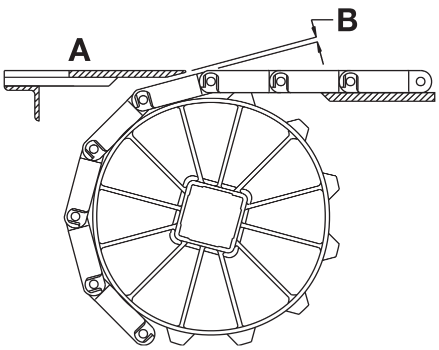


A Dimension, in
B Dimension, mm
C Turn radius (TR), in
D Turn radius (TR), mm
E C drive dimension: 0.089TR-0.01 in (-0.25 mm)
F E drive dimension: 0.045TR +.0.26 in (+6 mm)
G A drive dimension: 0.043TR-0.20 in (-5 mm)
H B drive dimension: 0.022TR +.0.82 in (+20 mm)

Figure 88: Conveyor Frame Dimensions

DEAD PLATE GAP

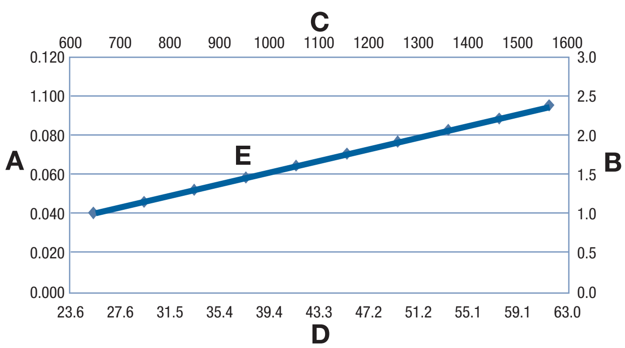
A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 89: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.



A Gap, in
B Gap, mm
C Turn radius (TR), mm
D Turn radius (TR), in
E Gap = 0.0015TR
Figure 90: S2100 dead plate gap

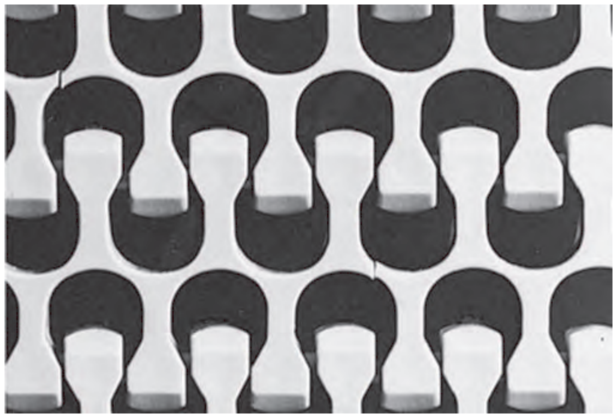
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Radius Flush Grid

	in	mm
Pitch	1.50	38.1
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge or tab edge available.
- Belt openings pass straight through belt, providing easy cleaning.
- Lightweight, strong belt with a smooth surface grid.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Non-sliding drive system reduces belt and sprocket wear, and provides low back tension.
- Designed for radius applications with a minimum turn radius of 2.2 times belt width (measured from inside edge).
- Tab edge belt width measurement does not include tabs. Tabs extend approximately 0.5 in (13 mm) × 0.25 in (6 mm) on each side of belt, inside wearstrip.
- Maximum belt width in turns: 36 in (914 mm)



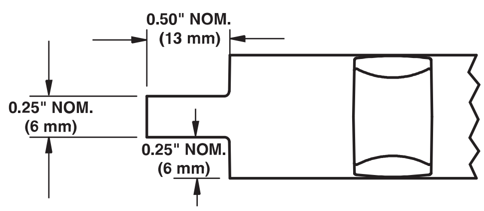
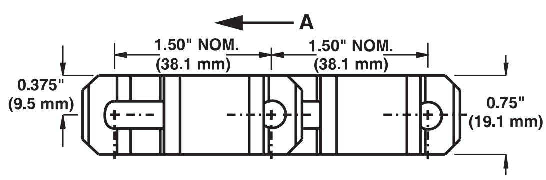


Figure 91: Series 2200 tab edge dimensions



A preferred run direction for flat, turning applications

Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1600	2380	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.86	9.10
Polyethylene[a]	Acetal	1000	1490		-50 to 150	-46 to 66	1.96	9.56
Acetal	Nylon	2500	3720		-50 to 200	-46 to 93	2.82	13.80
Polypropylene	Polypropylene[b]	1400	2100		34 to 220	1 to 104	1.78	8.69

[a] Polyethylene cannot exceed 150°F (66°C)

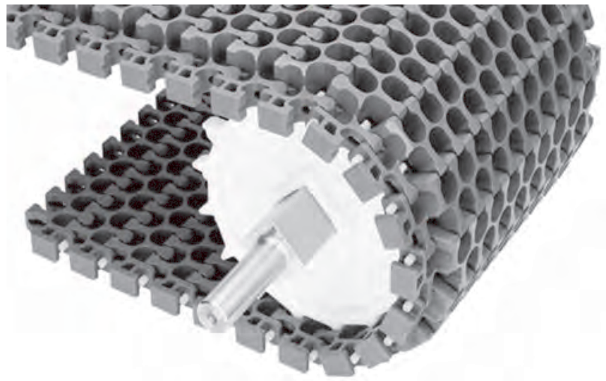
[b] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

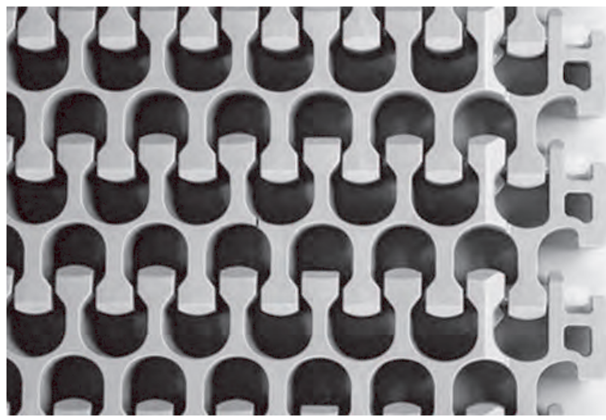
Radius Flush Grid High Deck

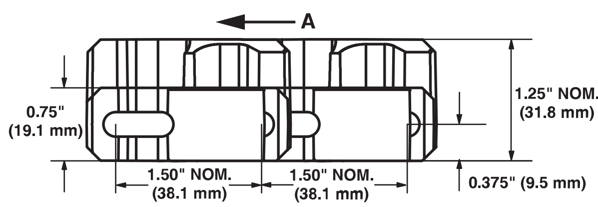
	in	mm
Pitch	1.50	38.1
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Makes turns with an inside radius of 2.2 times the belt width.
- Provides more beam strength than the standard S2200 belt. This feature can reduce retrofit costs in spirals.
- Uses standard S2200 wearstrips.
- 0.5 in (12.7 mm) higher than the standard S2200 belt.
- Standard indent: 1.25 in (31.8 mm).







A preferred run direction for flat, turning applications

Belt Data								
		Straight Belt Strength[a]			Temperature Range (continuous)		Belt Weight	
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	lb/ft	kg/m	Curved Belt Strength	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2500	3720	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	3.66	17.87
Polypropylene	Acetal	1600	2381		34 to 200	1 to 93	2.41	11.77

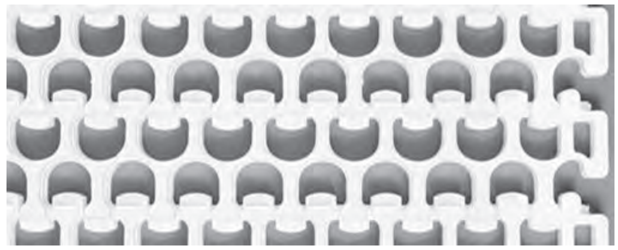
[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

Radius Friction Top

	in	mm
Pitch	1.50	38.1
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge or tab edge available.
- Belt openings pass straight through belt to simplify cleaning.
- Available in grey polypropylene with grey rubber, white polypropylene with white rubber, and natural polyethylene, with white rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Non-sliding drive system provides reduced belt and sprocket wear, and low back-tension.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge).
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Tab edge belt width measurement does not include tabs. (Tabs extend approximately 0.5 in (13 mm) × 0.25 in (6 mm) on each side of belt, inside the wearstrip.)
- Molded indent: 1.75 in (44 .5 mm).
- Maximum belt width in turns: 36 in (914 mm).



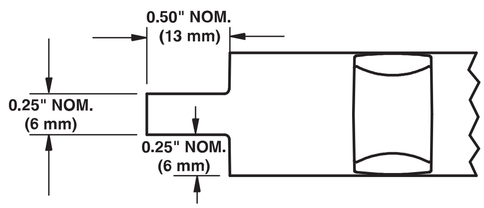
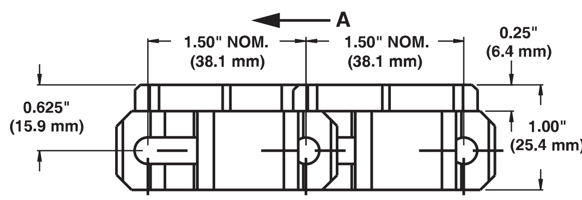


Figure 92: Tab edge dimensions



A preferred run direction for flat, turning applications
Figure 93: Flush edge dimensions

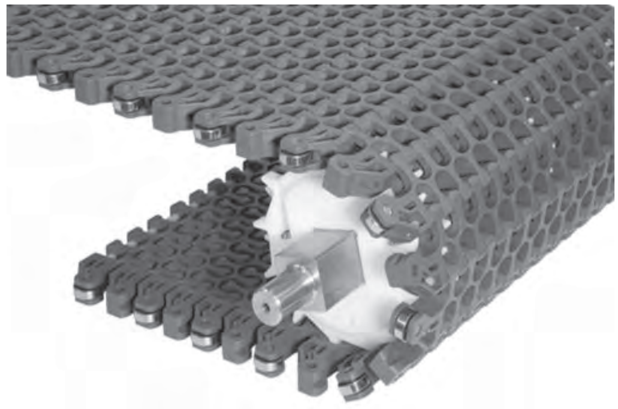
Belt Data

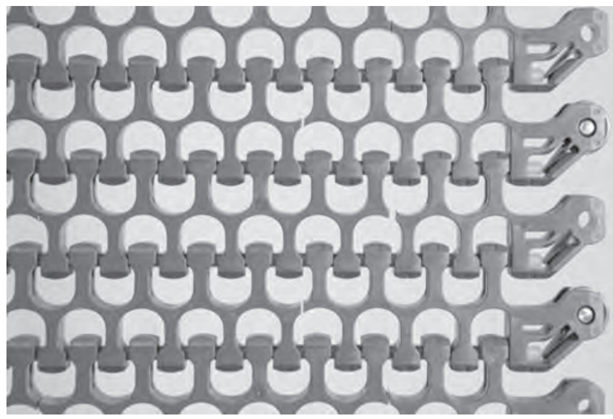
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength lb/ft	Belt Strength kg/m	Curved Belt Strength	Temp. Range (continuous) °F	Temp. Range (continuous) °C	Belt Weight lb/ft²	Belt Weight kg/m²	Friction Top Hardness	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[a]
Polypropylene	Grey/grey	Acetal	1600	2380	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	2.20	10.74	64 Shore A		
Polypropylene	White/white	Acetal	1600	2380		34 to 150	1 to 66	2.20	10.74	55 Shore A	b	c
Polyethylene	Natural/white	Acetal	1000	1490		-50 to 120	-46 to 49	2.30	11.23	55 Shore A	b	c
Polypropylene	Grey/grey	Polypropylene	1400	2100		34 to 150	1 to 66	2.12	10.35	64 Shore A		
Polypropylene	White/white	Polypropylene	1400	2100		34 to 150	1 to 66	2.12	10.35	55 Shore A	b	c

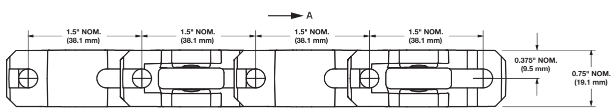
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

Radius with Edge Bearing

	in	mm
Pitch	1.50	38.1
Minimum Width (Bearings one side)	7	178
Minimum Width (Bearings both sides)	9	229
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 x 0.75	12.7 x 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







A preferred run direction for flat, turning applications

Product Notes

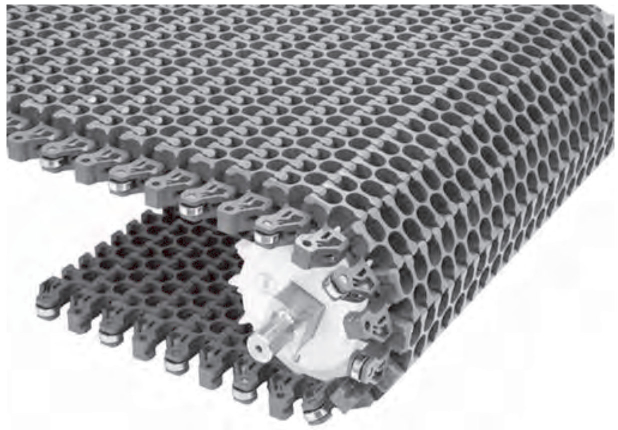
- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Both flush edge and tab edge are available for belts with bearings on only one side. Flush edge and tab edge must be placed on the outside edge of the turn.
- Rod retention allows for easier insertion and removal of rods.
- Edge bearings are only available for turning belts.
- Bearings are available on one side for belts that turn in only one direction or on both sides for belts that turn in both directions.
- Bearings must be configured in every other row of the belt.
- Bearings are chrome steel, recommended for dry applications only.
- Bearings are retained with a stainless pin.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Bearings must be placed on the inside edge of the turn.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge of the wearstrip channel).
- Use the *Intralox Engineering Program* to determine if edge bearings are suitable for the intended application.
- Maximum belt speed: 350 fpm (107 mpm).
- The plastic portion of the bearing edge is indented 0.125 in (3.2 mm). Belt width is measured to the end of the bearing.
- Belts with bearings on one side work with standard edge, hold down wearstrips with a 0.50 in (12.7 mm) deep channel.
- Belts with bearings on both sides require the wearstrip on the outside of the turns to have at least a 0.75 in (19.1 mm) deep channel.
- Maximum belt width: 36 in (914 mm).

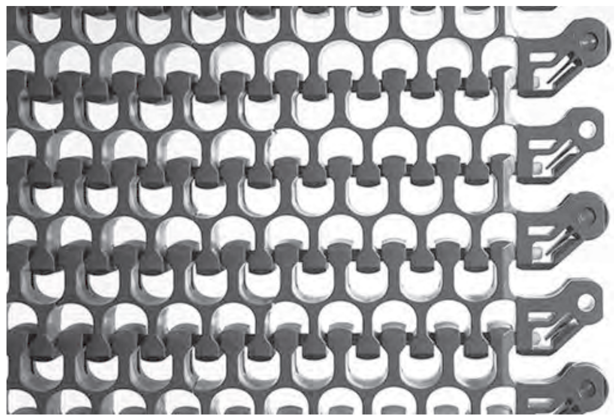
Belt Data

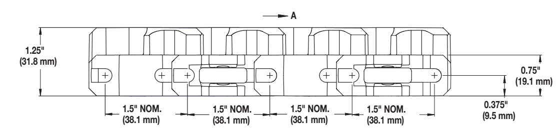
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2000	2976	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	2.82	13.80

Radius Flush Grid High Deck with Edge Bearing

	in	mm
Pitch	1.50	38.1
Minimum Width (bearings one side)	7.0	177.8
Minimum Width (bearings both sides)	9.0	228.6
Width Increments	1.0	25.4
Opening Size (approximate)	0.50 0.75	12.7 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







A preferred run direction for flat, turning applications

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Occluded edge rod retention provides easier rod insertion and removal.
- Bearings are chrome steel, and are retained in the belt using a stainless pin.
- Bearings are placed in every other row of the belt, on the inside edge of the turn.
- Edge bearings are only available for turning belts. Bearings are available on one side for belts that turn in only one direction or on both sides for belts that turn in both directions.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Edge bearings are only recommended for dry applications.
- Use the *Intralox Engineering Program* to determine if edge bearings are suitable for the intended application.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width, measured from the inside edge of the wearstrip channel.
- 0.5 in (12.7 mm) higher than the standard S2200 belt.
- Standard indent: 1.75 in (44.5 mm).
- The plastic portion of the bearing edge is indented 0.125 in (3.2 mm). Belt width is measured to the end of the bearing.
- Belts with bearings on one side work with standard edge, hold down wearstrips with a 0.50 in (12.7 mm) deep channel.
- Belts with bearings on both sides require the wearstrip on the outside of the turns to have at least a 0.75 in (19.1 mm) deep channel.
- Maximum belt width: 36 in (914 mm).
- Maximum belt speed: 350 fpm (107 meters per minute).

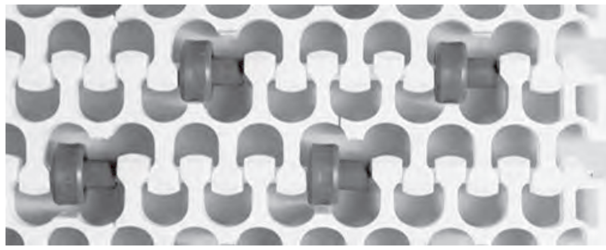
Belt Data

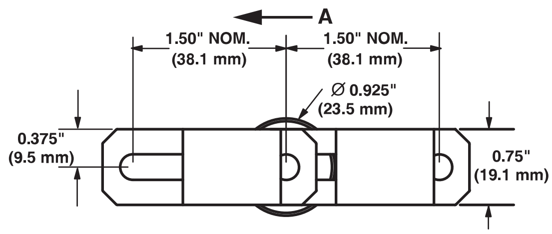
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2000	2976	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	3.66	17.87

SERIES 2200

Radius Flush Grid (2.6) with Insert Rollers

	in	mm
Pitch	1.50	38.1
Minimum Width	7	178
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





A preferred run direction for flat, turning applications

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge or tabbed edge available.
- Uses acetal rollers.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For applications where low back-pressure accumulation is required. Product accumulation load is 5% to 10% of product weight.
- For low back-pressure applications, place wearstrips between rollers. For driven applications, place wearstrips directly under rollers.
- Tab edge belt width does not include tabs. (Tabs extend approximately 0.5 in (13 mm) × 0.25 in (6 mm) on each side of belt.)
- Belts 16 in (406 mm) wide and less have a turn radius of 2.2 times the belt width. Wider belts have a turn radius of 2.6 times the belt width.
- For belts wider than 24 in (610 mm), contact Intralox Customer Service.
- Do not place sprockets inline with rollers.
- Minimum roller indent: 2.5 in (63.5 mm).
- Standard roller spacing:
  - across width: staggered 4 in (102 mm) or inline 2 in (51 mm), 3 in (76 mm), or 4 in (102 mm).
  - along length: staggered 1.5 in (38.1 mm) or inline 3 in (76.2 mm).
  - Custom roller placement is available.

Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength — Roller Width Spacing: 2 in	51 mm	3 in	7.6 mm	4 in	102 mm	Roller Indents		Curved Belt Strength	Temp. Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	in	mm		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	400	600	710	1060	900	1340	2.5, 3.5 to 4.5	64, 89 to 114	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.86	9.08
Acetal	Nylon	630	940	1110	1650	1410	2100	2.5, 3.5 to 4.5	64, 89 to 114		-50 to 200	-46 to 93	2.82	13.8
Polypropylene	Polypropylene[a]	350	520	620	920	790	1180	2.5, 3.5 to 4.5	64, 89 to 114		34 to 220	1 to 104	1.78	8.69

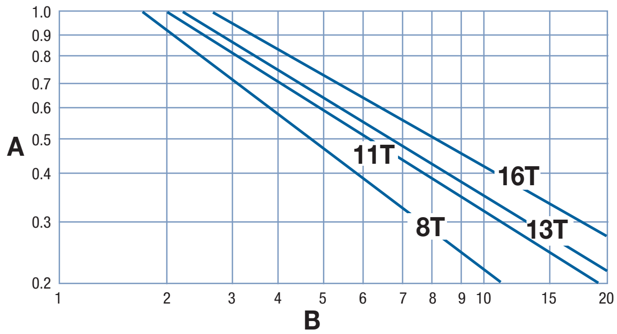
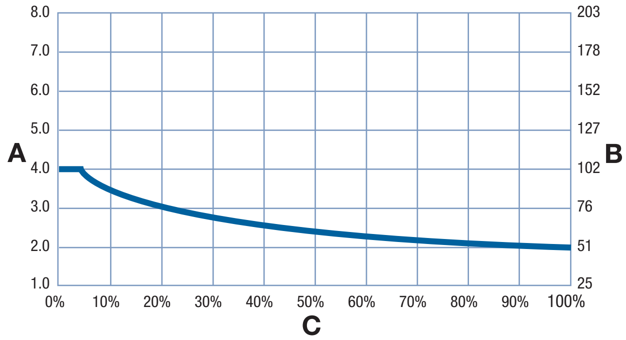
[a] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips[c]	
in	mm		Carryway	Returnway
5	127	2	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	3	3	2
12	305	3	3	2
14	356	5	3	3
15	381	5	3	3
16	406	5	3	3
18	457	5	3	3
20	508	5	4	3
24	610	7	4	3
30	762	9	5	4
32	813	9	5	4
36	914	9	5	4
42	1067	11	6	5
48	1219	13	7	5
54	1372	15	7	6
60	1524	15	8	6
72	1829	19	9	7
84	2134	21	11	8
96	2438	25	12	9
120	3048	31	15	11
144	3658	37	17	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service. Intralox does not recommend turning belts wider than 36 in (914 mm). For turning applications that require wider belts, contact Intralox Customer Service.

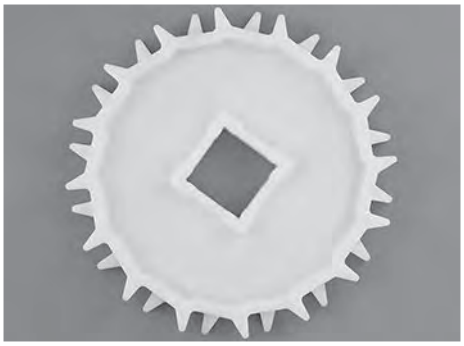
[b] This number is a minimum. Heavy-load applications can require additional sprockets (Place sprockets every inch for heavily loaded applications). For lockdown location, see Retainer Rings and Center Sprocket Offset.

[c] The number of wearstrips given does not include the hold down wearstrip.

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized
	
A strength factor **B** speed/length ratio (V/L) **T** number of teeth **V** belt speed, ft/min (m/min) **L** shaft centerline distance, ft (m) To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.	**A** sprocket spacing, in **B** sprocket spacing, mm **C** percentage of allowable belt strength utilized

Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes Round in	Available Bore Sizes Square in	Available Bore Sizes Round mm	Available Bore Sizes Square mm
8 (7.61%)	3.9	99	4.0	102	1.0	25		1.5		40
13 (2.91%)	6.3	160	6.4	163	1.0	25		2.5		60
16 (1.92%)	7.7	196	7.8	198	1.0	25		1.5, 2.5		40, 60

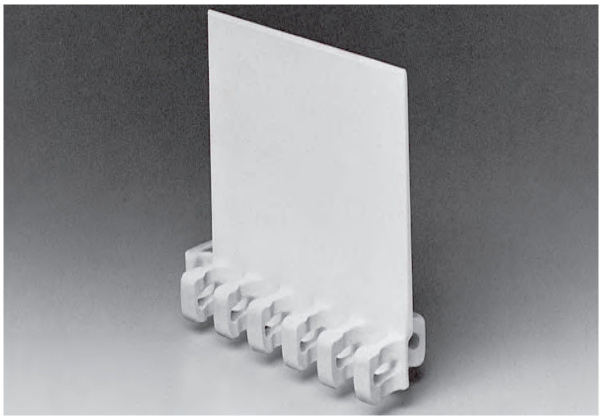


EZ Clean™ Sprockets[a]										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
11 (4.05%)	5.3	135	5.4	137	1.0	25		1.5		40
13 (2.91%)	6.3	160	6.4	163	1.0	25		1.5		40

[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m) All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

Acetal Split Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
13 (2.91%)	6.3	160	6.4	163	1.5	38	1.5, 1-7/16[a]	1.5		

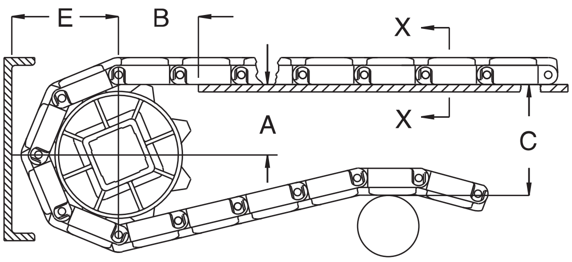
[a] Tight-fit round bore.

Streamline Flights			
Available Flight Height		Available Materials	
in	mm		
4	102	Polypropylene, polyethylene, acetal	

- Streamline flights are smooth on both sides.
- Each flight rises out of the center of a supporting module, molded as one part. No fasteners are required.
- Custom flight heights are available. Contact Intralox Customer Service for more information.
- Flights are available in linear increments of 1.5 in (38 mm).
- Standard indent: 0.625 in (15.9 mm).

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

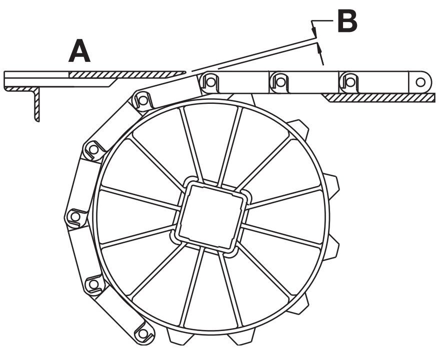
Figure 94: Basic dimensional requirements

S2200 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Radius Flush Grid, Radius with Edge Bearing										
3.9	99	8	1.44	37	1.93	49	3.92	100	2.40	61
5.3	135	11	2.18	55	2.27	58	5.32	135	3.10	79
6.3	160	13	2.67	68	2.52	64	6.27	159	3.57	91
7.7	196	16	3.40	86	2.78	71	7.69	195	4.28	109
Radius Friction Top										
3.9	99	8	1.44-1.58	36-40	1.93	49	4.17	106	2.65	67
5.3	135	11	2.18-2.29	55-58	2.27	58	5.57	142	3.35	85
6.3	160	13	2.67-2.76	68-70	2.52	64	6.52	166	3.82	97
7.7	196	16	3.40-3.47	86-88	2.78	71	7.94	202	4.53	115

S2200 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Radius Flush Grid with Insert Rollers										
3.9	99	8	1.44-1.58	36-40	1.93	49	4.00	102	2.48	63
5.3	135	11	2.18-2.29	55-58	2.27	58	5.42	138	3.19	81
6.3	160	13	2.67-2.76	68-70	2.52	64	6.36	162	3.66	93
7.7	196	16	3.40-3.47	86-88	2.78	71	7.78	198	4.37	111
Radius Flush Grid High Deck, Radius Flush Grid High Deck with Edge Bearing										
3.9	99	8	1.44-1.58	36-40	1.93	49	4.42	112	2.90	74
5.3	135	11	2.18-2.29	55-58	2.27	58	5.82	148	3.60	91
6.3	160	13	2.67-2.76	68-70	2.52	64	6.77	172	4.07	103
7.7	196	16	3.40-3.47	86-88	2.78	71	8.19	208	4.78	121

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 95: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
3.9	99	8	0.150	3.8
5.3	135	11	0.108	2.8
6.3	160	13	0.091	2.3
7.7	196	16	0.074	1.9

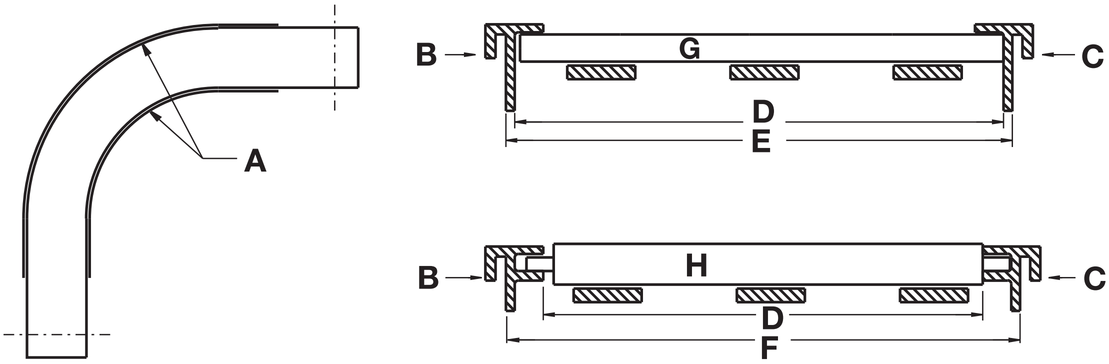
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

SERIES 2200

HOLD DOWN RAILS AND WEARSTRIPS

Use continuous hold down rails through an entire turn, in both the carryway and the returnway. Start the rails before the turn, at a distance of 1× the belt width. End the rails after the turn, at a distance of 1× the belt width. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory.

S2200 is available with and without an edge tab. A wearstrip style is available for each edge style. The tab edge design allows the belt to be held down without the wearstrip interfering with the carryway surface. For information about Intralox hold down wearstrips, see Custom Wearstrips.



A hold down rail placement
B outside hold down rail
C inside hold down rail
D belt width + 0.19 in (5 mm)
E belt width + 0.52 in (13 mm)
F belt width + 1.57 in (40 mm)
G flush edge belt
H tab edge belt (belt width measured exclusive of tabs)

Figure 96: Hold down rails and wearstrips for Series 2200 flat-turning belts

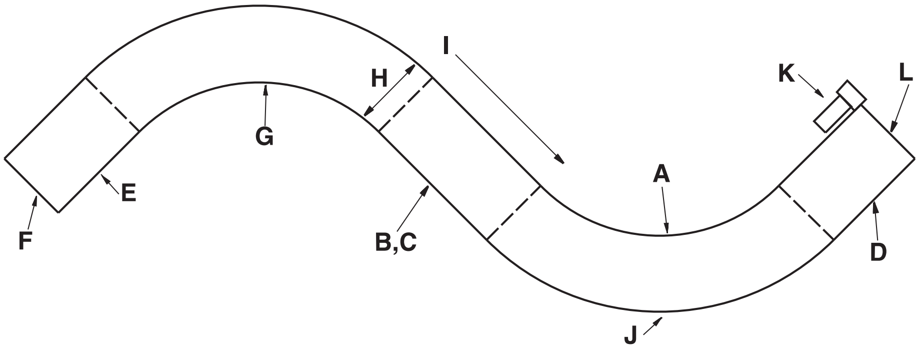
BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For more information, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.

- Contact Intralox Customer Service for inside turn radius guidelines.
- The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run (leading to drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 × belt width) require a weighted take up to avoid sprocket wear and tracking problems. See Special Take-Up Arrangements.
- The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 × the width), an idle roller can be used in place of sprockets.

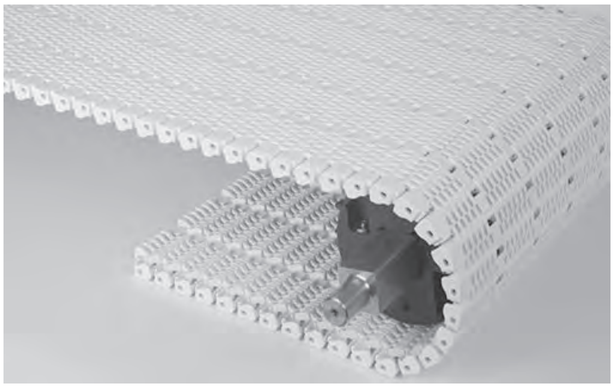


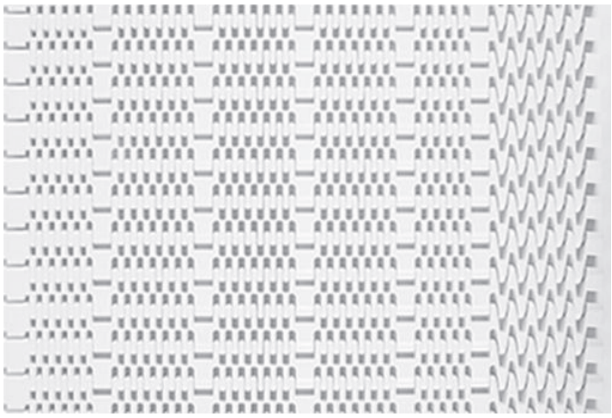
A turn radius, measured from the inside edge
B straight run between turns of opposing directions
C no straight run required between turns in the same direction
D final straight run leading to drive shaft
E first straight run immediately after idle shaft
F idle shaft
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

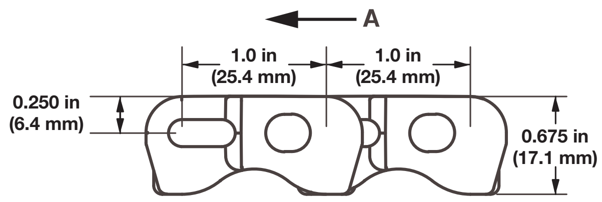
Figure 97: Typical two-turn radius layout

Flush Grid Nose-Roller Tight Turning

	in	mm
Pitch	1.0	25.4
Minimum Width	12.0	305
Maximum Width	30.0	762
Width Increments	3.0	76.2
Maximum Opening Size (Sphere)	0.245	6.2
Open Area (fully extended)	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	







A preferred run direction for flat, turning applications

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface provides free product movement.
- Smaller opening size enhances belt safety.
- Underside design allows the belt to run smoothly around a 0.75 in (19.1 mm) nosebar.
- Available with tight turning modules built on one side.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprockets have large lug teeth that enhance sprocket life.
- Designed for sideflexing applications with a minimum turn radius of 1.7 times belt width (measured from inside edge).
- Can make 180-degree turns.
- Belts can turn either clockwise or counterclockwise. Turning direction must be specified at order. Not available for S-turn applications.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Minimizes floor space requirements.
- Minimum back tension required.
- Turn radius for belts 12.0 in to 27.0 in (305 mm to 685.8 mm): 1.7 times belt width.
- Turn radius for belts 30.0 in (762 mm): 1.75 times belt width.
- Sprocket placement: every 3.00 in (76.2 mm) from outer edge, except drive pocket nearest inner edge. Drive pocket nearest inner edge is 3.75 in (95.3 mm) from inner edge.

Belt Data

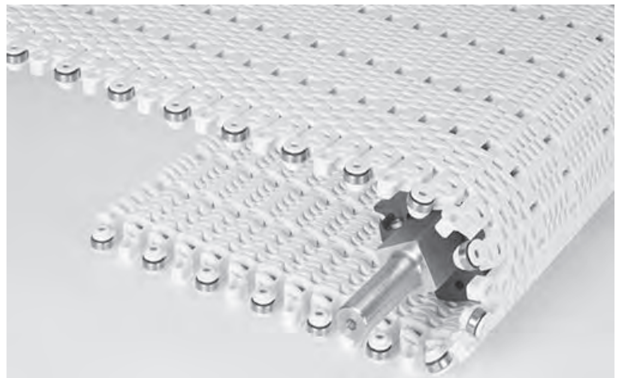
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	900	1339	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	2.40	11.72

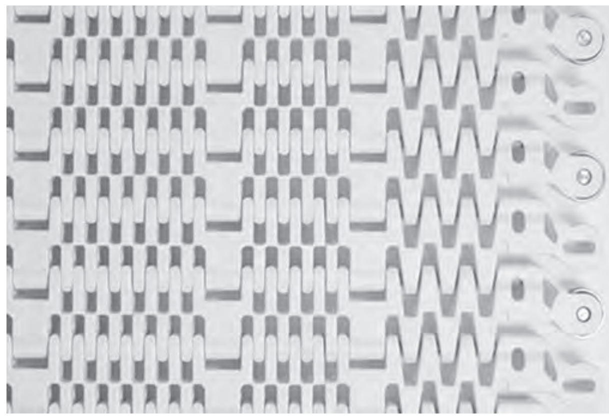
Flush Grid Nose-Roller Tight Turning with Edge Bearing

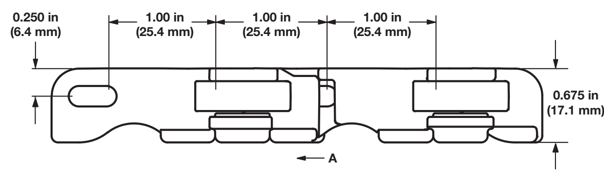
	in	mm
Pitch	1.00	25.4
Minimum Width	12.0	305
Maximum Width	30.0	762
Width Increments	3.0	76.2
Maximum Opening Size (sphere)	0.245	6.2
Open Area	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smaller opening size enhances belt safety.
- Edge bearings are stainless steel and are retained by stainless steel pins.
- Edge bearings are available on one side of the belt. Bearings must be placed on the inside edge of the turn, and must be configured in every other row of the belt.
- Underside design allows the belt to run smoothly around a 0.75-in (19.1-mm) nosebar.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for sideflexing applications with a minimum turn radius of 1.7 times belt width (measured from inside edge).
- Belts can turn either clockwise or counterclockwise. Turn direction must be specified when ordering. Not available for S-turn applications.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Use the *Intralox Engineering Program* to determine if edge bearings are suitable for each application.
- Turn radius for belts 12.0 in–27.0 in (305 mm–685.8 mm): 1.7 times belt width.
- Turn radius for belts 30.0 in (762 mm): 1.75 times belt width.





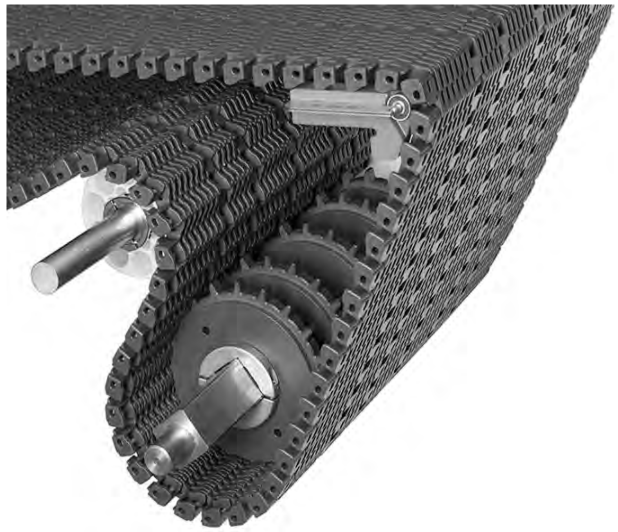


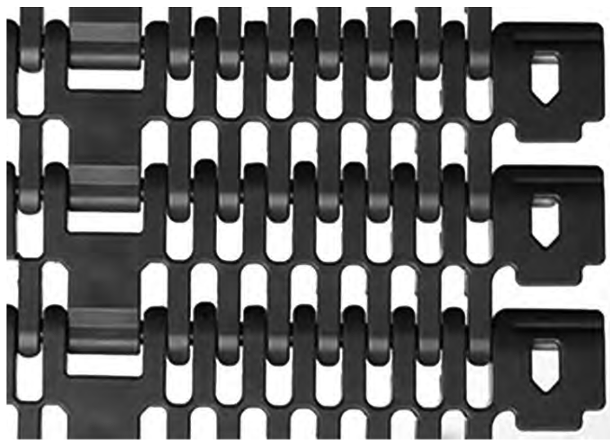
A preferred run direction for flat, turning applications

Belt Data								
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	900	1339	For curved belt strength calculations, contact Intralox Customer Service.	0 to 200	-17.8 to 93	2.40	11.72

Flush Grid Nose-Roller Dual Turning

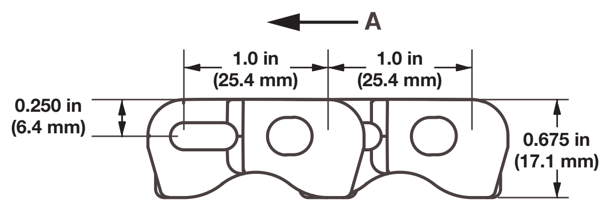
	in	mm
Pitch	1.0	25.4
Minimum Width	12	305
Maximum Width	36	914
Width Increments	3	76.2
Opening Size (Sphere)	0.245	6.2
Open Area	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Use the *Intralox Engineering Program* to determine the strength requirement of most radius applications and ensure the belt is strong enough for the application.
- Minimizes floor space requirements.
- Can be used in S-turn applications.
- Unheaded rods simplify maintenance.
- Underside design allows the belt to run smoothly around a 0.75-in (19.1 mm) nosebar.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for sideflexing applications with a minimum turn radius of 2.2 times belt width (measured from inside edge) for widths up to 27 in (685 mm). For widths 30 in (762 mm) to 36 in (914 mm), use 2.3 times belt width for minimum turn radius.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Sprockets have large lug teeth that enhance sprocket life.
- Sprocket placement: every 3.00 in (76.2 mm) from outer edge, except drive pocket nearest flush edge. Drive pocket nearest flush edge is 3.75 in (95.3 mm) from belt edge.



A preferred run direction for flat, turning applications

Belt Data

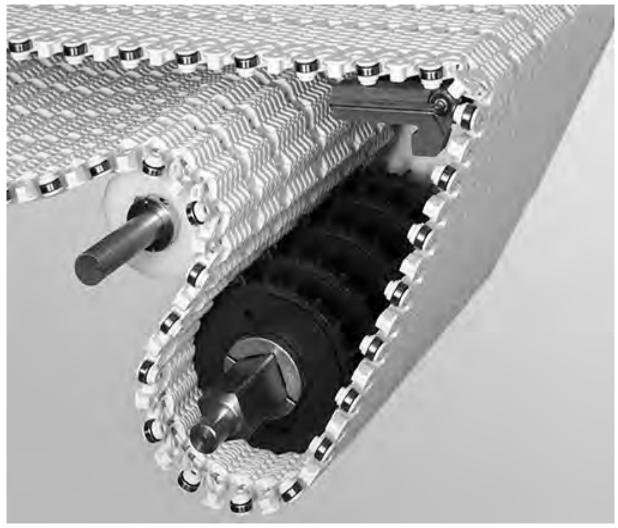
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength lb/ft	Straight Belt Strength kg/m	Curved Belt Strength	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Weight lb/ft²	Belt Weight kg/m²
Acetal	Nylon	900	1339	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	2.40	11.72

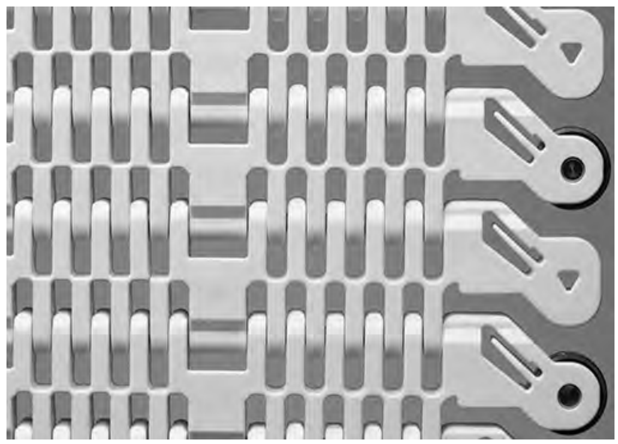
Flush Grid Nose-Roller Dual Turning with Edge Bearing

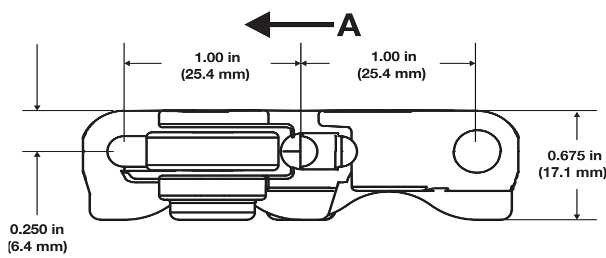
	in	mm
Pitch	1.00	25.4
Minimum Width	12	305
Maximum Width	36	914
Width Increments	3.0	76.2
Maximum Opening Size (sphere)	0.245	6.2
Open Area	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Edge bearings are stainless steel and are retained by stainless steel pins.
- Edge bearings are on both sides of the belt and must be configured in every other belt row.
- Underside design allows the belt to run smoothly around a 0.75-in (19.1-mm) nosebar.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for dual-turning applications.
- Designed for sideflexing applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge) for widths up to 27 in (685 mm). For widths 30 in (762 mm) to 36 in (914 mm), use 2.3 times the belt width for the minimum turn radius.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Before finalizing a conveyor design, use CalcLab to calculate the estimated belt pull and ensure the belt is strong enough for the application. To access CalcLab, go to calclab.intralox.com.
- Sprocket placement: every 3.00 in (76.2 mm) from the outer edge, except the drive pocket nearest the flush edge. The drive pocket nearest the flush edge is 3.75 in (95.3 mm) from the belt edge.







A preferred run direction for flat, turning applications

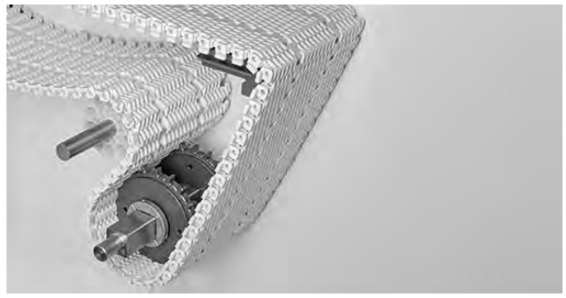
Belt Data								
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	900	1339	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	2.40	11.72

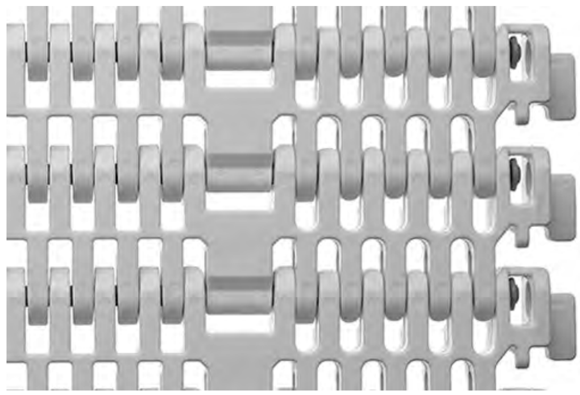
Mold to Width Flush Grid Nose-Roller Dual Turning

	in	mm
Pitch	1.00	25.4
Minimum Width	6.0	152.4
Opening Size (Sphere)	0.245	6.2
Open Area	28%	
Hinge Style	Closed	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge design features an extension to reduce the opening size.
- Sprockets have large lug teeth that enhance sprocket life.
- Flush edge or tab edge available.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for sideflexing applications with a standard turn ratio of 2.2 times the belt width (measured from inside edge).
- Use the *Intralox Engineering Program* to determine the strength requirement of most radius applications and ensure the belt is strong enough for the application.
- Intralox recommends using Dynamic Nose-Rollers in tight transfer applications.
- Detailed conveyor design guidelines are available. Contact Intralox Customer Service for more information.
- Minimum nose-roller diameter: 0.75 in (19.1 mm).
- Available widths: 6 in (152.4 mm) and 9 in (228.6 mm).
- Required number of sprockets:
  - 6 in (152.4 mm) belts: two sprockets. Avoid split sprockets. These sprockets do not fit on a 6 in (152.4 mm) wide belt.
  - 9 in (228.6 mm) belts: two sprockets. Split sprockets can be used.





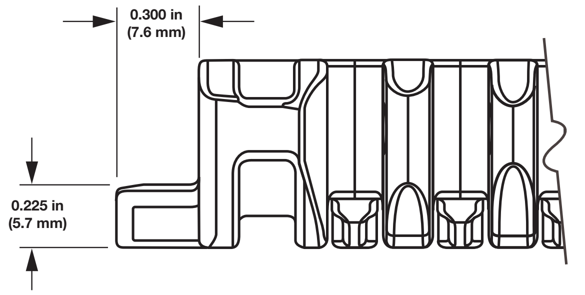


Figure 98: Tab edge dimensions

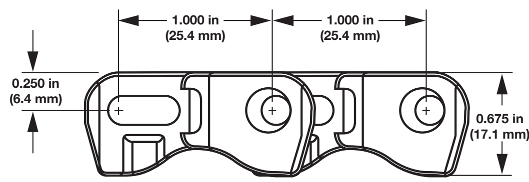
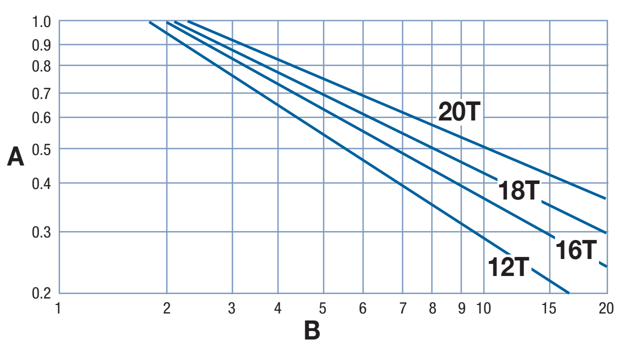
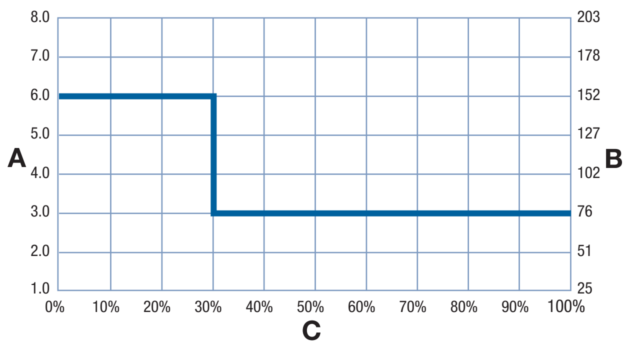


Figure 99: Flush edge dimensions

Belt Data

Belt Width in	Belt Width mm	Belt Material	Standard Rod Material Diameter, 0.18 in (4.6 mm)	Straight Belt Strength lb	Straight Belt Strength kg	Curved Belt Strength	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Weight lb/ft	Belt Weight kg/m
6	152.4	Acetal	Nylon	700	318	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	1.20	1.79
9	228.6	Acetal	Nylon	700	318		-50 to 200	-46 to 93	1.80	2.68

Strength Factor	Sprocket Spacing as a Function of Belt Strength Utilized
	

A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

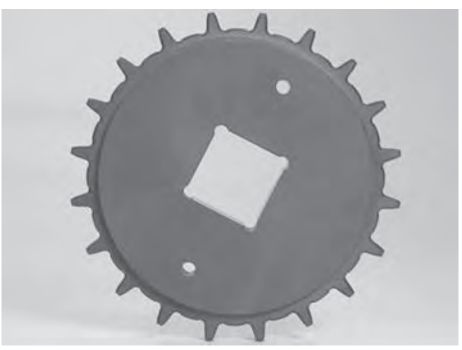
Nylon Split Sprockets[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
16 (1.92%)	5.1	130	5.2	132	1.9	48	1.25	1.5	30, 40	40
18 (1.52%)	5.8	147	5.9	150	1.9	48	1.25, 1-7/16	1.5	40	40
20 (1.52%)	6.4	163	6.5	165	1.9	48	1.25, 1-7/16	1.5	40	40

[a] Do not use with Mold to Width Flush Grid Nose-Roller Dual Turning belt.

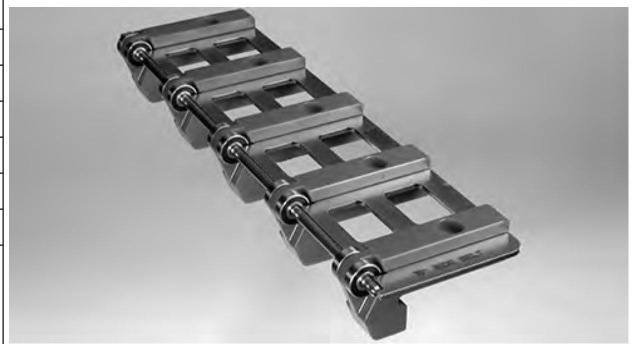
Nylon Sprockets

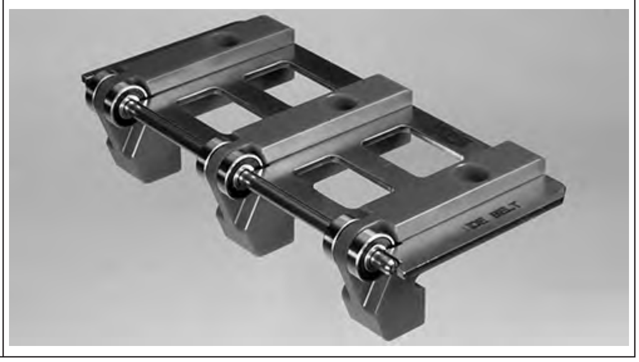
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
12 (3.41%)	3.9	99	3.9	99	1.0	25	1.25	1.5	25, 30, 40	40
16 (1.92%)	5.1	130	5.2	132	1.0	25	1.25	1.5	40	40
18 (1.52%)	5.8	147	5.9	150	1.0	25	1.25	1.5	40	40
20 (1.52%)	6.4	163	6.5	165	1.0	25	1.25	1.5	40	40



Dynamic Nose-Rollers	
Standard Nose-Roller Widths	
U.S. Sizes (in)	**Metric Sizes (mm)**
4.5	170.0
6.0	255.0
9.0	340.0
12.0	425.0
15.0	
18.0	
24.0	

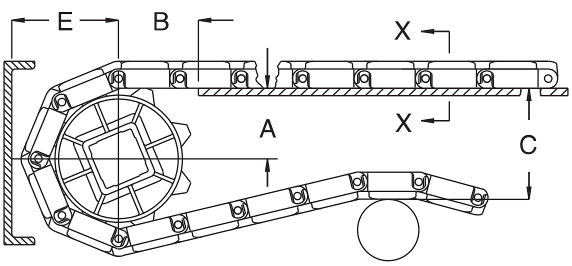
- U.S. sizes are available in 4.5 in, 6 in, and then in 3 in increments. Metric sizes are available in 85 mm (3.35 in) increments.
- For other belt widths, combine multiple nose-rollers in the available increments. For assistance, contact Intralox Customer Service.
- Made of FDA-compliant, blue, oil-filled nylon.
- Roller diameter: 0.75 in (19 mm)





CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

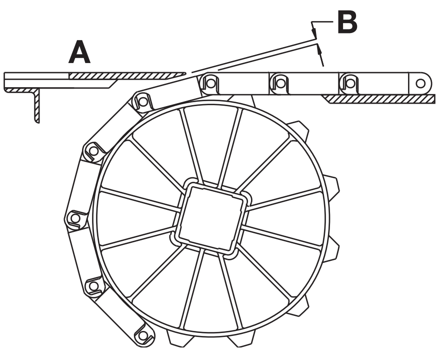
Figure 100: Basic dimensional requirements

S2300 Conveyor Frame Dimensions											
Sprocket Description			**A**		**B**		**C**		**E**	
Pitch Diameter		**Number of Teeth**	**Range (Bottom to Top)**							
in	**mm**		**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**
3.9	99	12	1.44-1.51	37-38	1.92	49	3.69	94	2.24	57
5.1	130	16	2.09-2.14	53-54	2.27	58	4.95	126	2.88	73

S2300 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
5.8	147	18	2.41-2.45	61-62	2.46	62	5.58	142	3.19	81
6.4	163	20	2.73-2.77	69-70	2.57	65	6.22	158	3.51	89

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 101: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth	in	mm
in	mm			
3.9	99	12	0.065	1.7
5.1	130	16	0.050	1.3
6.4	163	20	0.039	1.0

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

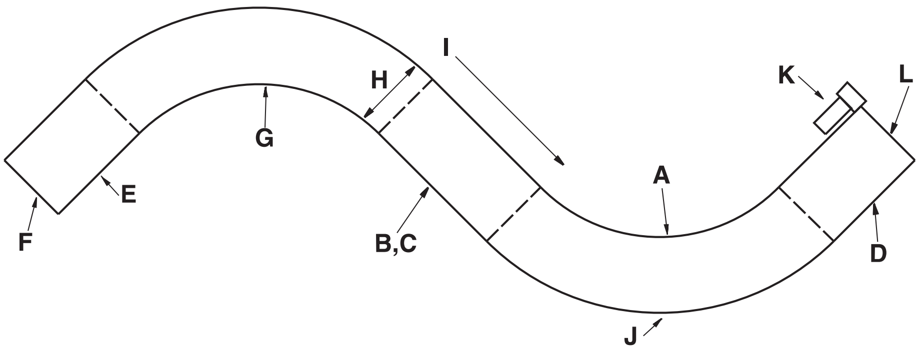
BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For more information, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.

- The minimum turn radius for the standard edge S2300 belts is 2.2 times the belt width, measured from the inside edge. For widths 30 in to 36 in (762 mm to 914 mm), use 2.3 times the belt width for minimum turn radius.
- The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 × belt width) require a weighted take up to avoid sprocket wear and tracking problems. See Special Take-Up Arrangements.
- The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 × the width), an idle roller or an Intralox Dynamic Nose-Roller can be used in place of sprockets.

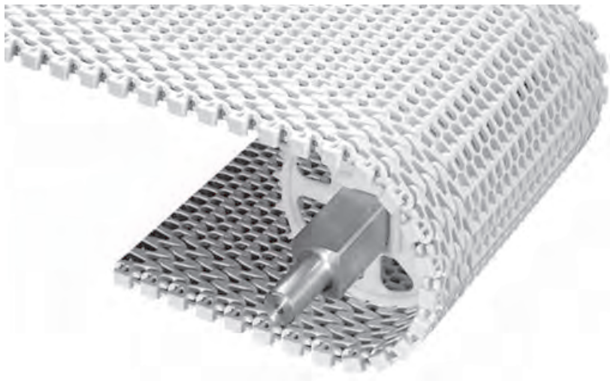


A turn radius, measured from the inside edge
B straight run between turns of opposing directions
C no straight run required between turns in the same direction
D final straight run leading to drive shaft
E first straight run immediately after idle shaft
F idle shaft, idle roller, or Intralox Dynamic Nose-Roller
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

Figure 102: Typical two-turn radius layout

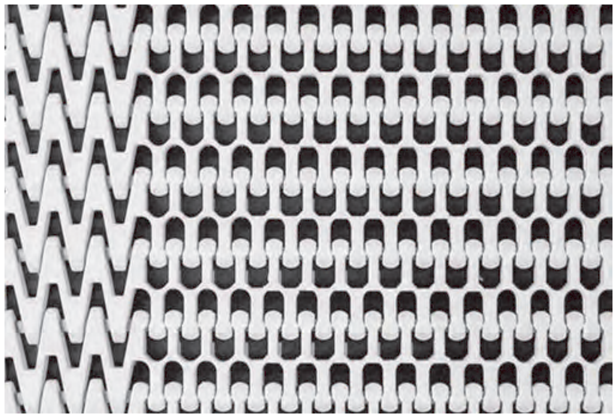
Radius Flush Grid (1.7)

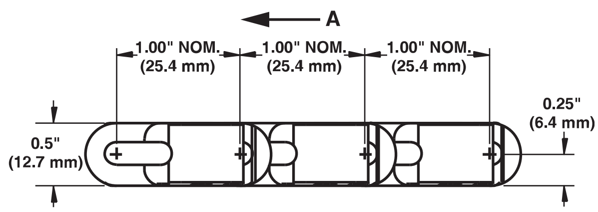
	in	mm
Pitch	1.00	25.4
Minimum Width	7	178
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through belt, making it easy to clean.
- Available with tight turning modules built into one side or both sides of the belt.
- Available with 1.7 modules on the inside and 2.2 modules on the outside for improved strength.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprocket drive system is designed to minimize wear and require low return-side tension.
- Designed for radius applications with a turn radius of 1.7 times the belt width (measured from inside edge). Maximizes plant floor space.
- Use the *Intralox Engineering Program* to identify the strength requirements of most radius applications, and ensure that the belt is strong enough for the application.
- Radius belt wearstrips are available.
- Contact Intralox Customer Service before using a belt width greater than 18 in (457 mm) in spiral and flat turning applications.
- Looking in the direction of flat-turning travel, the minimum sprocket indent from the right side belt edge with tight turning modules is 2.625 in (66.7 mm).
- Minimum sprocket indent from the left side belt edge with tight turning modules: 2.875 in (73 mm).
- Minimum nosebar diameter: 1.375 in (34.9 mm).





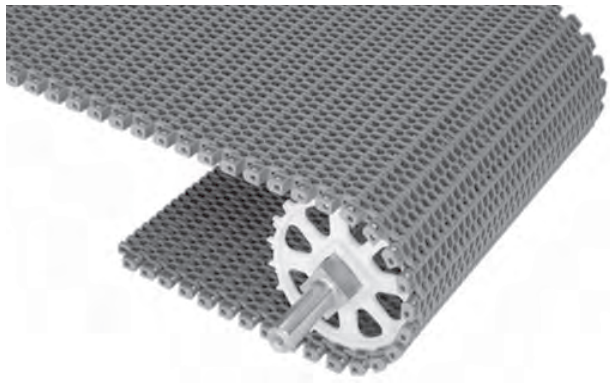
A preferred run direction for flat, turning applications

Belt Data								
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength lb/ft	Straight Belt Strength kg/m	Curved Belt Strength	Temp. Range (continuous) °F	Temp. Range (continuous) °C	Belt Weight lb/ft²	Belt Weight kg/m²
Polypropylene	Acetal	600	892.8	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.20	5.86
Acetal	Nylon	600	892.8		-50 to 200	-46 to 93	1.73	8.44
Polypropylene	Polypropylene[a]	600	892.8		34 to 220	1 to 104	1.12	5.47

[a] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

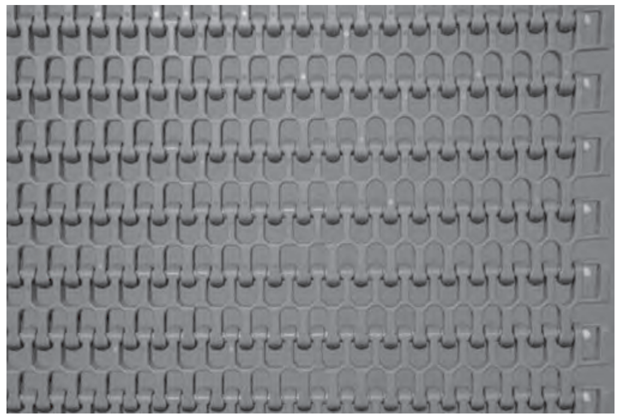
Radius Flush Grid (2.2)

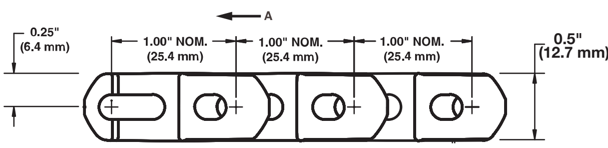
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprocket drive system is designed to minimize wear and require low return side tension.
- Designed for radius applications with a turn radius of 2.2 times the belt width (measured from inside edge).
- Use the *Intralox Engineering Program* to identify strength requirements for radius applications, and ensure that the belt is strong enough for the application.
- Radius belt wearstrips are available.
- Available with hold down guides, see Hold Down Guides (2.2 Only) for details.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Minimum nosebar diameter: 1.5 in (38.1 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





A preferred run direction for flat, turning applications

Belt Data								
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.10	5.40
Acetal	Nylon	1700	2530		-50 to 200	-46 to 93	1.59	7.76
Detectable acetal	HR nylon	1300	1935		-50 to 200	-46 to 93	1.70	8.30
Polypropylene	Polypropylene[a]	1000	1488		34 to 220	1 to 104	1.04	5.11
X-ray detectable acetal[b]	X-ray detectable acetal	1700	2530		-50 to 200	-46 to 93	1.85	9.03
HR nylon	HR nylon	1700	2530		-50 to 240	-46 to 116	1.43	6.98
HHR nylon	HHR nylon	1700	2530		-50 to 310	-46 to 154	1.43	6.98
PK	PK	1700	2530		-40 to 200	-40 to 93	1.40	6.84

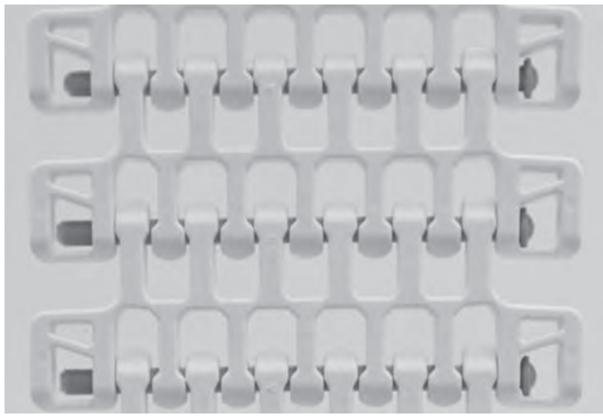
[a] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.
[b] Designed specifically for detection by X-ray machines.

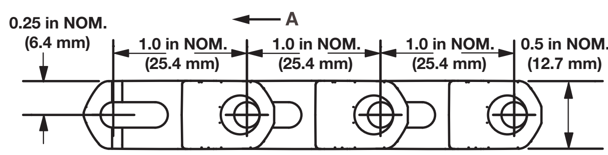
Mold to Width Radius Flush Grid 2.2

	in	mm
Pitch	1.00	25.4
Molded Width	4	101.6
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprocket drive system is designed to minimize wear and requires very low return side tension.
- Use the *Intralox Engineering Program* to identify the strength requirements of most radius applications, and ensure that the belt is strong enough for the application.
- Available with hold down guides, see Hold Down Guides (2.2 Only) for details.
- Hold down guides cannot be used with 2 in and 2.9 in pitch diameter sprockets or 3.9 in pitch diameter square bore sprockets.
- Radius belt wearstrips are available.
- Minimum nosebar diameter: 1.5 in (38.1 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.



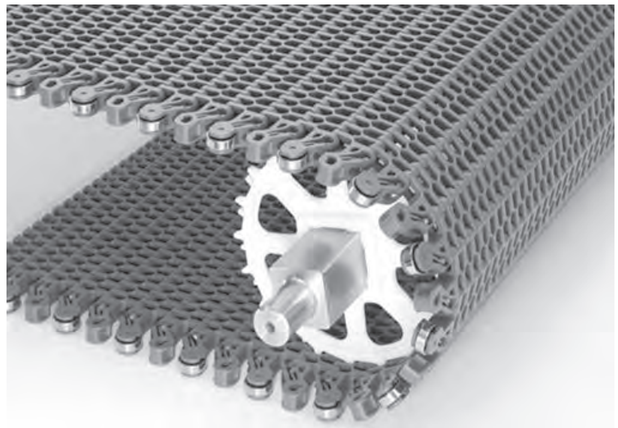


A preferred run direction for flat, turning applications

Belt Data								
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Weight	
		lb	kg		°F	°C	lb/ft	kg/m
Acetal	Nylon	560	254	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	0.56	0.83
Polypropylene	Acetal	400	181		34 to 200	1 to 93	0.39	0.57

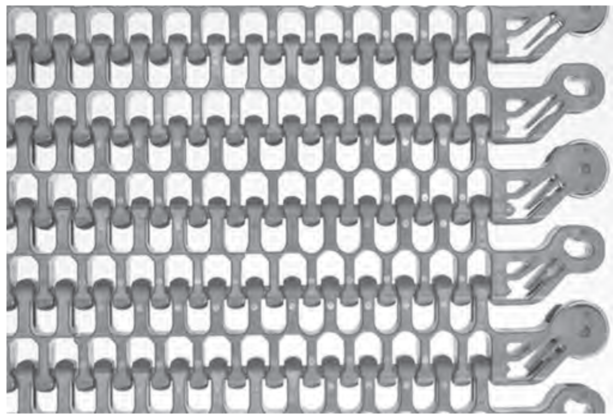
Radius with Edge Bearing

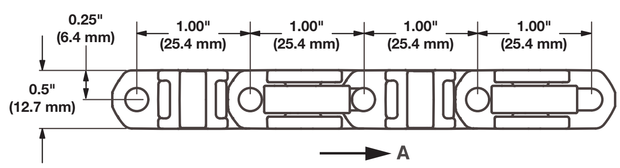
	in	mm
Pitch	1.00	25.4
Minimum Width (Bearings One Side)	7.5	191
Minimum Width (Bearings Both Sides)	9.0	229
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Occluded edge rod retention allows for easier insertion and removal of rods.
- Edge bearings are only available for turning belts.
- Edge bearings are stainless steel and are retained by a plastic pin.
- Edge bearings are available on one side (for belts that turn in only one direction) or on both sides (for belts that turn in both directions). Bearings must be placed on the inside edge of the turn, and must be configured in every other row of the belt.
- Both flush edge and hold down guide edge are available for belts that have bearings on only one side and must be placed on the outside edge of the turn.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Use the *Intralox Engineering Program* to determine if the Edge Bearing is suitable for your application.





A preferred run direction for flat, turning applications

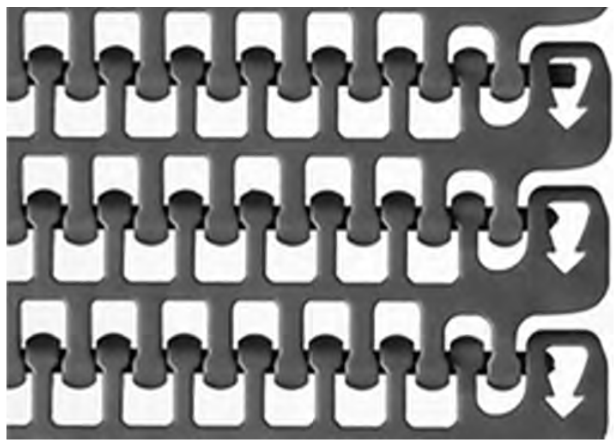
Belt Data								
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1700	2530	For curved belt strength calculations, contact Intralox Customer Service.	0 to 200	-18 to 93	1.59	7.76

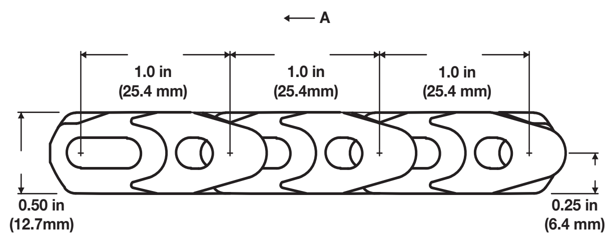
Radius Flush Grid with Heavy-Duty Edge

	in	mm
Pitch	1.0	25.4
Minimum Width	4.0	101.6
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Heavily reinforced and carefully sculpted edge is designed to resist belt snagging and edge damage while maintaining cleanability.
- Flush edge features an intuitive molded-in arrow to indicate preferred run direction, and extensions to reduce finger entrapment.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Interior belt openings pass straight through the belt to simplify cleaning.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for radius applications with a turn radius of 2.2 times the belt width (measured from the inside edge).
- Sprocket drive system minimizes wear and requires low return-side tension.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Minimum nosebar diameter: 1.375 in (34.9 mm).





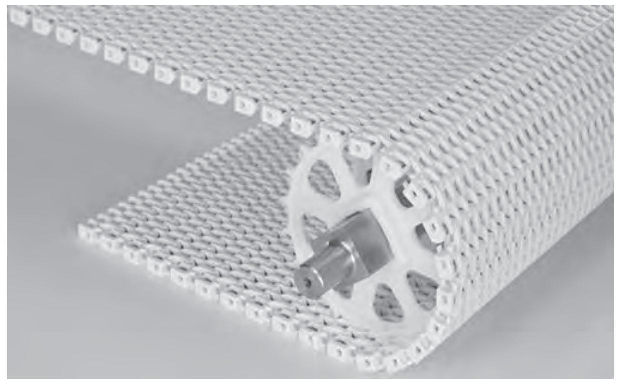
A preferred run direction for flat, turning applications

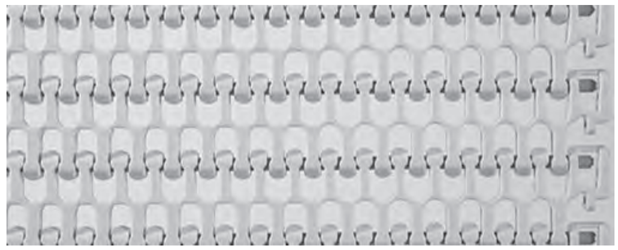
Belt Data								
Base Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)[a]		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	PK	1200	1790	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.10	5.37
Acetal	PK	1700	2530		-40 to 200	-40 to 93	1.59	7.7624
PK	PK	1700	2530		-40 to 200	-40 to 93	1.4	6.8348

[a] Sideflexing applications must not exceed 180°F (82°C).

Radius Flush Grid with Load-Sharing™ Edge

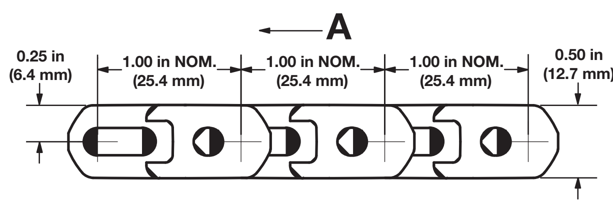
	in	mm
Pitch	1.00	25.4
Minimum Width	10.5	266.7
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprocket drive system minimizes wear and requires very low return-side tension.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Use the *Intralox Engineering Program* to predict strength requirements for most radius and low-tension capstan drive spiral applications, and ensure the belt is strong enough for the application.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Minimum nosebar diameter: 1.5 in (38 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.



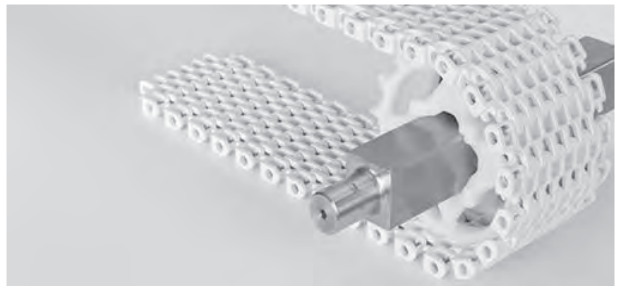
A preferred run direction for flat, turning applications

Belt Data								
Base Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)[a]		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1200	1790	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.10	5.37
Acetal	Nylon	1700	2530		-50 to 200	-46 to 93	1.59	7.76
Polypropylene	Polypropylene	1000	1490		34 to 200	1 to 104	1.04	5.10
X-ray detectable acetal	X-ray detectable acetal	1700	2530		-50 to 200	-46 to 93	1.85	9.03

[a] Sideflexing applications must not exceed 180° F (82° C).

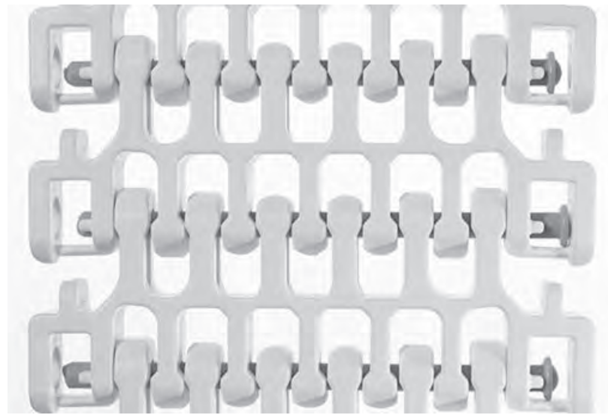
MTW Radius Flush Grid 2.2 with Load-Sharing™ Edge

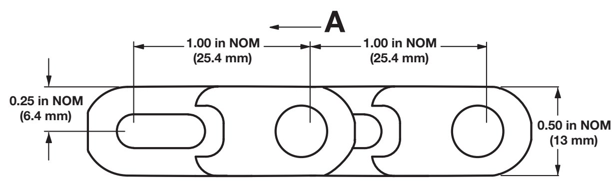
	in	mm
Pitch	1.00	25.4
Minimum Width	4.0	101.6
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for sideflexing applications with a standard turn ratio of 2.2 times the belt width.
- Minimum recommended turn ratio is 1.95. Consult Intralox Customer Service when considering minimum turn ratio.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Available widths: 4 in (101.6 mm), 6 in (152.4 mm), 8 in (203.2 mm), and 10 in (254 mm).
- For 4 in (102 mm) wide belts with hold down guides, do not use glass-filled nylon split sprockets.
- Maximum number of sprockets for 4 in (101.6 mm) belts:
  - without hold down guides: two
  - with hold down guides: one
- Maximum number of sprockets for 6 in (152.4 mm) belts: Maximum number of sprockets for 6 in (152.4 mm) belts
-
  - without hold down guides: four.
  - with hold down guides: three.
- Maximum number of sprockets for 8 in (203.2 mm) belts with and without hold down guides: five.
- Maximum number of sprockets for 10 in (254 mm) belts with and without hold down guides: seven.
- Minimum nosebar diameter for belts:
  - without hold down guides: 1.375 in (34.9 mm)
  - with hold down guides: 1.50 in (38.1 mm).





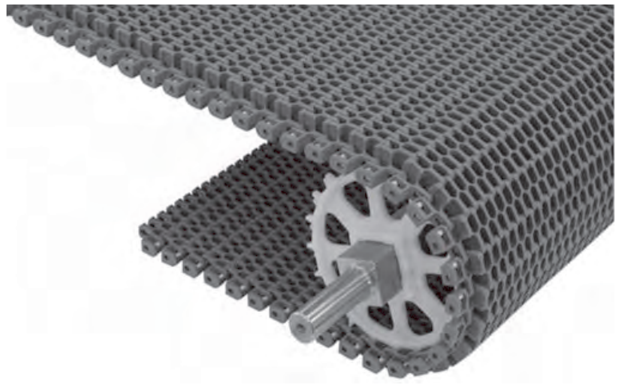
A preferred run direction for flat, turning applications

Belt Data

Base Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Hold Down Guides	Straight Belt Strength lb (kg) 4 in (101.6)	6 in (152.4)	8 in (203.2)	10 in (254)	Curved Belt Strength	Temp. Range (continuous) °F	°C	Belt Weight lb/ft (kg/m) 4 in (101.6)	6 in (152.4)	8 in (203.2)	10 in (254)
Acetal	Nylon	Without	484 (220)	850 (386)	1133 (514)	1417 (643)	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	0.57 (0.85)	0.89 (1.32)	1.19 (1.77)	1.50 (2.23)
		With	242 (110)	726 (329)	1133 (514)	1417 (643)		-50 to 200	-46 to 93	0.64 (0.95)	0.96 (1.42)	1.26 (1.88)	1.56 (2.32)
Polypropylene	Nylon	Without	400 (181)	600 (272)	800 (363)	1000 (454)		34 to 220	1 to 104	0.39 (0.58)	0.60 (0.89)	0.82 (1.22)	1.01 (1.50)
		With	242 (110)	600 (272)	800 (363)	1000 (454)		34 to 220	1 to 104	0.43 (0.64)	0.65 (0.978)	0.86 (1.28)	1.06 (1.58)

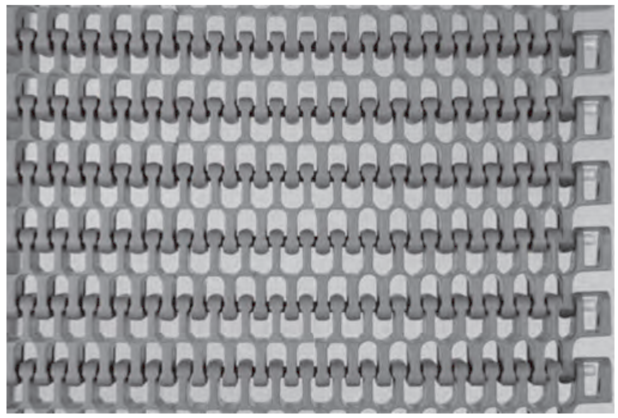
Radius Flush Grid High Deck

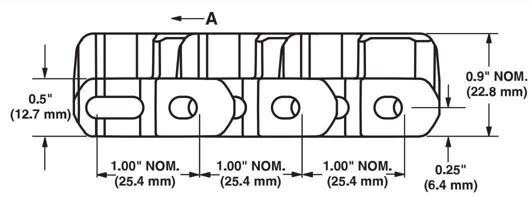
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush Grid High Deck is 0.4 in (10 mm) higher than the standard S2400 belt.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Makes turns with an inside radius of 2.2 times the belt width.
- Works with standard S2400 wearstrips.
- Standard indent: 0.875 in (22.2 mm).





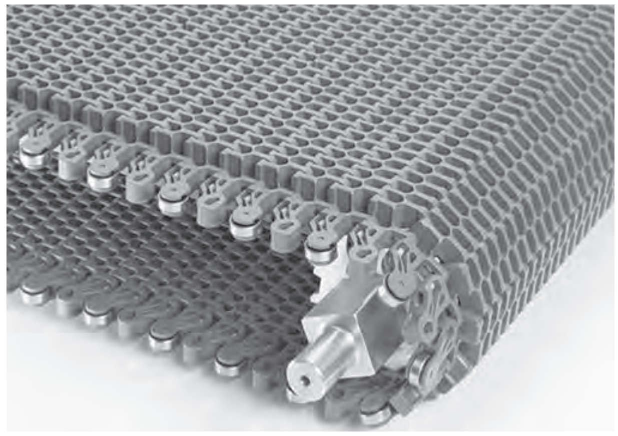
A preferred run direction for flat, turning applications

Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.90	9.28
HR nylon	Nylon	1700	2530		-50 to 240	-46 to 116	2.30	11.23
Acetal	Acetal	1700	2530		-50 to 200	-46 to 93	2.83	13.82
X-ray detectable acetal	X-ray detectable acetal	1700	2530		-50 to 200	-46 to 93	3.31	16.16
PK	PK	1700	2530		-40 to 200	-40 to 93	2.49	12.16

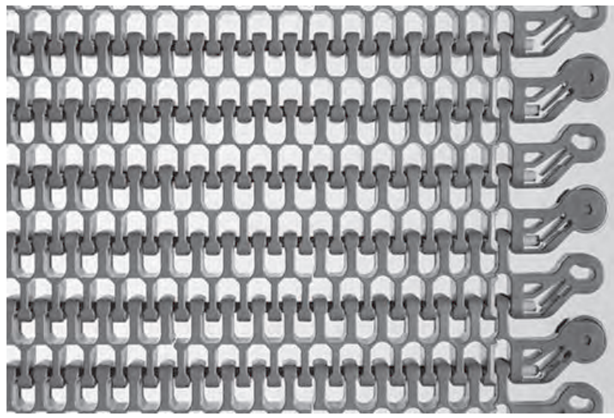
Radius Flush Grid High Deck with Edge Bearing

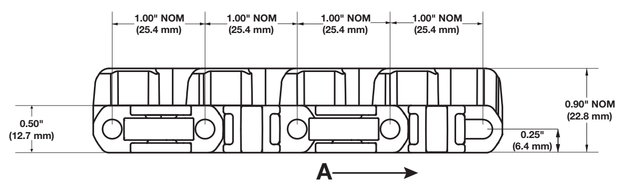
	in	mm
Pitch	1.00	25.4
Minimum Width (Bearings One Side)	7.5	191
Minimum Width (Bearings Both Sides)	9.0	229
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Occluded edge rod retention allows for easier insertion and removal of rods.
- Edge bearings are only available for turning belts.
- Edge bearings are available on one side (for belts that turn in only one direction) or on both sides (for belts that turn in both directions). Bearings must be placed on the inside edge of the turn, and must be configured in every other row of the belt.
- Edge bearings are stainless steel and are retained by plastic pins.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Use the *Intralox Engineering Program* to determine if the Edge Bearing is suitable for your application.
- Belt height: 0.4 in (10 mm) higher than standard S2400 belt.
- Standard indent: 1.88 in (47.75 mm).





A preferred run direction for flat, turning applications

Belt Data								
Base Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)[a]		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1700	2530	For curved belt strength calculations, contact Intralox Customer Service.	0 to 200	-18 to 93	2.83	13.82

[a] Sideflexing applications must not exceed 180°F (82°C).

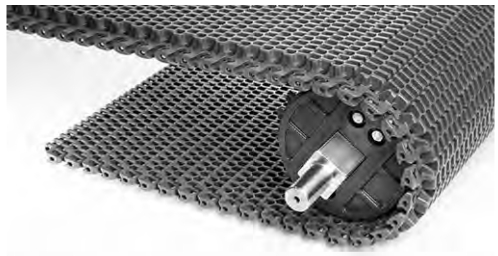
SERIES 2400

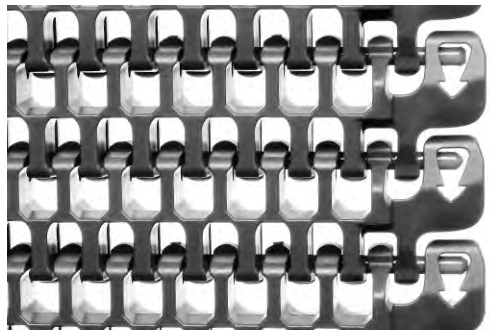
Radius Flush Grid High Deck with Heavy-Duty Edge

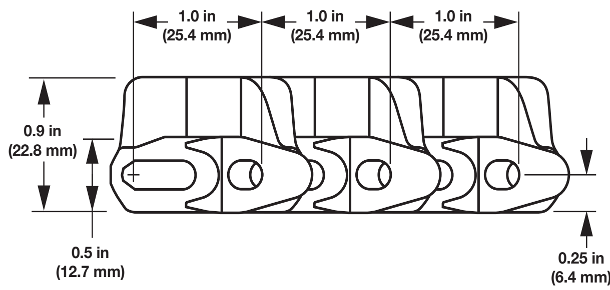
	in	mm
Pitch	1.00	25.4
Minimum Width	4	101.6
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Heavily reinforced and carefully sculpted edge is designed to resist belt snagging and edge damage while maintaining cleanability.
- Flush edge features an intuitive molded-in arrow to indicate preferred run direction, and extensions to reduce finger entrapment.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Interior belt openings pass straight through the belt to simplify cleaning.
- Sprocket drive system minimizes wear and requires low return-side tension.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Makes turns with an inside radius of 2.2 times the belt width.
- Radius belt wearstrips are available.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Flush Grid High Deck is 0.4 in (10 mm) higher than the standard S2400 belt.
- Standard indent: 0.875 in (22.2 mm)
- Minimum nosebar diameter: 1.375 in (34.9 mm).



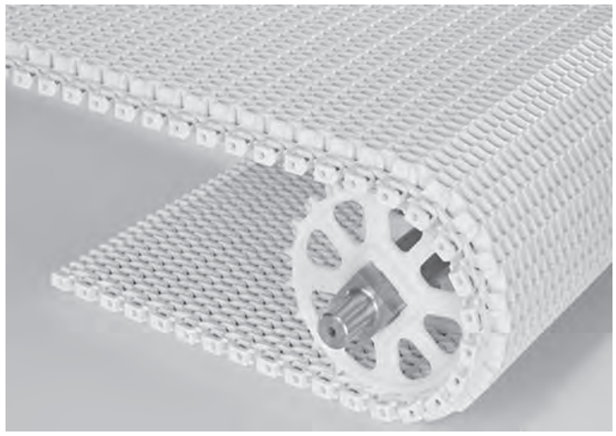




Belt Data								
	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength			Temperature Range (continuous)		Belt Weight	
Belt Material		lb/ft	kg/m	Curved Belt Strength	°F	°C	lb/ft²	kg/m²
Polypropylene	PK	1200	1790	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.90	9.28
Acetal	PK	1700	2530		-40 to 200	-40 to 93	2.83	13.82
PK	PK	1700	2530		-40 to 200	-40 to 93	2.49	12.16

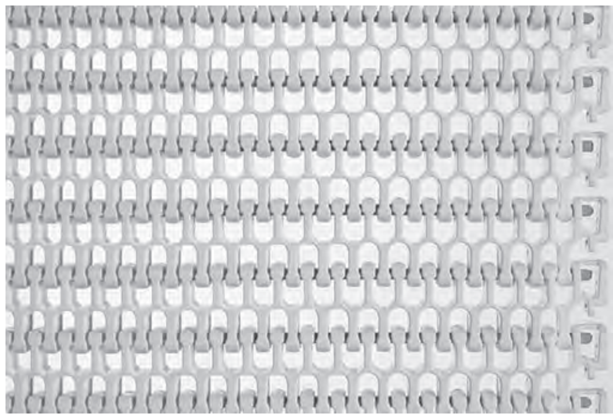
Radius Flush Grid High Deck with Load-Sharing™ Edge

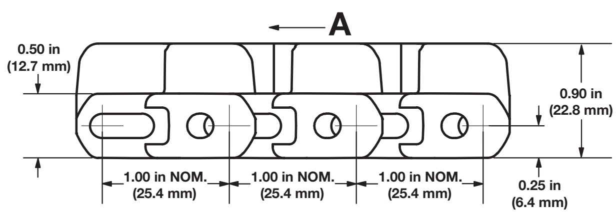
	in	mm
Pitch	1.00	25.4
Minimum Width	10.5	266.7
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprocket drive system minimizes wear and requires very low return-side tension.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Use the *Intralox Engineering Program* to predict strength requirements for most radius and low-tension capstan drive spiral applications, and ensure the belt is strong enough for the application.
- Uses a standard S2400 wearstrip.
- Standard indent: 0.875 in (22.2 mm).
- Load-Sharing Edge height: 0.4 in (10 mm) higher than the standard S2400 belt.





A preferred run direction for flat, turning applications

Belt Data

Base Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temp. Range (continuous)[a]		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.90	9.28
Acetal	Nylon	1700	2530		-50 to 200	-46 to 93	2.83	13.82
Polypropylene	Polypropylene	1000	1487		34 to 200	1 to 104	1.84	8.99

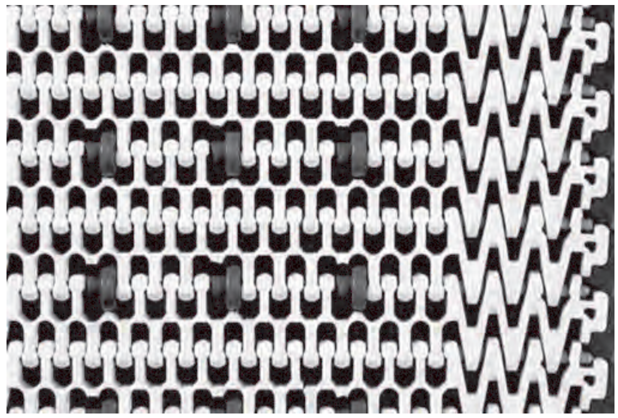
[a] Sideflexing applications must not exceed 180ºF (82ºC).

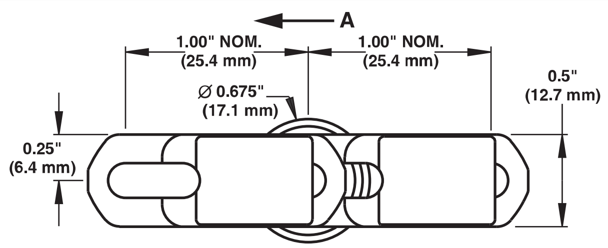
Radius Flush Grid (2.4) with Insert Rollers

	in	mm
Pitch	1.00	25.4
Minimum Width	9	229
Width Increments	1.00	25.4
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- For radius applications requiring low back pressure accumulation with minimum radius of 2.4 times belt width (measured from inside edge).
- For low back pressure applications, place wearstrip between rollers. For driven applications, place wearstrip directly under rollers.
- Do NOT place sprockets in line with rollers.
- Belts 12 in (305 mm) wide and less have a turn ratio of 1.7.
- Contact Intralox Customer Service before using a belt width greater than 24 in (610 mm) in a flat turning or spiral applications.
- Standard roller width spacings: 2 in (51 mm), 3 in (76 mm) or 4 in (102 mm).
- Standard roller row spacings: 2 in (51 mm) or 4 in (102 mm).
- Roller indents: 3.5 in (89 mm) or 4 in (102 mm) based on roller width spacing selected.





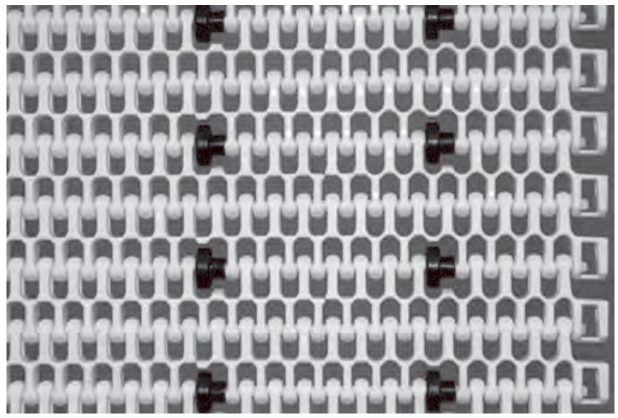
A preferred run direction for flat, turning applications

Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Roller Indents		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	in	mm		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	500	744	3.5 or 4.0	89 or 102	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.20	5.86
Acetal	Nylon	500	744	3.5 or 4.0	89 or 102		-50 to 200	-46 to 93	1.73	8.44
Polypropylene	Polypropylene	500	744	3.5 or 4.0	89 or 102		34 to 220	1 to 104	1.12	5.47

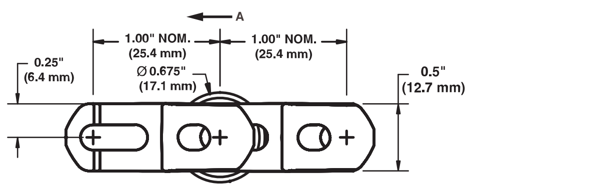
Radius Flush Grid (2.8) with Insert Rollers

	in	mm
Pitch	1.00	25.4
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Detailed material information is provided at the beginning of Section 2: Product Line.
- This belt uses the Series 2400 Radius Flush Grid (2.2) as a base. Due to roller placement, turn radius increases to 2.8.
- For low back-pressure applications, place wearstrips between rollers. For driven applications, place wearstrips under rollers.
- Do not place sprockets in-line with rollers.
- For radius applications requiring low back-pressure accumulation with a minimum radius of 2.8 times belt width (measured from inside edge).
- Contact Intralox Customer Service before using a belt width greater than 24 in (610 mm) in flat-turning or spiral applications.
- Standard roller row spacing: 2 in (51 mm) or 4 in (102 mm).
- Standard roller width spacing: 2 in (51 mm), 3 in (76 mm), or 4 in (102 mm).
- Minimum width with hold down guides: 8 in (203 mm).
- Roller indents: 2 in (51 mm), 2.5 in (63 mm), 3 in (76 mm), or 3.5 in (89 mm) based on roller width spacing.
- Minimum roller indent with hold down guides: 3 in (76 mm).



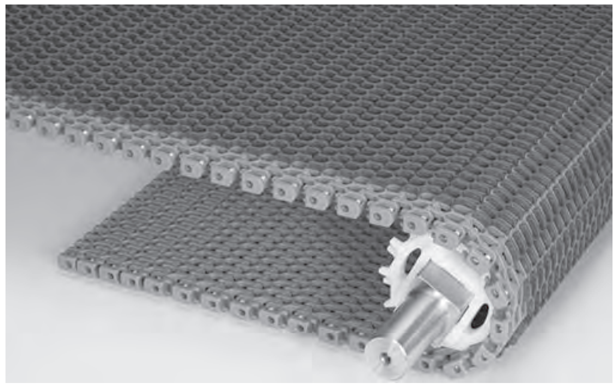
A preferred run direction for flat, turning applications

Belt Data

Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength – Roller Width Spacing: 2 in lb/ft	51 mm kg/m	3 in lb/ft	76 mm kg/m	4 in lb/ft	102 mm kg/m	Roller Indents in	Roller Indents mm	Curved Belt Strength	Temp. Range (continuous) °F	°C	Belt Weight lb/ft²	kg/m²
Polypropylene	Acetal	700	1040	800	1190	900	1340	2	51	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.21	1.21
								2.5 to 3.5	64 to 89					
Acetal	Nylon	1000	1490	1200	1780	1300	1940	2	51		-50 to 200	-46 to 93	1.61	7.68
								2.5 to 3.5	64 to 89					
Polypropylene	Polypropylene	600	890	700	1040	800	1190	2	51		34 to 220	1 to 104	1.04	5.11
								2.5 to 3.5	64 to 89					

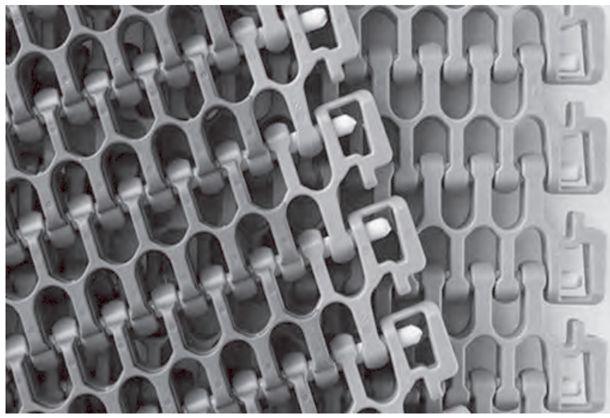
Radius Flush Grid Friction Top 2.2 with Load-Sharing™ Edge

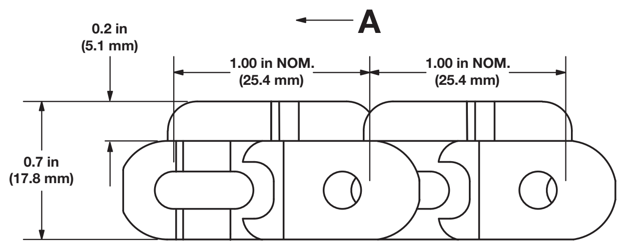
	in	mm
Pitch	1.00	25.4
Minimum Width	10.5	266.7
Maximum Width	36.0	914.0
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Available in grey polypropylene with grey rubber and white polypropylene with white rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprocket drive system minimizes wear and requires very low return-side tension.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Indent for friction surface: 1.125 in (28.6 mm).
- Minimum nosebar diameter: 1.5 in (38 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





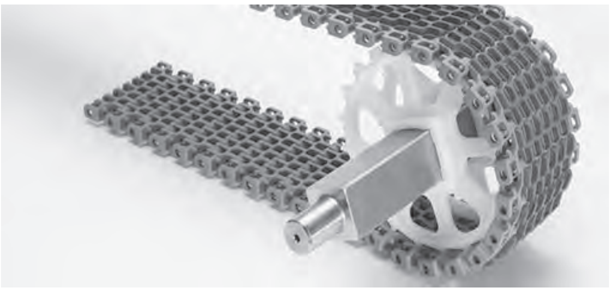
A preferred run direction for flat, turning applications

Belt Data												
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength lb/ft	Belt Strength kg/m	Curved Belt Strength	Temp. Range (continuous) °F	Temp. Range (continuous) °C	Belt Weight lb/ft²	Belt Weight kg/m²	Friction Top Hardness	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[a]
Polypropylene	Grey/Grey	Acetal	1200	1790	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.35	6.59	64 Shore A		
Polypropylene	White/White	Acetal	1200	1790		34 to 150	1 to 66	1.35	6.59	55 Shore A	b	c
Polypropylene	Grey/Grey	Polypropylene	1000	1490		34 to 150	1 to 66	1.29	6.30	64 Shore A		
Polypropylene	White/White	Polypropylene	1000	1490		34 to 150	1 to 66	1.29	6.30	55 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

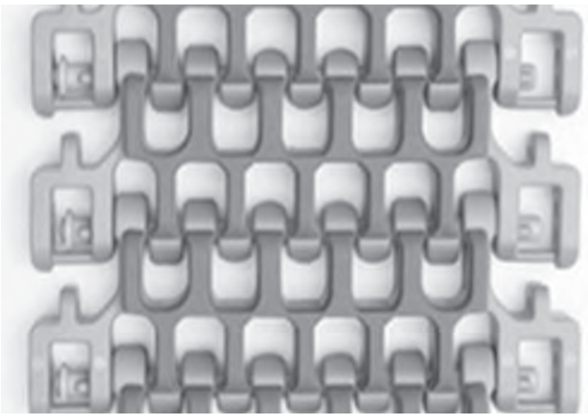
MTW Radius Flush Grid Friction Top 2.2 with Load-Sharing™ Edge

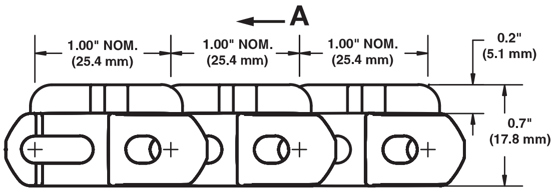
	in	mm
Pitch	1.00	25.4
Minimum Width	4.0	101.6
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge design features an extension to reduce the opening size.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Available in grey polypropylene with grey rubber and white polypropylene with white rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for sideflexing applications with a standard turn ratio of 2.2 times the belt width.
- Minimum recommended turn ratio is 1.95. Contact Intralox Customer Service when considering minimum turn ratio.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Available widths: 4 in (101.6 mm), 6 in (152.4 mm), 8 in (203.2 mm), and 10 in (254 mm).
- Indent for friction surface:
  - On 4-in (101.6 mm) and 6-in (152.4 mm) widths: indent molded at 0.70 in (17.78 mm).
  - On 8-in (203.2 mm) and 10-in (254 mm) widths: indent molded at 0.95 in (24.1 mm).
- For 4 in (102 mm) wide belts with hold down guides, do not use glass-filled nylon split sprockets.
- Maximum number of sprockets:
  - 4 in (101.6 mm) belts without hold down guides: two sprockets.
  - 4 in (101.6 mm) belts with hold down guides: one sprocket.
  - 6 in (152.4 mm) belts without hold down guides: four sprockets.
  - 6 in (152.4 mm) belts with hold down guides: three sprockets.
  - 8 in (203.2 mm) belts with and without hold down guides: five sprockets.
  - 10 in (254 mm) belts with and without hold down guides: seven sprockets.
- Minimum nosebar diameter:
  - belts without hold down guides: 1.375 in (34.9 mm).
  - belts with hold down guides: 1.50 in (38.1 mm).





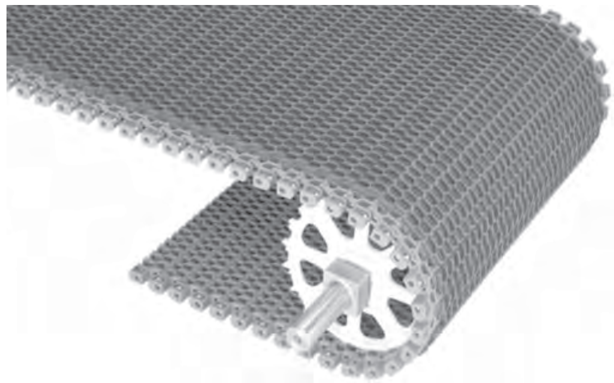
A preferred run direction for flat, turning applications

Belt Data														
Base Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Hold Down Guides	Straight Belt Strength lb (kg) 4.0 (101.6)	6.0 (152.4)	8.0 (203.2)	10.0 (254)	Curved Belt Strength	Temp. Range (continuous) F°	C°	Belt Weight lb/ft (kg/m) 4.0 (101.6)	6.0 (152.4)	8.0 (203.2)	10.0 (254)
Polypropylene	Nylon	Without	400 (181)	600 (272)	800 (363)	1000 (454)	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	0.39 (0.58)	0.60 (0.89)	0.82 (1.22)	1.01 (1.50)
		With	242 (110)	600 (272)	800 (363)	1000 (454)		34 to 150	1 to 66	0.43 (0.64)	0.65 (0.978)	0.86 (1.28)	1.06 (1.58)

SERIES 2400

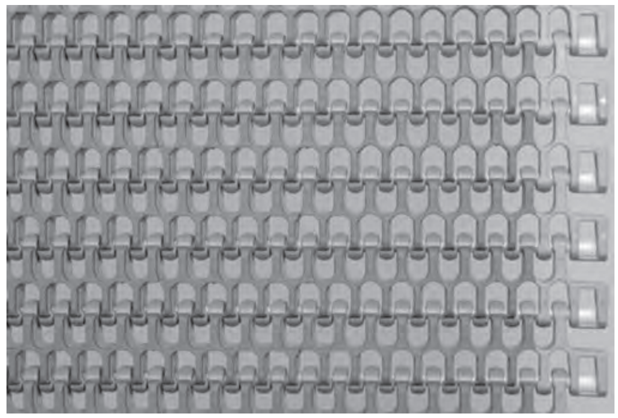
Radius Friction Top (2.2)

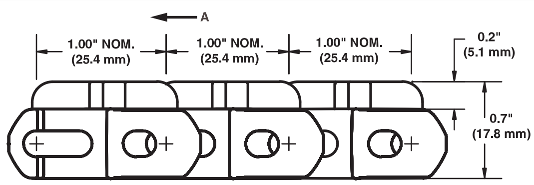
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in grey polypropylene with grey rubber and white polypropylene with white rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Radius belt wearstrips are available.
- Available with hold down guides, see Hold Down Guides (2.2 Only) for details.
- Contact Intralox Customer Service before using a belt width greater than 36 in (914 mm) in turning or spiral applications.
- Indent for friction surface: 1.125 in (28.6 mm).
- Minimum nosebar diameter: 1.5 in (38.1 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





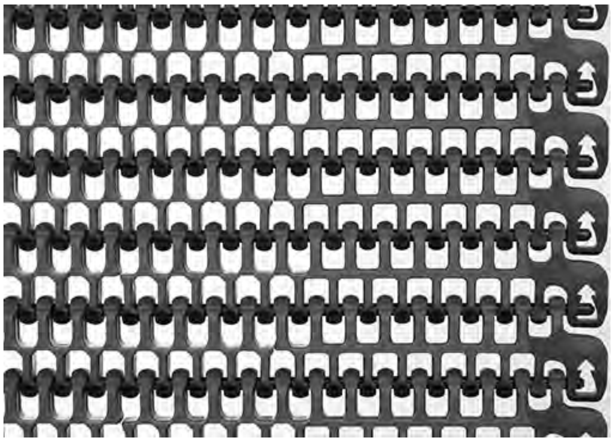
A preferred run direction for flat, turning applications

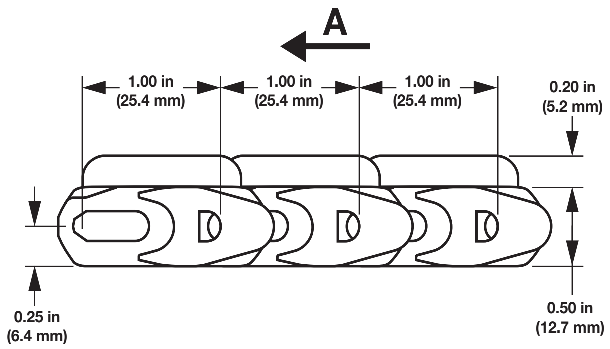
Belt Data												
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m		°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	Grey/grey	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.35	6.59	64 Shore A		
Polypropylene	White/white	Acetal	1200	1785		34 to 150	1 to 66	1.35	6.59	55 Shore A	b	c
Polypropylene	Grey/grey	Polypropylene	1000	1487		34 to 150	1 to 66	1.29	6.30	64 Shore A		
Polypropylene	White/white	Polypropylene	1000	1487		34 to 150	1 to 66	1.29	6.30	55 Shore A	b	c
Polypropylene	High-performance FT blue/blue	Acetal	1200	1785		34 to 212	1 to 100	1.35	6.59	59 Shore A	b	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

Radius Friction Top with Heavy-Duty Edge

	in	mm
Pitch	1.0	25.4
Minimum Width	4.0	101.6
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





A preferred run direction for flat, turning applications

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Heavily reinforced and carefully sculpted edge is designed to resist belt snagging and edge damage while maintaining cleanability.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Interior belt openings pass straight through the belt to simplify cleaning.
- Available in grey polypropylene with grey rubber, white polypropylene with white rubber, and blue polypropylene with high-performance blue rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprocket drive system minimizes wear and requires low return-side tension.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Indent for friction surface: 1.125 in (28.6 mm).
- Minimum nosebar diameter: 1.375 in (34.9 mm).

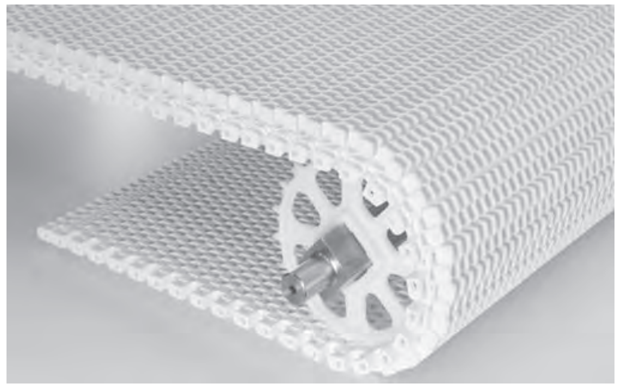
Belt Data

Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength lb/ft	Belt Strength kg/m	Curved Belt Strength	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Weight lb/ft²	Belt Weight kg/m²	Friction Top Hardness	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[a]
Polypropylene	Grey/grey	PK	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.29	6.30	64 Shore A		
Polypropylene	White/white	PK	1200	1785		34 to 150	1 to 66	1.29	6.30	55 Shore A	b	c
Polypropylene	Blue/high-performance FT blue	PK	1200	1785		34 to 200	1 to 93	1.35	6.59	59 Shore A	a	c

[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

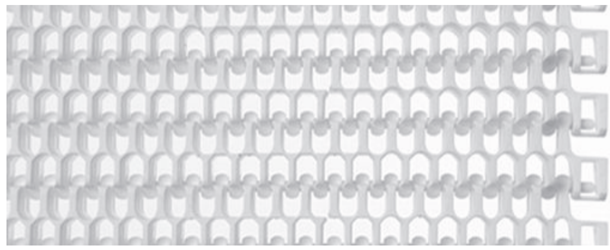
0.4 in High Radius Friction Top

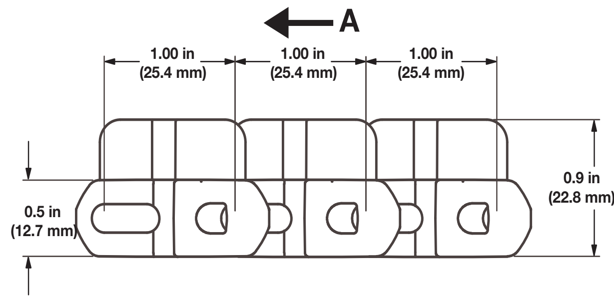
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Makes turns with an inside turn radius of 2.2 times the belt width.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Indent for friction surface is molded at 0.95 in (24.1 mm).
- Minimum nosebar diameter: 1.375 in (34.9 mm).





A preferred run direction for flat, turning applications

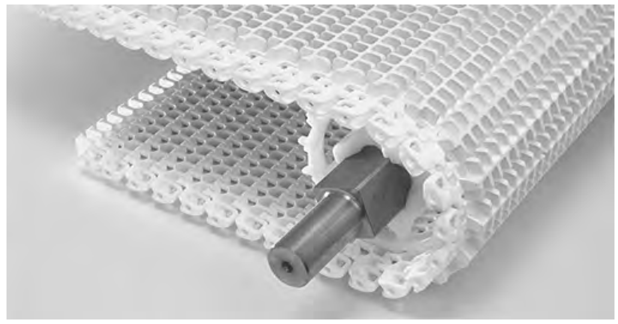
Belt Data

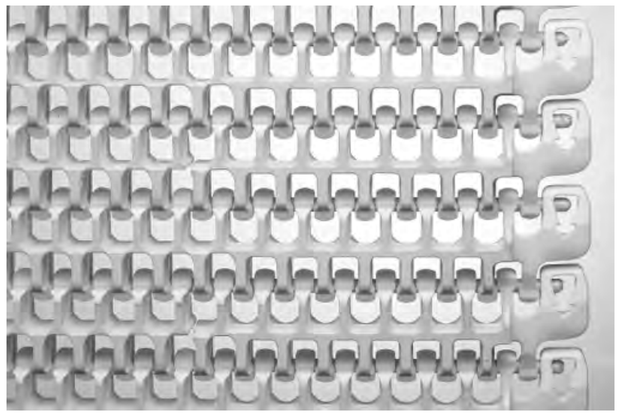
Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m		°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Polypropylene	White/white	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.77	8.65	55 Shore A	b	c
Polypropylene	White/white	Polypropylene	1000	1488		34 to 150	1 to 66	1.69	8.25	55 Shore A	b	c
Polypropylene	Blue/high-performance FT blue	Polypropylene	1200	1785		34 to 212	1 to 100	1.77	8.65	59 Shore A	b	c

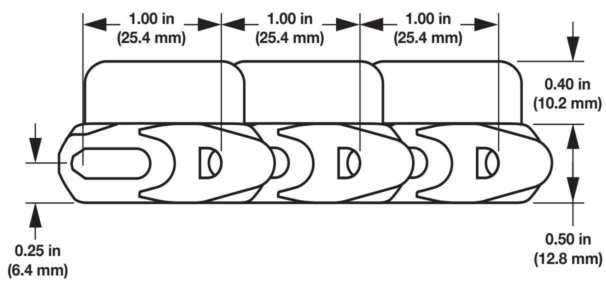
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

0.4 in High Radius Friction Top with Heavy-Duty Edge

	in	mm
Pitch	1.0	25.4
Minimum Width	4.0	101.6
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Heavily reinforced and carefully sculpted edge is designed to resist belt snagging and edge damage while maintaining cleanability.
- Load-Sharing™ belt edge improves how the load is shared and minimizes belt fatigue failure.
- Interior belt openings pass straight through the belt to simplify cleaning.
- Available in white polypropylene with white rubber and blue polypropylene with high-performance blue rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sprocket drive system minimizes wear and requires low return-side tension.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Makes turns with an inside radius of 2.2 times the belt width.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Indent for friction surface: 1.125 in (28.6 mm).
- Minimum nosebar diameter: 1.375 in (34.9 mm).

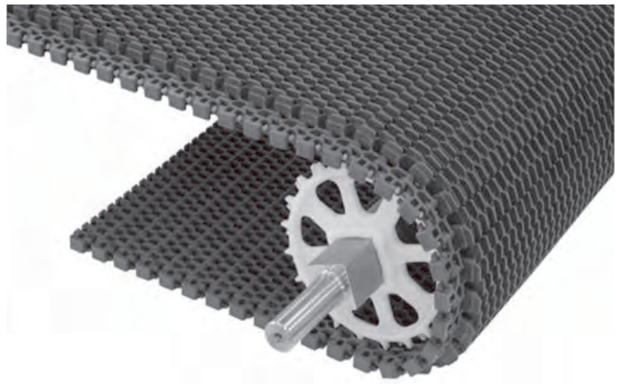
Belt Data

Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Belt Strength lb/ft	Belt Strength kg/m	Curved Belt Strength	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Weight lb/ft²	Belt Weight kg/m²	Friction Top Hardness	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[c]
Polypropylene	White/white	PK	1200	1790	For curved belt strength calculations, contact Intralox Customer Service.	34 to 150	1 to 66	1.69	8.25	55 Shore A	[d]	[e]
Polypropylene	Blue/high-performance blue	PK	1200	1790		34 to 200	1 to 93	1.77	8.65	59 Shore A	[d]	[e]

[c] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[d] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[e] EU compliant with restriction: Do not use in direct contact with fatty foods.

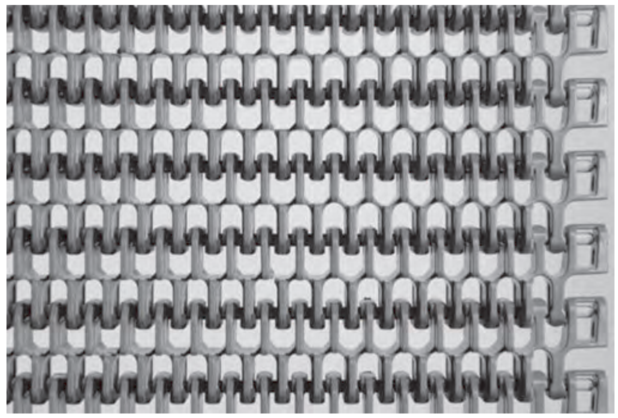
Radius Raised Rib

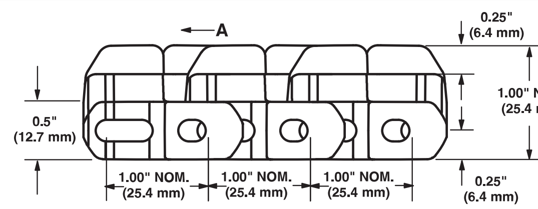
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	18%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Permits airflow through the belt to provide cooling in food-processing applications.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Makes turns with an inside turn radius of 2.2 times the belt width.
- Facilitates smooth transfers of small packages with the addition of transfer plates.
- Works with standard S2400 wearstrips.
- Standard indent: 1.12 in (28.6 mm).
- Belt deck height: 0.5 in (12.7 mm) higher than the standard S2400 belt.





A preferred run direction for flat, turning applications

Belt Data								
Belt Material	Standard Rod Material, Diameter 0.18 in (4.6 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.98	9.68
Acetal	Nylon	1700	2528		-50 to 200	-46 to 93	3.00	14.67
Polypropylene	Polypropylene[a]	1000	1487		34 to 220	1 to 104	1.92	9.39
HR nylon	Nylon	1700	2530		-50 to 240	-46 to 116	2.5	12.25

[a] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

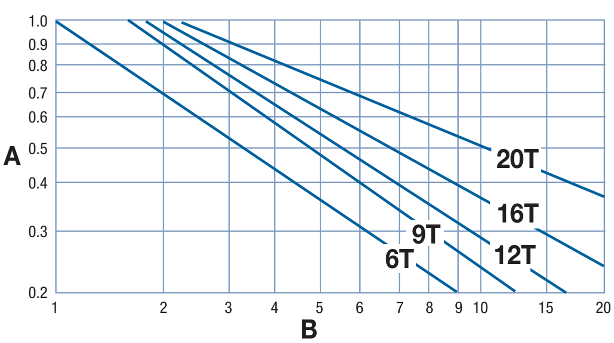
Sprocket and Support Quantity Reference				
Belt Width Range[a]		Minimum Number of Sprockets Per Shaft[b]	Wearstrips[c]	
in	mm		Carryway	Returnway
4	102	1	2	2
5	127	2	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	5	3	3
16	406	5	3	3
18	457	5	3	3
20	508	5	4	3
24	610	5	4	3
30	762	7	5	4
32	813	7	5	4
36	914	7	5	4
42	1067	9	6	5
48	1219	11	7	5
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[a] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.50 in (12.7 mm) increments beginning with minimum width of 4 in (102 mm). If the actual width is critical, contact Intralox Customer Service.

[b] This number is a minimum. Heavy-load applications can require additional sprockets. For lockdown location, see Retainer Rings and Center Sprocket Offset.

[c] The number of wearstrips given does not include the hold down wearstrip.

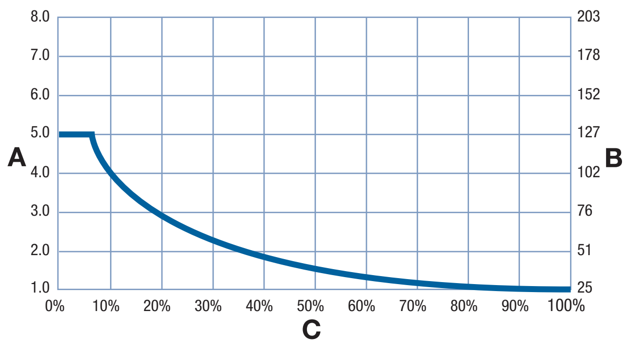
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized

Molded Sprocket[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[b]	Square in	Round mm[b]	Square mm
6[c, d] (13.40%)	2.0	51	2.0	51	0.54	14	0.75		20	
9[c, d] (6.03%)	2.9	74	2.9	74	1.0	25	1	1	25	25
12 (3.41%)	3.9	99	4.0	102	1.0	25	1 to 1.5	1.5[d]	25 to 40	40[d]
16 (1.92%)	5.1	130	5.2	132	1.0	25	1 to 1.5	1.5	25 to 40	40
20 (1.23%)	6.4	163	6.4	163	1.0	25	1 to 1.5	1.5	25 to 40	40

[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

[b] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

[c] The 2.0 in (51 mm) pitch diameter 6 tooth sprocket and the 2.9 in (74 mm) pitch diameter 9 tooth sprocket have a recommended belt pull of 60 lb/sprocket (27 kg/sprocket).

[d] Do not use this sprocket with hold down guides.

Split Ultra Abrasion Resistant Polyurethane Sprockets[a]

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
16 (1.92%)	5.1	130	5.2	132	1.0	25		1.5[b]		40[b]
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5		40

[a] When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m) and all other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F to 120°F (-18°C to 49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

[b] FDA-compliant materials are available.

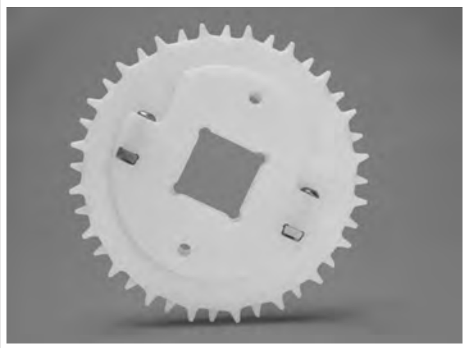
Nylon (FDA) Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
12 (3.41%)	3.9	99	4	102	1.0	25	1, 1-1/4	1.5[b]		
16 (1.92%)	5.1	130	5.2	132	1.0	25	1.25			40
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5		

[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[b] Do not use this sprocket with hold down guides.

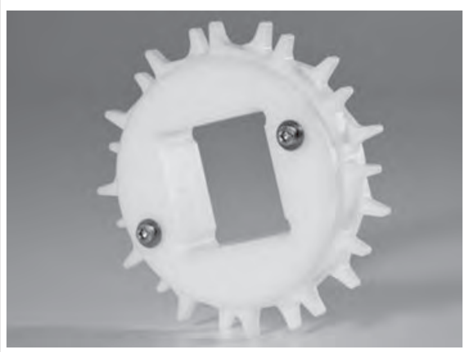
Split Natural Nylon (FDA) Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
20 (1.23%)	6.4	163	6.4	163	1.5	38		1.5		



Acetal Split Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
12 (3.41%)	3.9	99	3.9	99	1.0	25	1-1/4	1.5[b]		



[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[b] Do not use this sprocket with hold down guides.

Glass-Filled Nylon Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
16 (1.92%)	5.1	130	5.2	132	1.0	25		1.5		40	

[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

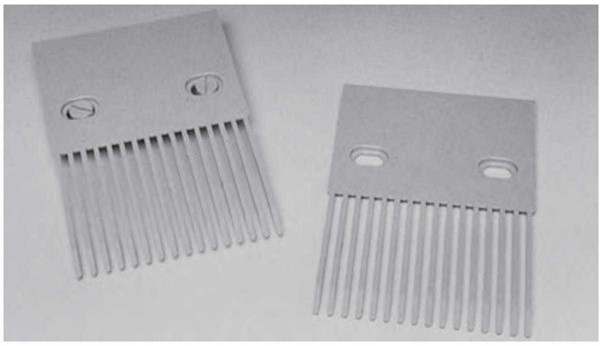
Glass-Filled Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
16 (1.92%)	5.1	130	5.2	132	1.5	38	1-1/4		30, 40		

[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

HR Nylon EZ Clean™ Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
16 (1.92%)	5.1	130	5.2	132	1.0	25				40	

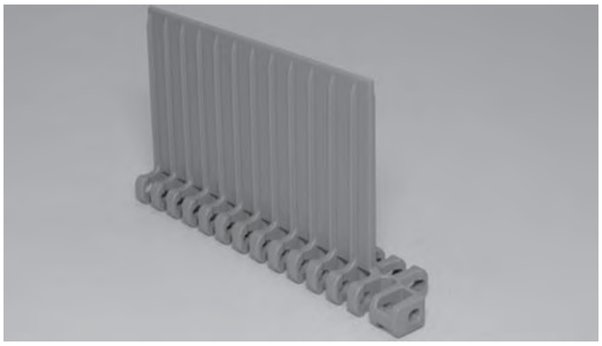
Finger Transfer Plates				
Available Widths		Number of Fingers	Available Materials	
in	mm			
4	102	16	Acetal	

- Designed for use with Series 2400 Raised Rib belts, to eliminate product transfer and tipping problems.
- The fingers extend between the belt ribs, to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Finger transfer plates are easily installed on the conveyor frame with conventional fasteners.



No-Cling Flights			
Available Flight Height		Available Materials	
in	mm		
3.0	76	Polypropylene, polyethylene, acetal, X-ray detectable acetal	

- Flights do not have bottom hold down guides, but can be used with the bottom hold down belt style, with a minimum flight spacing of 4 in (102 mm).
- Minimum indent: 1.125 in (29 mm).

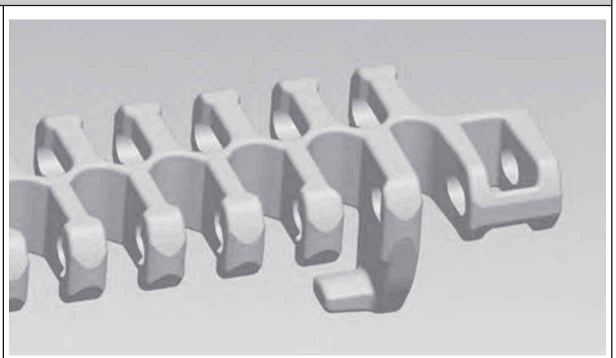


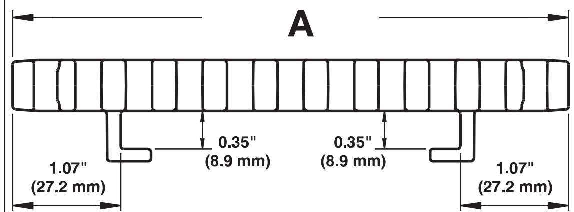
Universal Sideguards			
Available Sideguard Height		Available Materials	
in	mm		
1.0	25	Polypropylene, acetal	
3.0	76		

- Similar in design and function to other standard, overlapping Intralox sideguards. It is an integral part of the belt, fastened by hinge rods. It adds versatility to the Series 2400 belt when used in multiple rows for separating product.
- Easily cleanable. Suitable (FDA accepted) for food applications.
- Minimum indent required: 1.5 in (38 mm) for 2.2 turn ratios, 3.0 in (76 mm) for 1.7 turn ratios.

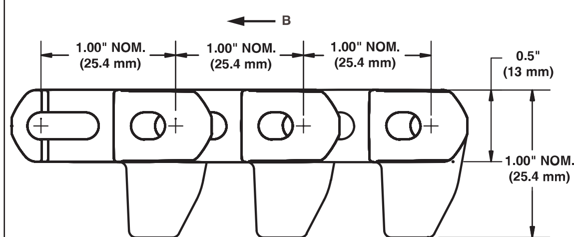
Hold Down Guides (2.2 Only)

- Materials available: polypropylene, acetal, HR nylon.
- Hold down guides are on the bottom of the belt for use when the belt edges must be clear. Also available on friction top modules.
- Hold down guides allow two belts to run next to each other without a large gap in between.
- The belt edge is smooth for reduced friction, and is relatively thick to provide wear resistance and protection for the rod retention.
- Not recommended for low-tension capstan drive spiral applications.
- Cannot be used with 2 in and 2.9 in pitch diameter sprockets or 3.9 in pitch diameter square bore sprockets.
- Other sprocket PDs with large bores may not produce enough clearance between the hold down guide and shaft. Subtracting bore size from the PD easily identifies these sprockets. If the number is less than 2.0 in (51 mm), this sprocket cannot be used with hold down guides.
- Minimum nosebar diameter: 1.5 in (38.1 mm).





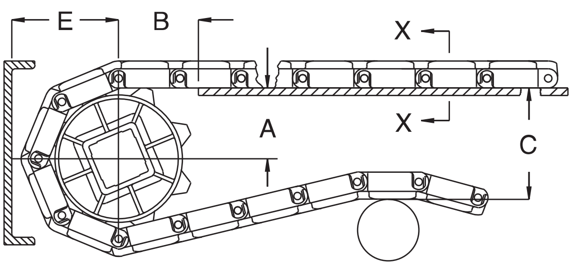
A Belt width
Figure 103: Front view



B preferred run direction for flat, turning applications
Figure 104: Side view

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.

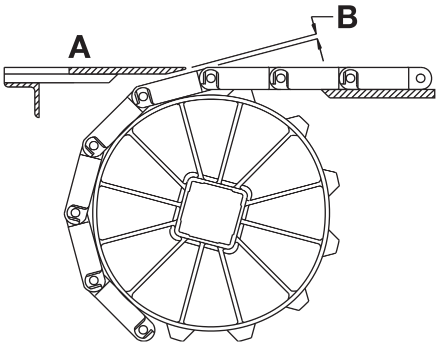


A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)
Figure 105: Basic dimensional requirements

S2400 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Radius Flush Grid - Straight Edge with or without hold down guides										
2.0[a]	51[a]	6	0.62-0.75	16-19	1.22	31	2.00	51	1.31	33
2.9[a]	74[a]	9	1.12-1.21	28-31	1.51	38	2.92	74	1.77	45
3.9	99	12	1.62-1.68	41-43	1.86	47	3.86	98	2.24	57
5.1	130	16	2.26-2.31	57-59	2.11	54	5.13	130	2.88	73
6.4	163	20	2.91-2.95	74-75	2.31	59	6.39	162	3.51	89
Radius Flush Grid High Deck, 0.4-in High Radius Friction Top										
2.0[a]	51[a]	6	0.62-0.75	16-19	1.22	31	2.40	61	1.71	43
2.9[a]	74[a]	9	1.12-1.21	28-31	1.51	38	3.32	84	2.17	55
3.9	99	12	1.62-1.68	41-43	1.86	47	4.26	108	2.64	67
5.1	130	16	2.26-2.31	57-59	2.11	54	5.53	140	3.28	83
6.4	163	20	2.91-2.95	74-75	2.31	59	6.79	172	3.91	99
Radius Friction Top - with or without hold down guides										
2.0[a]	51[a]	6	0.62-0.75	16-19	1.22	31	2.20	56	1.51	38
2.9[a]	74[a]	9	1.12-1.21	28-31	1.51	38	3.12	79	1.97	50
3.9	99	12	1.62-1.68	41-43	1.86	47	4.06	103	2.44	62
5.1	130	16	2.26-2.31	57-59	2.11	54	5.33	135	3.08	78
6.4	163	20	2.91-2.95	74-75	2.31	59	6.59	167	3.71	94
Radius with Insert Rollers (all styles) - free floating rollers										
2.0[a]	51[a]	6	0.62-0.75	16-19	1.22	31	2.09	53	1.40	36
2.9[a]	74[a]	9	1.12-1.21	28-31	1.53	39	3.01	76	1.86	47
3.9	99	12	1.62-1.68	41-43	1.78	45	3.95	100	2.33	59
5.1	130	16	2.26-2.31	57-59	2.06	52	5.21	132	2.96	75
6.4	163	20	2.91-2.95	74-75	2.31	59	6.48	165	3.60	91
Radius with Insert Rollers (all styles) - Driven Rollers										
2.0[a]	51[a]	6	0.53-0.66	13-17	1.24	31	2.09	53	1.40	36
2.9[a]	74[a]	9	1.04-1.12	26-31	1.57	40	3.01	76	1.86	47
3.9	99	12	1.53-1.59	39-40	1.92	49	3.95	100	2.33	59
5.1	130	16	2.18-2.23	55-57	2.19	56	5.21	132	2.96	75
6.4	163	20	2.82-2.86	72-73	2.41	61	6.48	165	3.60	91
Radius Raised Rib										
2.0	51	6	0.62-0.75	16-19	1.22	31	2.50	64	1.81	46
2.9	74	9	1.12-1.21	28-31	1.51	38	3.42	87	2.27	58
3.9	99	12	1.62-1.68	41-43	1.86	47	4.36	111	2.74	70
5.1	130	16	2.26-2.31	57-59	2.11	54	5.63	143	3.38	86
6.4	163	20	2.91-2.95	74-75	2.31	59	6.89	175	4.01	102
[a] Cannot be used with hold down guides.										

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 106: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
2.0	51	6	0.134	3.4
2.9	74	9	0.088	2.2
3.9	99	12	0.065	1.7
5.1	130	16	0.050	1.3
6.4	163	20	0.039	1.0

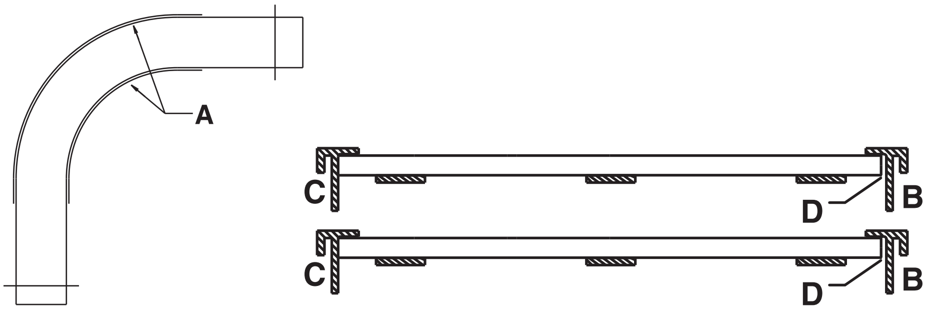
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

HOLD DOWN RAILS AND WEARSTRIPS

Use continuous hold down rails through an entire turn, in both the carryway and the returnway. Start the rails before the turn, at a distance of 1× the belt width. End the rails after the turn, at a distance of 1× the belt width. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory.

The hold down guide design allows the belt to be held down while avoiding wearstrip interference with the carryway surface. Intralox can help design conveyors for S2400 belts and hold down guides. Contact Intralox Customer Service for more information. For information about Intralox hold down wearstrips see Custom Wearstrips.

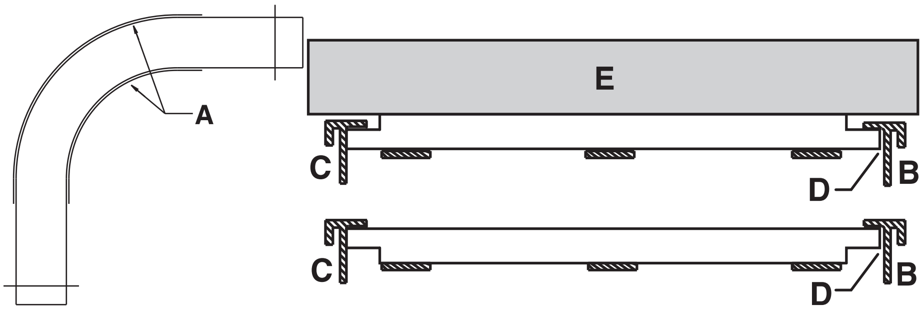
Hold Down Rails and Wearstrips for Flat-Turning, High Deck, and Raised Rib



A hold down rail placement
B outside hold down rail
C inside hold down rail (cross-section of carryway and returnway, through curve)
D clearance

Figure 107: Flush edge with wearstrip

Hold Down Rails and Wearstrips for Flat-Turning, Standard Belts



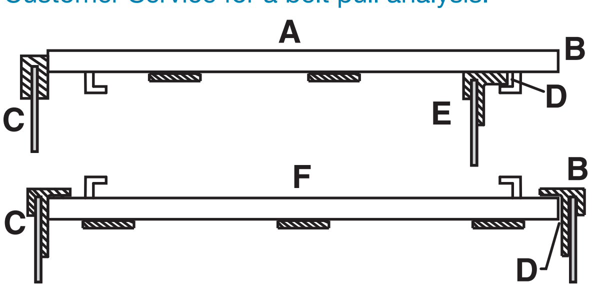
A hold down rail placement
B Outside hold down rail
C inside hold down rail (Cross-section of carryway and returnway, through curve)
D clearance
E product

Figure 108: High Deck and Raised Rib flush edge with wearstrip

Hold down rails and wearstrips for series 2400 flat-turns - belts with hold down guides

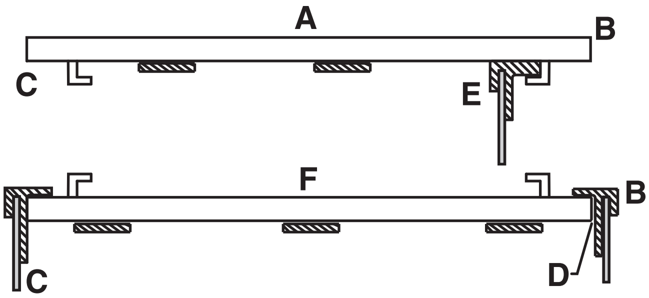
Special wearstrip guidelines for lightly loaded belts with hold down guides.

WARNING: Do not use hold down guides to guide the belt through the turn in heavily loaded or high-speed applications. Rapid wear to the hold down guides and/or wearstrip occurs in applications with high loads or speeds. Do not use hold down guides to hold the belt down through a negative transition. Contact Intralox Customer Service for a belt pull analysis.



A carryway design
B outside edge
C inside edge
D clearance
E hold down guide wearstrip
F returnway design

Figure 109: Cross section view through curve - with inner bump rail



A carryway design
B outside edge
C inside edge
D clearance
E hold down guide wearstrip
F returnway design

Figure 110: Cross section view through curve - no bump rail (requirements: maximum belt pull <20% allowable; belt speed <50 fpm)

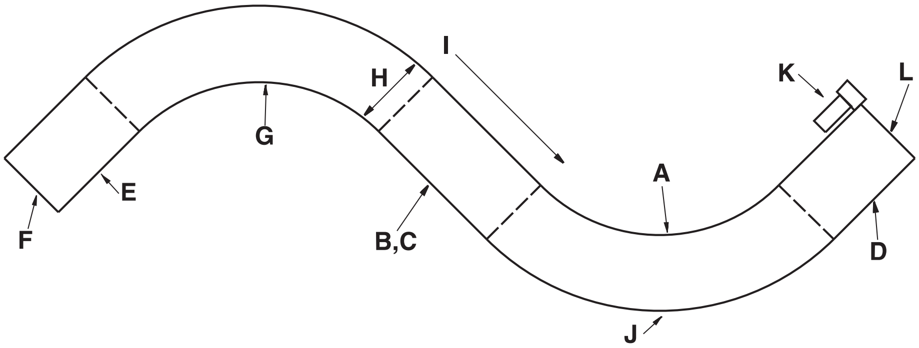
BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For more information, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.

- The minimum turn radius for the standard edge S2400 is 2.2 times the belt width, measured from the inside edge. For the tight turning style, the minimum turn radius is 1.7 times the belt width.
- The minimum required straight run between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run leading to the drive shaft is a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances, down to 1.5 times the belt width, require a weighted take up to avoid sprocket wear and tracking problems. For more information about weighted take-ups, see Special Take-Up Arrangements.
- The minimum length of the first straight run immediately after the idle shaft is 1.5 times the belt width. When shorter lengths are required, down to 1.0 × the width, an idle roller can be used in place of sprockets.

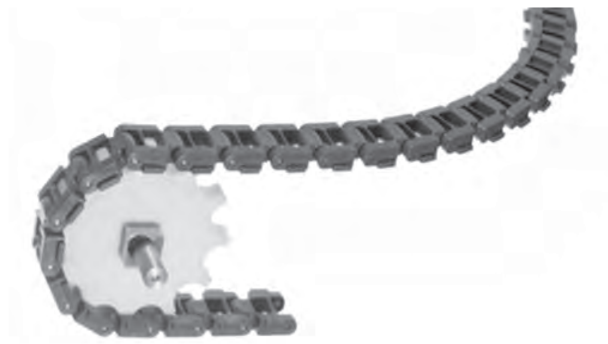


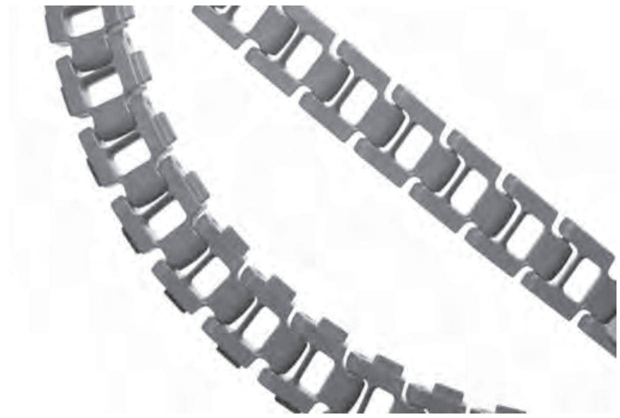
A turn radius, measured from the inside edge
B straight run between turns of opposing directions
C no straight run required between turns in the same direction
D final straight run leading to drive shaft
E first straight run immediately after idle shaft
F idle shaft
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

Figure 111: Typical two-turn radius layout

Knuckle Chain

	in	mm
Pitch	2.00	50.8
Molded Width	2.25	57
Open Area	-	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	





Product Notes

WARNING: Hold down wearstrips are mandatory on the inside and outside edges of all turns, on both the carrying and return side of the belt. Unless they interfere with the operation of the carrying equipment, use hold down wearstrips throughout the conveyor to protect the belt and personnel next to the conveyor.

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Thick, durable plastic surface around stainless steel pins for long life and less breakage.
- Available with extended pins.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Can run on the same tracks as other common chains.
- Available in both straight and turning versions. The straight version cannot be used for turning applications. Use the turning version for turning applications only.
- The turning version is designed for applications with a minimum centerline turn radius of 16 in (406 mm).
- Available in 10 ft (3 m) increments.

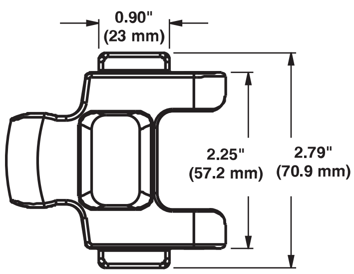
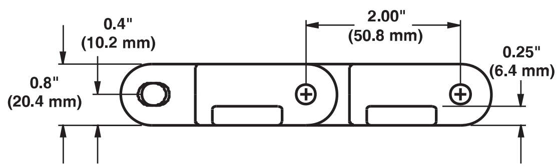


Figure 112: Series 3000T

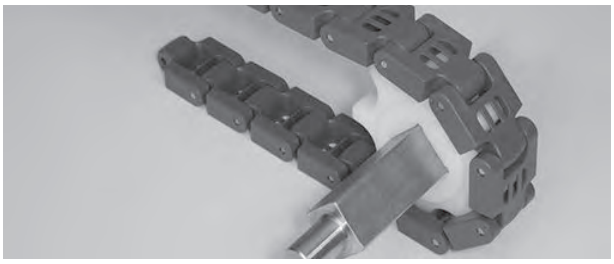


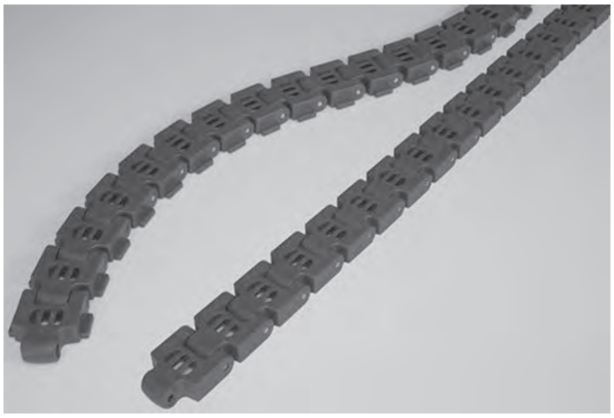
Belt Data

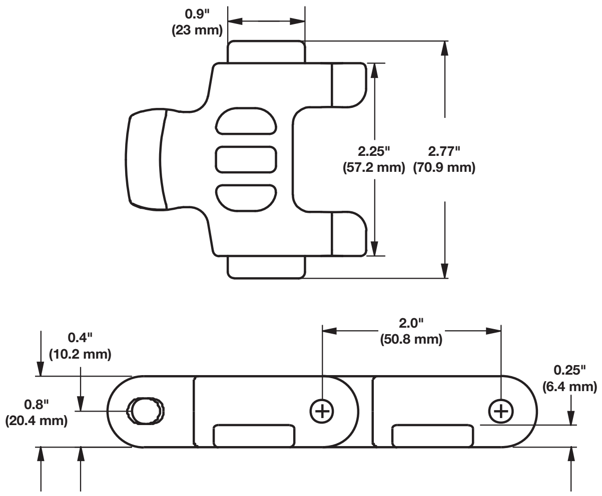
Chain Material	Standard Rod Material, Diameter 0.25 in (6.4 mm)	Chain Strength		Temperature Range (continuous)		Chain Weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal (straight)	303 SS	700	317	-50 to 200	-46 to 93	0.88	1.21
Acetal (turning)	303 SS	560	254	-50 to 200	-46 to 93	0.90	1.25

Mesh Top

	in	mm
Pitch	2.00	50.8
Minimum Width	2.3	57.2
Opening Size (approximate)	-	-
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	







Product Notes

WARNING: Hold down wearstrips are mandatory on the inside and outside edges of all turns, on both the carrying and return side of the belt. Unless they interfere with the operation of the carrying equipment, use hold down wearstrips throughout the conveyor to protect the belt and personnel next to the conveyor.

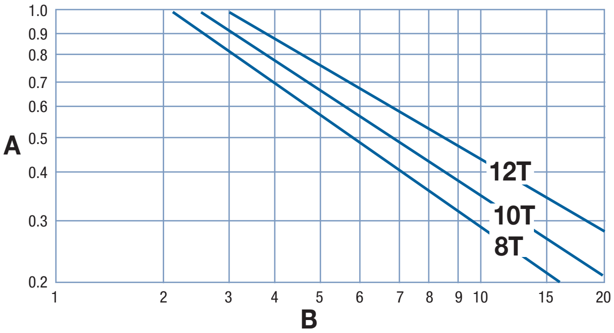
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Mesh Top design eliminates open area for improved worker safety.
- Thick, durable plastic surface around stainless steel pins provides long life and less breakage.
- Available with extended pins.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Can run on the same tracks as other common chains.
- Improved design simplifies cleaning.
- Available in both straight and turning versions.

  NOTE: Only the turning version can be used for turning applications. The straight version cannot be used for turning applications.
- The turning version is designed for applications with a minimum centerline turn radius of 16 in (406 mm).
- Available in 10 ft (3 m) increments.

Belt Data

Chain Material	Standard Rod Material 0.25 in (6.4 mm)	Chain Strength		Temperature Range (continuous)		Chain Weight	
		Lb	Kg	°F	°C	Lb./ft.²	Kg/m²
Acetal (straight)	303 SS	700	318	-50 to 200	-46 to 93	0.89	1.32
Acetal (turning)	303 SS	560	254	-50 to 200	-46 to 93	0.91	1.36

Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Chain Pull Limit with UHMW-PE Sprockets, Based on Bore Size

No. of Teeth	Nom. Pitch Diameter		Sprocket Bore Size									
			1.5 in square		40 mm square		1 in round		1.25 in round		1.5 in round	
	in	mm	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
8	5.2	132	640	290	640	290	74	34	90	41	162	74
10	6.5	165	520	236	520	236	78	35	95	43	172	78
12	7.7	196	432	196	432	196	65	29	79	36	143	65

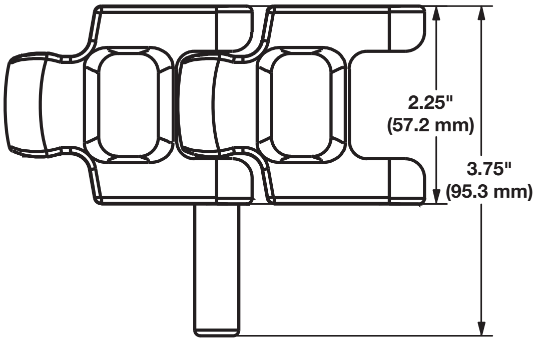
UHMW-PE Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
8 (7.61%) square bore	5.2	132	5.3	135	1.5	38		1.5		40
8 (7.61%) round bore	5.2	132	5.3	135	1.2	30	1-1/4			
10 (4.89%)	6.5	165	6.7	170	1.5	38	1-1/4	1.5		40
12 (3.41%)	7.7	196	8.0	203	1.5	38	1-1/4	1.5		40

[a] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Extended Pins

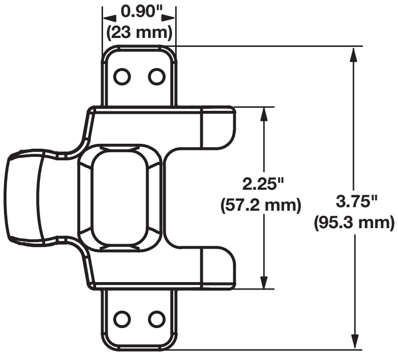
- Modules with 303 stainless steel extended pins can be spliced into both the basic turning and straight running chains.
- These pins are commonly used in side-by-side chain strands where rollers are used for low back pressure applications.
- The minimum extended pin spacing is 2.0 in (50.8 mm).
- The extended pin modules can be spliced into the standard chain every 2.0 in (50.8 mm).
- Intralox offers only extended tabs and extended pins. Attachments for either of these accessories are not available through Intralox. Contact Intralox Customer Service for lead times.



Extended pins for straight or turning versions

Extended Tabs

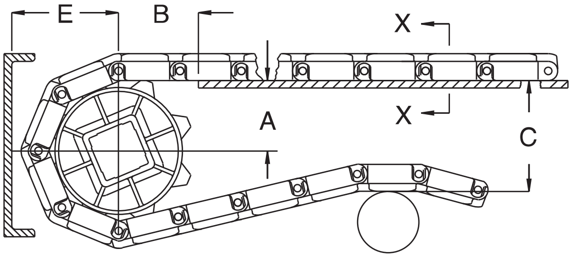
- Modules with extended tabs can be spliced into both the basic turning and straight running chains.
- These extended tabs can be used to attach flights, cleats, etc.
- The extended tab modules are based on the turning chain design, so the rating for the turning chain should be used even if the extended tab modules are spliced into straight running chain.
- The minimum tab spacing is 2.0 in (50.8 mm).
- The tabs can be spliced into the standard chain every 2.0 in (50.8 mm).
- Intralox offers only extended tabs and extended pins. Attachments for either of these accessories are not available through Intralox. Contact Intralox Customer Service for lead times.



Extended tabs for straight or turning versions

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



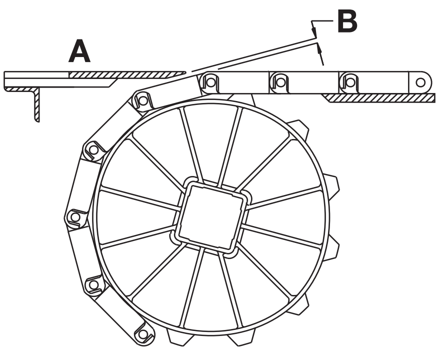
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 113: Basic dimensional requirements

S3000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (bottom to top)							
in	mm		in	mm	in	mm	in	mm	in	mm
Knuckle Chain, Mesh Top										
5.2	132	8	2.01–2.21	51-56	2.29	58	5.23	1.33	3.14	80
6.5	165	10	2.68–2.84	68-72	2.63	67	6.47	164	3.76	96
7.7	196	12	3.33–3.46	85-88	2.94	75	7.73	196	4.39	112

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 114: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4

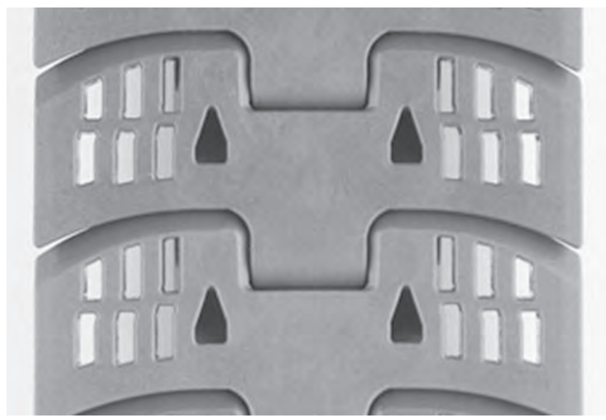
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

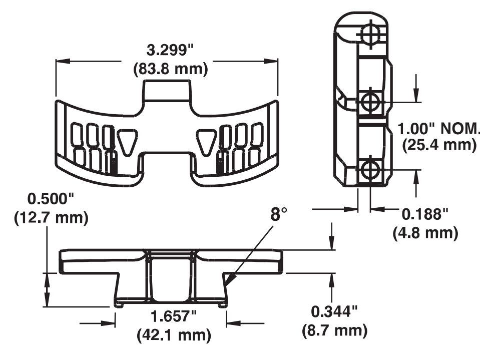
S4009 Flush Grid

	in	mm
Pitch	1.00	25.4
Molded Width	3.3	84
Open Area	13%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight-running belt counterpart Series 900 FG [0.344 in (8.7 mm)].
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses S1400 sprockets.
- All S1400 and S4000 sprockets are split, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your application. Contact Intralox Customer Service for more information.
- Corner tracks, with bevel design, are mandatory on the inside edges of all turns.
- Available in 10 ft (3 m) increments.



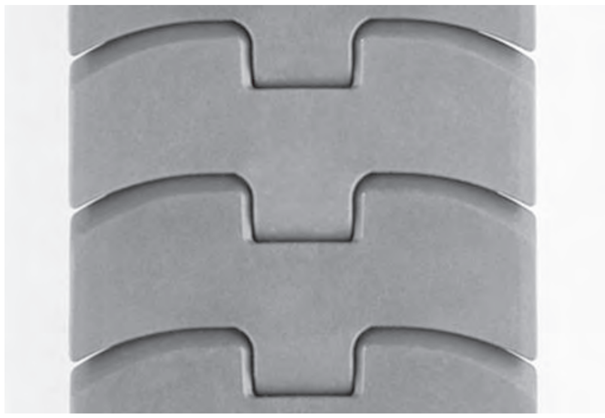


Belt Data

Belt Material	Belt Width in	Belt Width mm	Standard Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength lb	Belt Strength kg	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Weight lb/ft	Belt Weight kg/m	Minimum Centerline Turn Radius in	Minimum Centerline Turn Radius mm
Acetal	3.3	84	303 SS	500	227	-50 to 200	-46 to 93	0.97	1.44	18	457
HHR nylon	3.3	84	303 SS	500	227	-50 to 310	-46 to 154	0.97	1.44	18	457

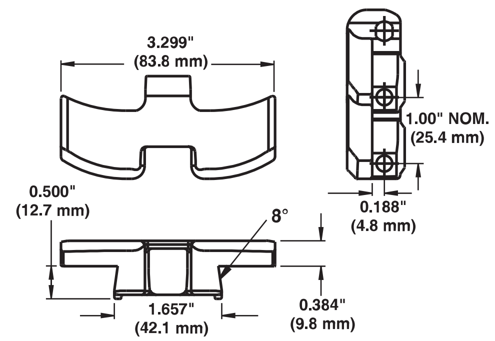
S4009 Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	3.3	84
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses S1400 sprockets.
- All S1400 and S4000 sprockets are split, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your application. Contact Intralox Customer Service for more information.
- See the belt data table for minimum centerline turn radius.
- Corner tracks, with bevel design, are mandatory on the inside edges of all turns.
- Available in 10 ft (3 m) increments.



Belt Data

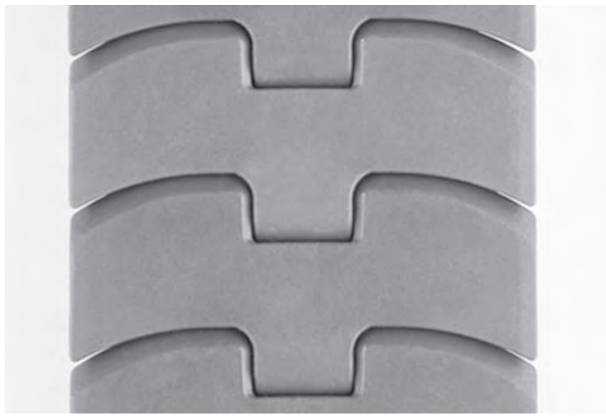
Belt Material	Belt Width		Standard Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Minimum Centerline Turn Radius	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m	in	mm
Acetal	3.3	84	303 SS	500	227	-50 to 200	-46 to 93	1.11	1.65	18	457
HHR nylon	3.3	84	303 SS	500	227	-50 to 310	-46 to 154	0.98	1.46	18	457

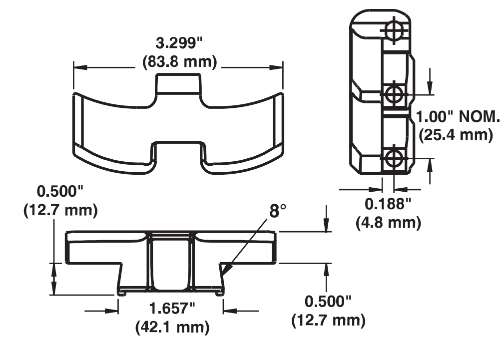
S4014 Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	3.3	84
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight-running belt counterpart, S1400 Flat Top: (0.5 in (12.7 mm).
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses S1400 sprockets.
- All S1400 and S4000 sprockets are split, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your application. Contact Intralox Customer Service for more information.
- Corner tracks, with bevel design, are mandatory on the inside edges of all turns.
- Available in 10 ft (3 m) increments.



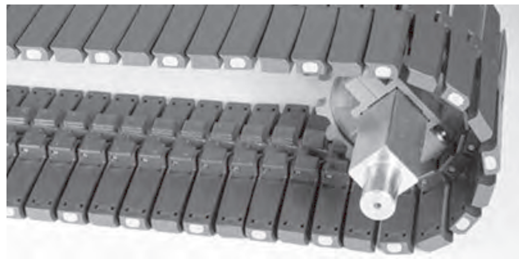


Belt Data

Belt Material	Belt Width in	Belt Width mm	Standard Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength lb	Belt Strength kg	Temperature Range (continuous) °F	Temperature Range (continuous) °C	Belt Weight lb/ft	Belt Weight kg/m	Minimum Centerline Turn Radius in	Minimum Centerline Turn Radius mm
Acetal	3.3	84	303 SS	500	227	-50 to 200	-46 to 93	1.29	1.92	18	457

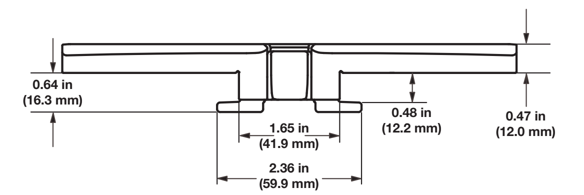
S4030 7.5-in ProTrax™ Sideflexing Flat Top with Tabs

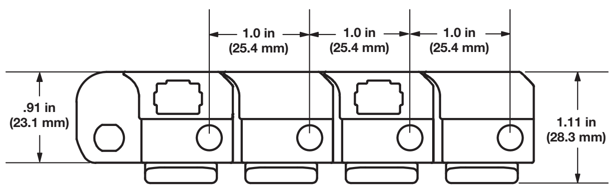
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon™-coated magnets are embedded in each module (one magnet per wing).
- Blue, metal-detectable, nylon caps retain magnets in modules.
- Hold down tabs match dimensions of S4090.
- Thicker deck than Series 409X Flat Top for increased wear resistance.
- Standard configuration consists of alternating rows of magnetic modules and Series 403X Sideflexing Flat Top modules.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses the same sprockets as S1400 and S4000.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, and other applications.
- Minimum sprocket pitch diameter: 3.9 in (99.0 mm).



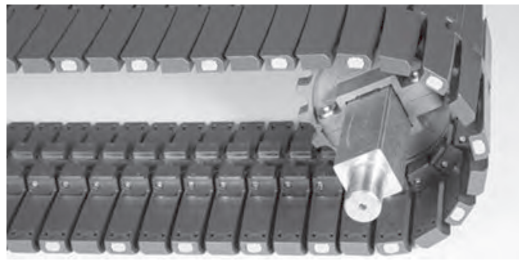


Belt Data

Belt Material	Belt Width		Standard Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Minimum Centerline Turn Radius	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m	in	mm
HHR nylon	7.5	191.0	303 SS	500	227	-50 to 310	-46 to 154	2.44	3.63	24	610

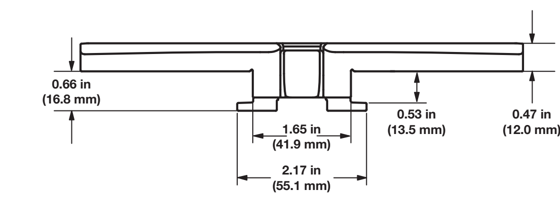
S4031 7.5-in ProTrax™ Sideflexing Flat Top with Tabs

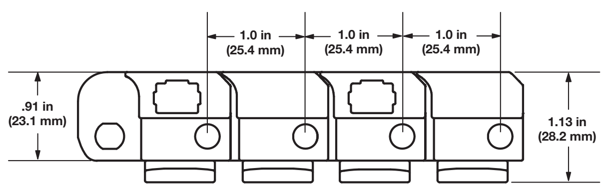
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon™-coated magnets are embedded in each module (one magnet per wing).
- Blue, metal-detectable, nylon caps retain magnets in modules.
- Hold down tabs match dimensions of S4091.
- Thicker deck than S409X Flat Top for increased wear resistance.
- Standard configuration consists of alternating rows of magnetic modules and S403X Sideflexing Flat Top modules.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses the same sprockets as S1400 and S4000.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, and other applications.
- Minimum sprocket pitch diameter: 3.9 in (99.0 mm).

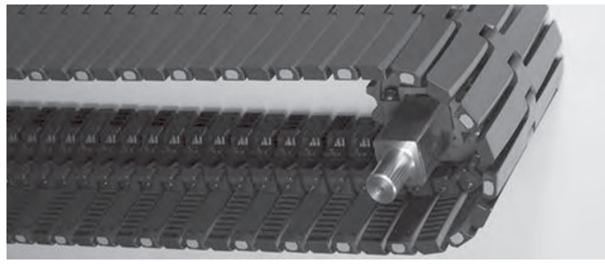


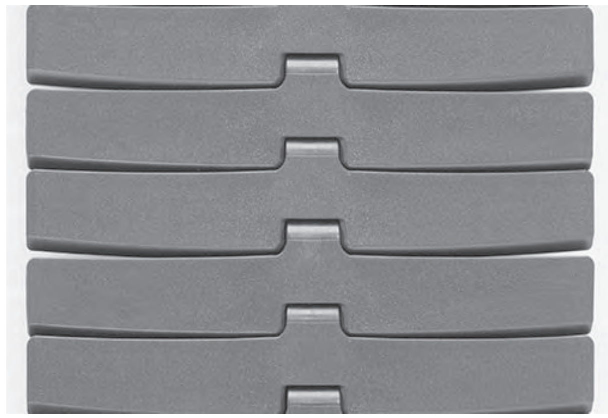


Belt Data											
	Belt Width		Standard Rod Material, Diameter	Belt Strength		Temperature Range (continuous)		Belt Weight		Minimum Centerline Turn Radius	
Belt Material	in	mm	0.25 in (6.4 mm)	lb	kg	°F	°C	lb/ft	kg/m	in	mm
HHR nylon	7.5	191.0	303 SS	500	227	-50 to 310	-46 to 154	2.44	3.63	24	610

S4032 7.5-in ProTrax™ Sideflexing Flat Top with Tabs

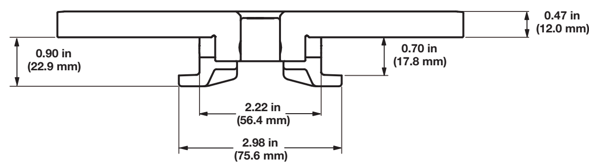
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	

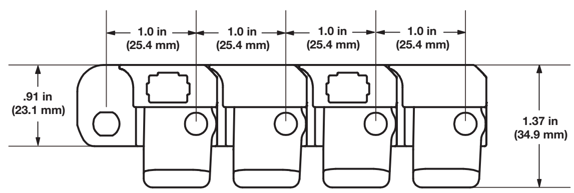




Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon™-coated magnets are embedded in each module (one magnet per wing).
- Blue, metal-detectable, nylon caps retain magnets in modules.
- Hold down tabs match dimensions of S4092.
- Thicker deck than S409X Flat Top for increased wear resistance.
- Standard configuration consists of alternating rows of magnetic modules and S403X Sideflexing Flat Top modules.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses the same sprockets as S1400 and S4000.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, pan indexing, metering, de-lidding, and radius applications.
- Minimum sprocket pitch diameter: 5.1 in (129.5 mm).

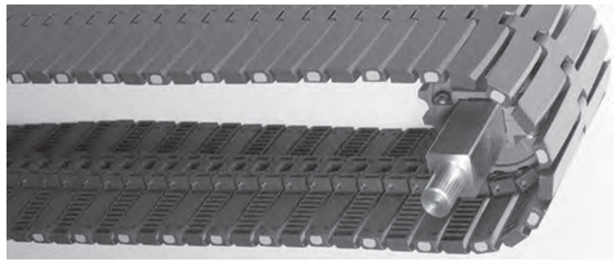




Belt Data											
	Belt Width		Standard Rod Material, Diameter	Belt Strength		Temperature Range (continuous)		Belt Weight		Minimum Centerline Turn Radius	
Belt Material	in	mm	0.25 in (6.4 mm)	lb	kg	°F	°C	lb/ft	kg/m	in	mm
HHR nylon	7.5	191.0	303 SS	500	227	-50 to 310	-46 to 154	2.66	3.95	24	610

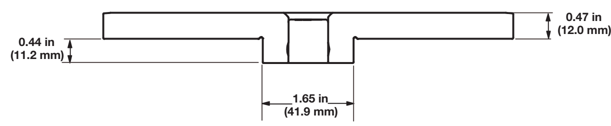
S4033 7.5-in ProTrax™ Sideflexing Flat Top

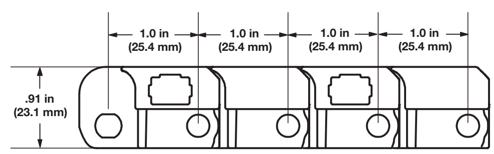
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon™-coated magnets are embedded in each module (one magnet per wing).
- Blue, metal detectable, nylon caps retain magnets in modules.
- Standard configuration consists of alternating rows of magnetic modules and Series 403X Sideflexing Flat Top modules.
- Thicker deck than Series 409X Flat Top for increased wear resistance.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses the same sprockets as S1400 and S4000.
- Needs only one drive sprocket and one idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, and other applications.
- Minimum sprocket pitch diameter: 3.9 in (99.0 mm).





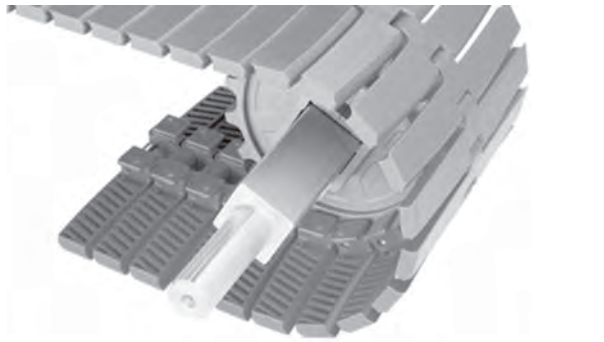
SERIES 4000

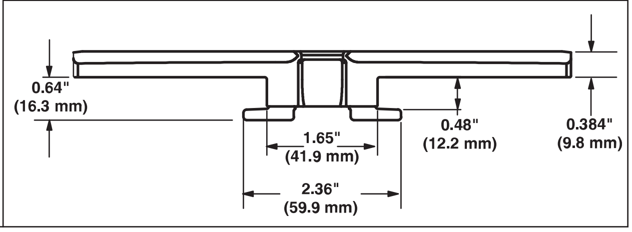
Belt Data

Belt Material	Belt Width		Standard Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Minimum Centerline Turn Radius	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m	in	mm
HHR nylon	7.5	191.0	303 SS	500	227	-50 to 310	-46 to 154	2.29	3.41	18	457

S4090 Sideflexing Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
	4.5	114
	7.5	191
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	





Product Notes

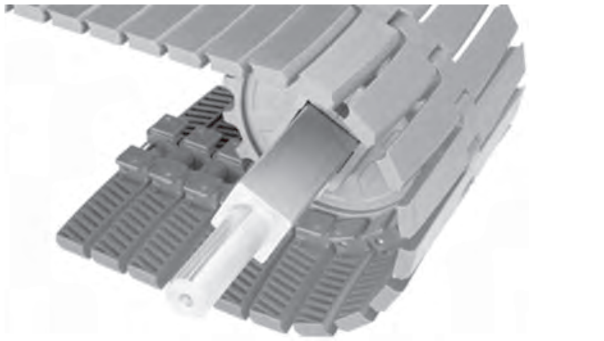
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight-running counterpart, S900 Flat Top [0.384 in (9.8 mm)].
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses S1400 sprockets.
- All sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your system. Contact Intralox Customer Service for more information.
- See *Belt Data* for minimum centerline turn radius.
- Available in 10 ft (3 m) increments.
- Minimum backbend radius:
  - For 3.25 in (83 mm) and 4.5 in (114 mm) wide belts, the minimum backbend radius is 6 in (152.4 mm).
  - For 7.5 in (191 mm) wide, the minimum backbend radius is 9.25 in (235 mm) but 12 in (305 mm) is recommended.

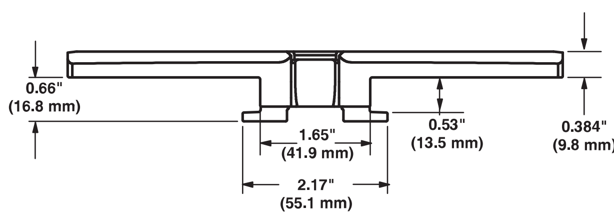
Belt Data

Belt Material	Belt Width		Standard Pin Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Minimum Centerline Turn Radius	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m	in	mm
Acetal	3.25	83	303 SS	500	227	-50 to 200	-46 to 93	1.21	1.80	18	457
Acetal	4.5	114	303 SS	500	227	-50 to 200	-46 to 93	1.40	2.08	18	457
Acetal	7.5	191	303 SS	500	227	-50 to 200	-46 to 93	1.86	2.77	24	610
HR nylon	3.25	83	303 SS	500	227	-50 to 240	-46 to 116	1.02	1.52	18	457
HR nylon	7.5	191	303 SS	500	227	-50 to 240	-46 to 116	1.54	2.29	24	610
HHR nylon	3.25	83	303 SS	500	227	-50 to 310	-46 to 154	1.04	1.55	18	457
HHR nylon	4.5	114	303 SS	500	227	-50 to 310	-46 to 154	1.18	1.76	18	457
HHR nylon	7.5	191	303 SS	500	227	-50 to 310	-46 to 154	1.57	2.34	24	610

S4091 Sideflexing Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
	4.5	114
	7.5	191
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	





Product Notes

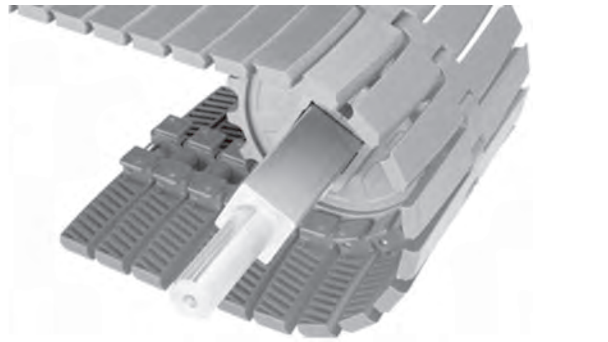
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight running belt counterpart, S900 Flat Top [0.384 in (9.8 mm)].
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses S1400 sprockets.
- All sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- See *Belt Data* for minimum centerline turn radius.
- Use the *Intralox Engineering Program* to calculate the estimated belt pull for your system. Contact Intralox Customer Service for more information.
- Available in 10 ft (3 m) increments.
- Minimum backbend radius:
  - For 3.25 in (83 mm) and 4.5 in (114 mm) wide belts, the minimum backbend radius is 6 in (152.4 mm).
  - For 7.5 in (191 mm) wide, the minimum backbend radius is 9.25 in (235 mm) but 12 in (305 mm) is recommended.

Belt Data

Belt Material	Belt Width		Standard Pin Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Minimum Centerline Turn Radius	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m	in	mm
Acetal	3.25	83	303 SS	500	227	-50 to 200	-46 to 93	1.22	1.81	18	457
Acetal	4.5	114	303 SS	500	227	-50 to 200	-46 to 93	1.40	2.08	18	457
Acetal	7.5	191	303 SS	500	227	-50 to 200	-46 to 93	1.84	2.74	24	610
HR nylon	3.25	83	303 SS	500	227	-50 to 240	-46 to 116	1.02	1.52	18	457
HR nylon	7.5	191	303 SS	500	227	-50 to 240	-46 to 116	1.54	2.29	24	610
HHR nylon	3.25	83	303 SS	500	227	-50 to 240	-46 to 116	1.04	1.55	18	457
HHR nylon	4.5	114	303 SS	500	227	-50 to 310	-46 to 154	1.18	1.76	18	457
HHR nylon	7.5	191	303 SS	500	227	-50 to 310	-46 to 154	1.57	2.34	24	610

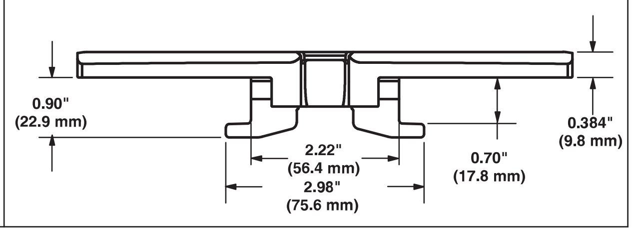
S4092 Sideflexing Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
	4.5	114
	7.5	191
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Same deck thickness as the straight-running counterpart S900 Flat Top: 0.384 in (9.8 mm).
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Uses S1400 sprockets.
- All sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- 3.9 in (99 mm) pitch diameter sprockets are not compatible with S4092 belts.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your system. Contact Intralox Customer Service for more information.
- Available in 10 ft (3 m) increments.
- Minimum backbend radius:
  - For 3.25 in (83 mm) and 4.5 in (114 mm) wide belts, the minimum backbend radius is 6 in (152.4 mm).
  - For 7.5 in (191 mm) wide, the minimum backbend radius is 9.25 in (235 mm) but 12 in (305 mm) is recommended.



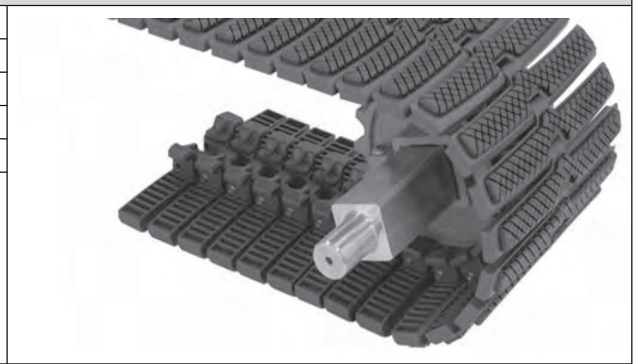
Belt Data

Belt Material	Belt Width		Standard Pin Material, Diameter 0.25 in (6.4 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Minimum Centerline Turn Radius		Agency Acceptability		
	in	mm		lb	kg	°F	°C	lb/ft	kg/m	in	mm	FDA (USA)	J[a]	EU MC[b]
Acetal	3.25	83	303 SS	500	227	-50 to 200	-46 to 93	1.43	2.13	18	457	c	c	c
Acetal	4.5	114	303 SS	500	227	-50 to 200	-46 to 93	1.61	2.40	18	457	c	c	c
Acetal	7.5	191	303 SS	500	227	-50 to 200	-46 to 93	2.05	3.05	24	610	c	c	c
HR nylon	3.25	83	303 SS	500	227	-50 to 240	-46 to 116	1.26	1.87	18	457	c		c
HR nylon	7.5	191	303 SS	500	227	-50 to 240	-46 to 116	1.71	2.55	24	610	c		c
HHR nylon	3.25	83	303 SS	500	227	-50 to 310	-46 to 154	1.28	1.92	18	457	c		c
HHR nylon	4.5	114	303 SS	500	227	-50 to 310	-46 to 154	1.40	2.08	18	457	c		c
HHR nylon	7.5	191	303 SS	500	227	-50 to 310	-46 to 154	1.80	2.68	24	610	c		c

[a] Japan Ministry of Health, Labour, and Welfare
[b] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[c] Fully compliant

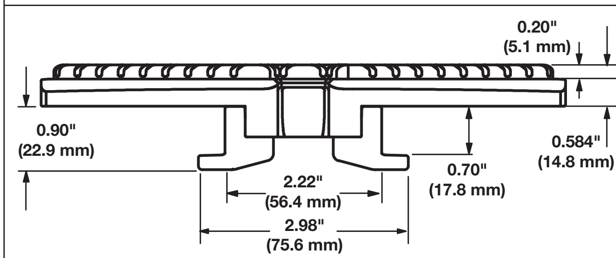
S4092 Sideflexing Square Friction Top

	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191
Open Area	0%	
Hinge Style	Closed	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in blue acetal with black rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Use the same sprockets as S1400 and S4000.
- Sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Use the *Intralox Engineering Program* to calculate the estimated belt pull for your system. Contact Intralox Customer Service for assistance.
- 3.9 in (99 mm) pitch diameter sprockets are not compatible with S4092 belts.
- Available in 10 ft (3 m) increments.

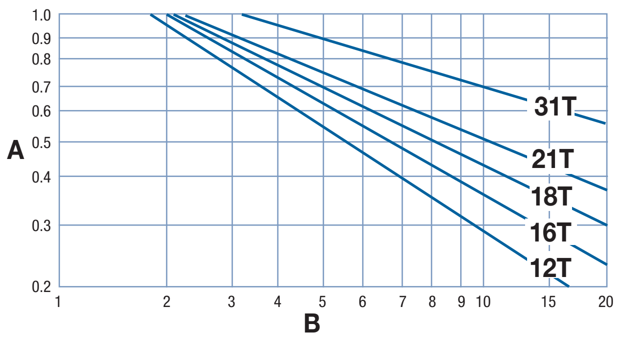


Belt Data

Base Belt Material	Belt Width in	Belt Width mm	Base/ Friction Top	Standard Rod Material, Diameter 0.25 in (6.4 mm)	Belt Strength lb	Belt Strength kg	Temp. Range (continuous) °F	Temp. Range (continuous) °C	Belt Weight lb/ft	Belt Weight kg/m	Friction Top Hardness	Minimum Centerline Turn Radius in	Minimum Centerline Turn Radius mm	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[a]
Acetal	7.5	191	Blue/black	303 SS	500	227	-10 to 130	-23 to 54	2.35	3.50	54 Shore A	24	610	b	c

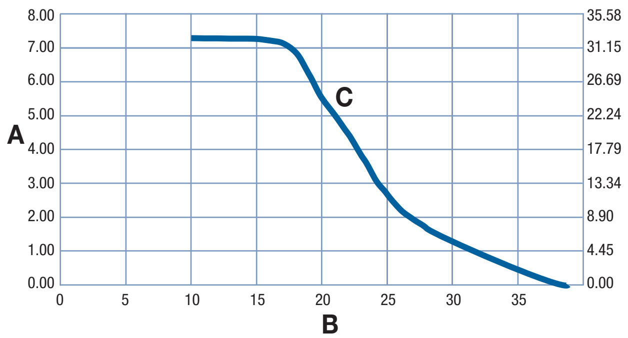
[a] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[b] FDA compliant with restriction: Do not use in direct contact with fatty foods.
[c] EU compliant with restriction: Do not use in direct contact with fatty foods.

Strength Factor	S4032 ProTrax with Tabs and S4033 ProTrax Magnet Force Vs. Metal Thickness



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.



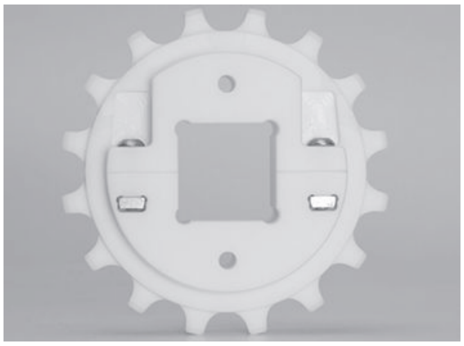
A magnet force (lbf)
B magnet force (N)
C metal thickness (steel gauge)

NOTE: Magnet force shown is for a single magnet within one wing of one module, using a flat pan. Results vary for different pan styles and surface textures.

Molded Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter in	Nom. Pitch Diameter mm	Nom. Outer Diameter in	Nom. Outer Diameter mm	Nominal Hub Diameter in	Nominal Hub Diameter mm	Available Bore Sizes Round in	Available Bore Sizes Square in	Available Bore Sizes Round mm	Available Bore Sizes Square mm
12 (3.41%)	3.9[a]	99[a]	3.9	99	1.5	38		1.5		40
15 (2.19%)	4.9	124	4.9	124	1.5	38		2.5		60
18 (1.52%)	5.7	145	5.8	148	1.5	38	2	2.5	50	60
24 (0.86%)	7.7	196	7.8	198	1.5	38		2.5		60

[a] 3.9 PD sprockets are not compatible with S4092 belts.

Nylon (FDA) Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
16 (1.92%)	5.1	130	5.2	132	1.5	38	1.25, 1.5	1.5	30	40	

[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Maximum Load per Glass-Filled Nylon Split Sprocket														
No. of Teeth	Nom. Pitch Diameter		Round Bore Size Range											
			1 in to 1-3/16 in		1-1/4 in to 1-3/8 in		1-7/16 in to 1-3/4 in		1-13/16 in to 2 in		25 mm to 35 mm		40 mm to 50 mm	
	in	mm	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
18	5.7	145	300	135	340	155	400	180	540	245	240	110	410	185
21	6.7	170	225	102	275	124	350	158	500	226	175	79	400	181

Glass-Filled Nylon Split Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm	
18 (1.52%)	5.7	145	5.8	148	2.0	51	1 to 2[b]	1.5, 2.5	25 to 50[c]	40, 60	
21 (1.12%)	6.7	170	6.8	172	2.0	51		1.5, 2.5		40, 60	

[a] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[b] in 1/16 in increments
[c] in 5 mm increments

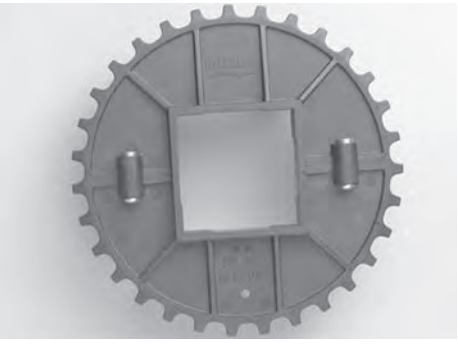
Polypropylene Composite Split Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in[a]	Square in	Round mm[a]	Square mm
18 (1.52%)	5.7	145	5.8	148	2.0	51		1.5, 2.5		40, 60
21 (1.12%)	6.7	170	6.8	172	2.0	51		1.5, 2.5		40, 60
31 (0.51%)	9.9	251	10.1	257	2.0	51		3.5		

[a] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Polyurethane Composite Split Sprockets

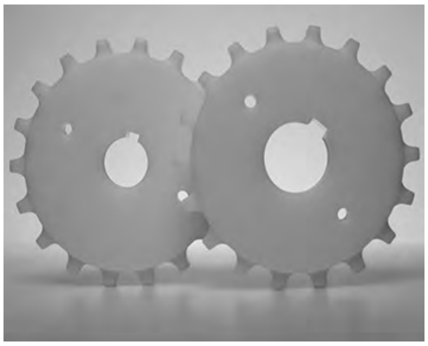
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
31 (0.51%)	9.9	251	10.1	257	1.50, 1.67	38, 44		3.5		
								2.5[a]		



[a] The 2.5 in square bore is created by using a bore adapter in the 3.5 in square bore sprocket.

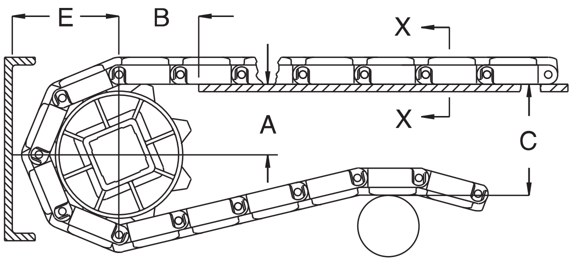
Machined Sprockets

Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
18 (1.52%)	5.7	145	5.8	148	1.5	38			30, 40	



CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

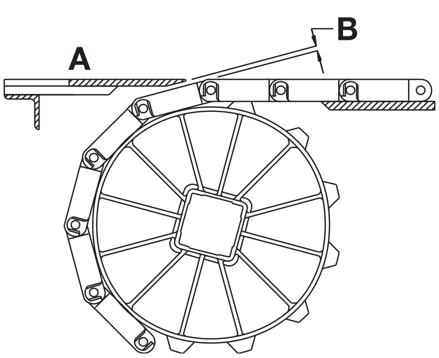
Figure 115: Basic dimensional requirements

S4000 Conveyor Frame Dimensions										
Sprocket Description			A		B		C		E	
Pitch Diameter		Number of Teeth	Range (Bottom to Top)							
in	mm		in	mm	in	mm	in	mm	in	mm
S4009 Flush Grid										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.62	117	2.73	69
5.1	130	16	2.73-2.78	69-71	2.51	64	5.90	150	3.37	86
5.7	145	18	3.05-3.10	77-79	2.54	65	6.54	166	3.69	94
6.7	170	21	3.54-3.58	90-91	2.70	69	7.50	191	4.17	106
9.9	251	31	5.15-5.18	131-132	3.15	80	10.70	272	5.77	147
S4009 Flat Top										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.66	118	2.77	70
5.1	130	16	2.73-2.78	69-71	2.51	64	5.94	151	3.41	87
5.7	145	18	3.05-3.10	77-79	2.54	65	6.58	167	3.73	95
6.7	170	21	3.54-3.58	90-91	2.70	69	7.54	192	4.21	107
9.9	251	31	5.15-5.18	131-132	3.15	80	10.74	273	5.81	148
S4014 Flat Top										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.24	108	2.68	68
5.1	130	16	2.73-2.78	69-71	2.51	64	5.49	139	3.64	92
5.7	145	18	3.05-3.10	77-79	2.54	65	6.09	155	3.95	100
6.7	170	21	3.54-3.58	90-91	2.70	69	7.09	180	4.43	113
9.9	251	31	5.15-5.18	131-132	3.15	80	10.86	276	5.93	151
S4030 and S4031 7.5-in ProTrax Sideflexing Flat Top with Tabs										
3.9	99	12	2.07-2.17	53-54	2.31	59	4.66	118	2.77	70
5.1	130	16	2.73-2.78	67-71	2.51	64	5.989	152	3.459	88
5.8	147	18	3.05-3.10	77-79	2.54	65	6.629	168	3.779	96
6.7	170	21	3.54-3.58	90-91	2.7	69	7.589	193	4.259	108
9.9	251	31	5.15-5.18	131-132	3.15	80	10.789	274	5.859	149

S4000 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
S4032 7.5-in ProTrax Sideflexing Flat Top with Tabs											
5.1	130	16	2.73-2.78	67-71	2.51	64	5.99	152	3.46	88	
5.8	147	18	3.05-3.10	77-79	2.54	65	6.63	168	3.78	96	
6.7	170	21	3.54-3.58	90-91	2.7	69	7.59	193	4.26	108	
9.9	251	31	5.15-5.18	131-132	3.15	80	10.79	274	5.86	149	
S4033 7.5-in ProTrax Sideflexing Flat Top											
3.9	99	12	2.07-2.17	53-54	2.31	59	4.66	118	2.77	70	
5.1	130	16	2.73-2.78	67-71	2.51	64	5.989	152	3.459	88	
5.8	147	18	3.05-3.10	77-79	2.54	65	6.629	168	3.779	96	
6.7	170	21	3.54-3.58	90-91	2.7	69	7.589	193	4.259	108	
9.9	251	31	5.15-5.18	131-132	3.15	80	10.789	274	5.859	149	
S4090, S4091, S4092 Sideflexing Flat Top											
3.9	99	12	2.07-2.14	53-54	2.31	59	4.62	117	2.73	69	
5.1	130	16	2.73-2.78	69-71	2.51	64	5.90	150	3.37	86	
5.7	145	18	3.05-3.10	77-79	2.54	65	6.54	166	3.69	94	
6.7	170	21	3.54-3.58	90-91	2.70	69	7.50	191	4.17	106	
9.9	251	31	5.15-5.18	131-132	3.15	80	10.70	272	5.77	147	
S4092 Sideflexing Square Friction Top											
5.2	132	16	2.73-2.78	69-71	2.51	64	6.14	156	2.84	72	
5.8	147	18	3.05-3.10	77-79	2.54	65	6.78	172	3.16	80	
6.8	173	21	3.54-3.58	90-91	2.70	69	7.74	197	3.64	92	
10.0	254	31	5.15	131	3.15	80	10.94	278	5.24	133	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 116: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
3.9	99	12	0.066	1.7
5.1	130	16	0.050	1.3
5.7	145	18	0.044	1.1
6.7	170	21	0.038	1.0
9.9	251	31	0.025	0.6

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

SPIRAL BELTS

ENGINEERING PROGRAM ANALYSIS FOR SPIRAL AND RADIUS BELTS

Use the Intralox Engineering Program to calculate the estimated belt pull for radius applications and ensure that the belt is strong enough for the application. Contact Intralox Customer Service for more information.

The following information required for an engineering analysis:

- Any environmental conditions which can affect the friction coefficient. For dirty or abrasive conditions, use higher-than-normal friction coefficients.
- Belt width
- Length of each straight run
- Turning angle of each turn
- Turn direction of each turn
- Inside radius of each turn
- Carryway and hold down rail material.
- Product load lbf/ft^2 (kgf/m^2)
- Product accumulation conditions
- Belt speed
- Elevation changes in each section
- Operating temperatures
- Sprocket and shaft specifications

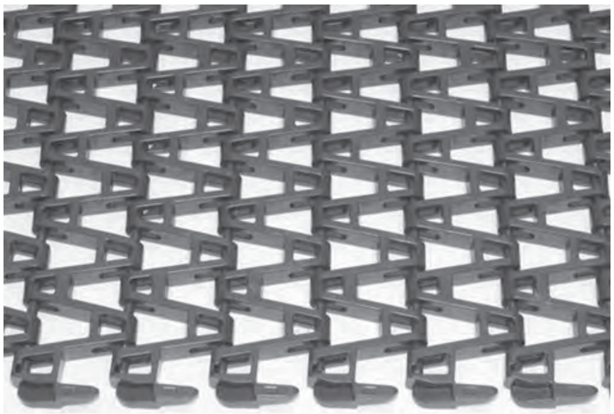
Intralox can help select radius belt and low-tension capstan drive spiral belts for your application. Contact Intralox Customer Service for more information.

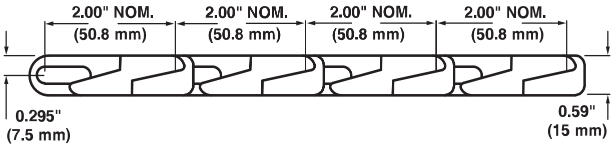
Spiral 1.0

	in	mm
Pitch	2.00	50.8
Minimum Width	18	660
Maximum Width	50	1270
Width Increments	1.0	25.4
Opening Size (approximate)	0.85 x 0.88	21.6 x 22.5
Open Area (fully extended)	56%	
Minimum Open Area (1.0TR)	22%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.0 times the belt width (measured from inside edge).
- Use the *Intralox Engineering Program* to predict strength requirements for radius applications, and ensure that the belt is strong enough for the application.
- For belt widths under 26 in (660 mm) and over 50 in (1270 mm), contact Intralox Customer Service.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside (collapsed) edge of the spiral: 12 in (304.8 mm).



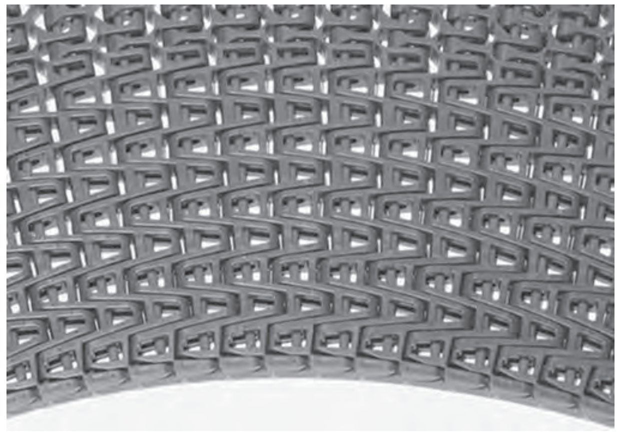


Belt Data									
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1300	1935	300	136	-50 to 200	-46 to 93	1.46	7.13
SELM	Acetal	1300	1935	300	136	-50 to 200	-46 to 93	1.24	6.05

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

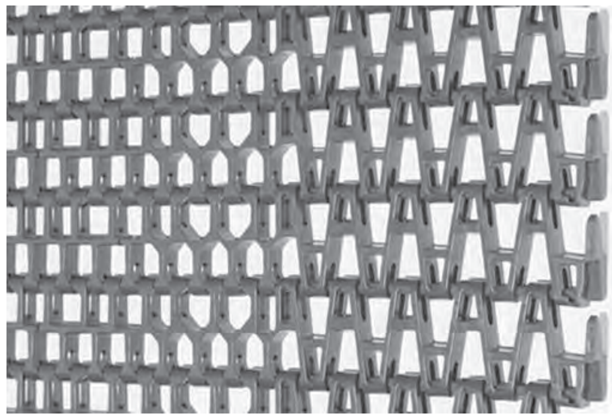
Spiral 1.1

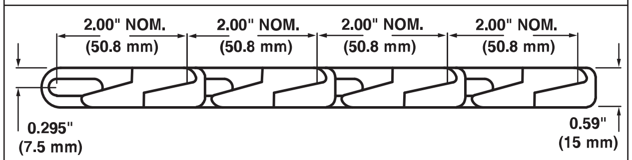
	in	mm
Pitch	2.00	50.8
Minimum Width	15	381
Maximum Width	44	1118
Width Increments	1.00	25.4
Opening Size (approximate)	0.85 × 0.88	21.6 × 22.5
Open Area (fully extended)	56%	
Minimum Open Area (1.1 turn ratio)	22%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.1 times the belt width (measured from inside edge).
- For belt widths under 15 in (381 mm) and over 44 in (1118 mm), contact Intralox Customer Service.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside (collapsed) edge of the spiral: 9.0 in (228.6 mm).





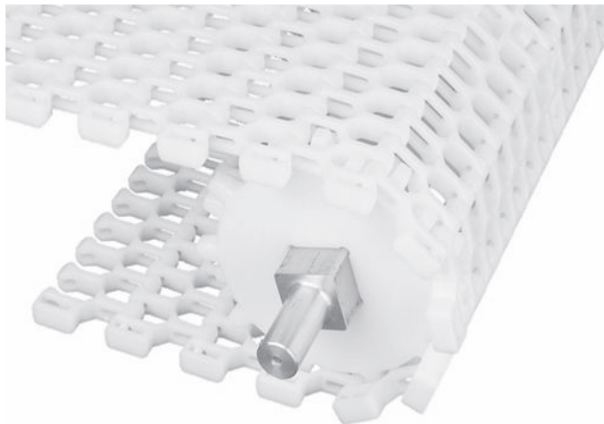
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1300	1935	300	136	-50 to 200	-46 to 93	1.44	7.03
SELM	Acetal	1300	1935	300	136	-50 to 200	-46 to 93	1.24	6.05

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

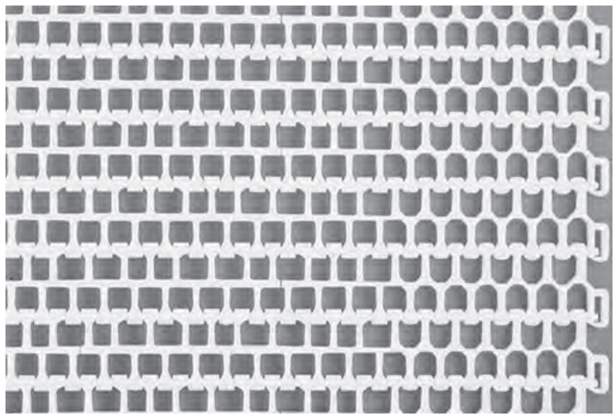
Spiral 1.6, 2.0

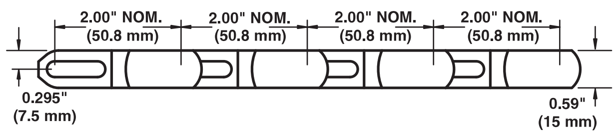
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	1.00	25.4
Opening Size (approximate)	0.94 × 0.65	23.8 × 16.5
Open Area (fully extended)	54%	
Minimum Open Area (1.6 Turn Ratio)	40%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.6 times the belt width (measured from inside edge).
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.



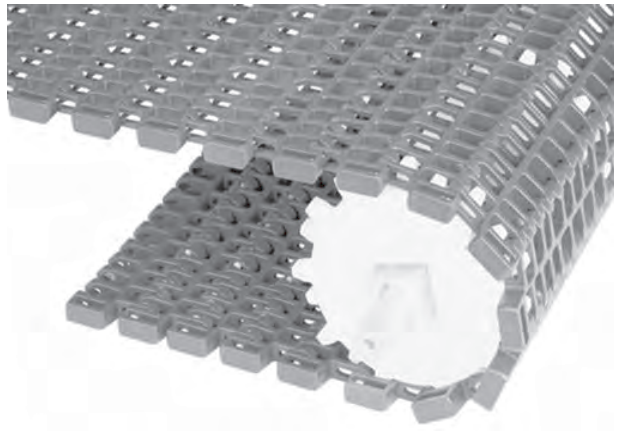


Belt Data									
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	375	170	-50 to 200	-46 to 93	1.41	6.88
Polypropylene[b]	Acetal	1500	2232	300	136	34 to 200	1 to 93	1.01	4.93
SELM	Acetal	1500	2232	300	136	-50 to 200	-46 to 93	1.24	6.05

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.
[b] Available in 1.6 radius only.

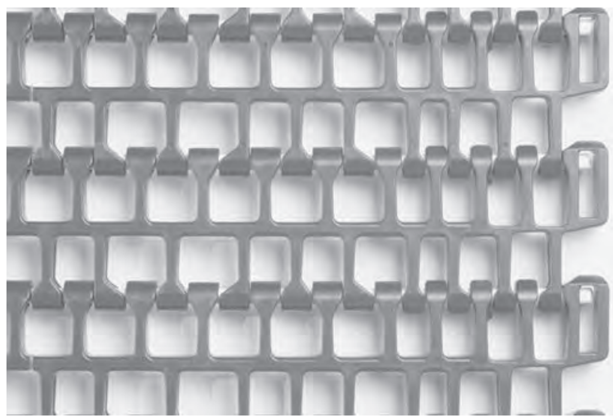
Spiral 2.2, 2.5, and 3.2

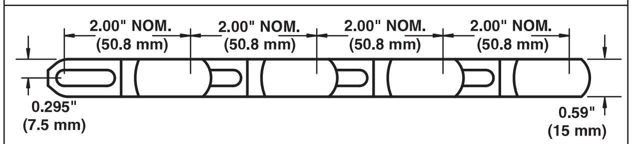
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	1.00	25.4
Opening Size (approximate)	0.94 × 0.65	23.8 × 16.5
% Open Area (fully extended)	57%	
% Minimum Open Area (2.2 Turn Ratio)	32%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 2.2 times the belt width (measured from inside edge).
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.



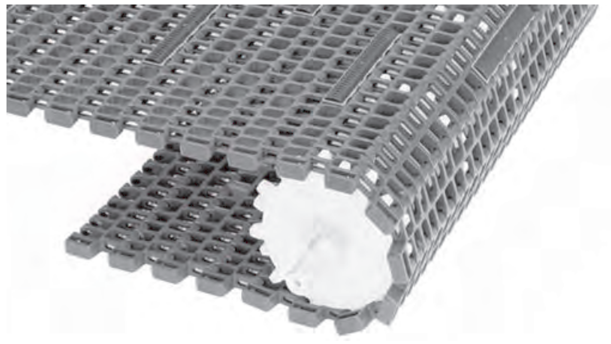


Belt Data									
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	475	215	-50 to 200	-46 to 93	1.54	7.52
Polypropylene	Acetal	1500	2232	400	181	34 to 200	1 to 93	1.04	5.08
SELM	Acetal	1500	2232	375	170	-50 to 200	-46 to 93	1.24	6.05

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

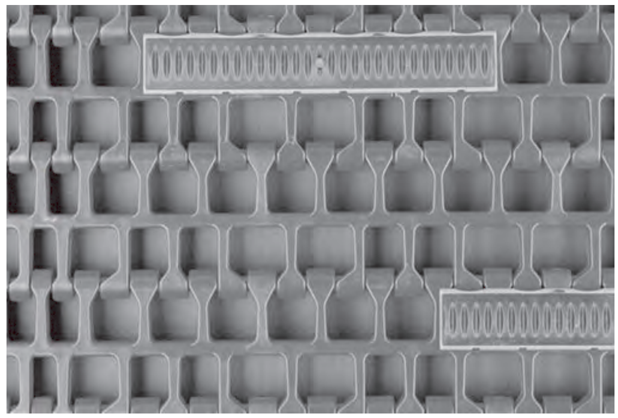
Spiral Rounded Friction Top

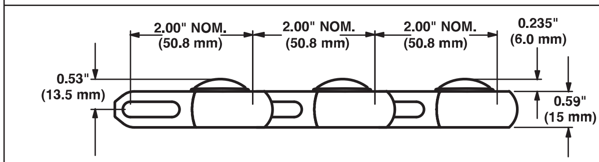
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	1.00	25.4
Opening Size (approximate)	0.94 × 0.65	23.8 × 16.5
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Friction Top is available in white polypropylene with white rubber, blue polypropylene with black rubber, and natural polyethylene with white rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Contact Intralox Customer Service for minimum indent requirements.





Belt Data

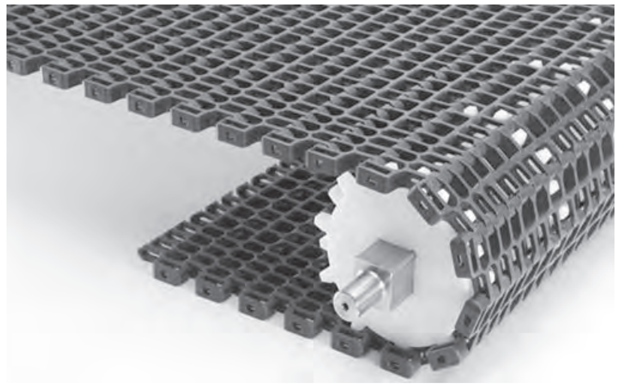
Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Spiral Belt Strength 1.6 TR (2.2, 2.5, 3.2 TR)		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[a]
Acetal	Blue/black	Acetal	1700	2530	375 (475)	170 (215)	34 to 150	1 to 66	1.44 (1.54)	7.03 (7.52)	55 Shore A	b	c
Acetal	White/white	Acetal	1700	2530	376 (475)	171 (215)	35 to 150	2 to 66	1.44 (1.54)	7.03 (7.52)	55 Shore A	d	c
Polypropylene	Blue/black	Acetal	1500	2232	300 (400)	136 (181)	34 to 150	1 to 66	1.01 (1.04)	4.93 (5.08)	55 Shore A	d	
Polypropylene	White/white	Acetal	1500	2232	300 (400)	136 (181)	34 to 150	1 to 66	1.01 (1.04)	4.93 (5.08)	55 Shore A	d	c

a European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
b Fully compliant
c EU compliant with restriction: Do not use in direct contact with fatty foods.
d FDA compliant with restriction: Do not use in direct contact with fatty foods.

SERIES 2600

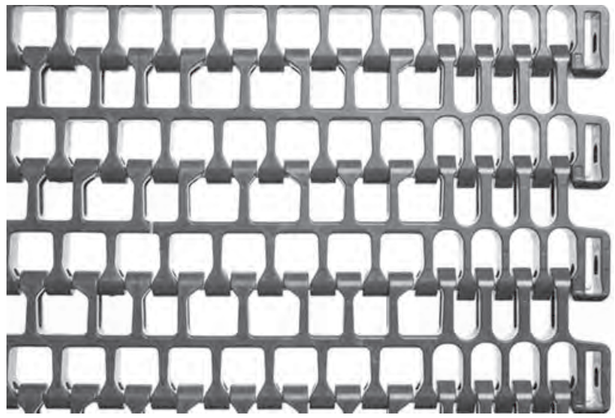
Dual Turning 2.0

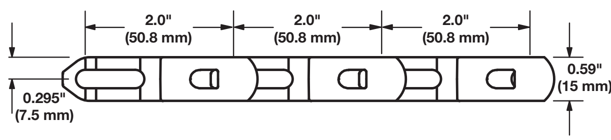
	in	mm
Pitch	2.00	50.8
Minimum Width	18	457.2
Maximum Width	60	1524
Width Increments	1.0	25.4
Opening Size (approximate)	0.94 x 0.65	23.8 x 16.5
Open Area (fully extended)	57%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in spiral conveyor systems.**
- Designed for standard drive and i-Drive systems.
- Rod insertion is accomplished from the edge of the belt. No special tools are required.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Preferred run direction is to align with slotted holes leading.
- Turn ratio of 2.0 times belt width (radius measured at inside edge).
- Consult the Intralox Engineering Program and i-Drive Program for specific widths not listed here.





Belt Data								
Base Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	1.54	7.52
Polypropylene	Acetal	1500	2232		34 to 200	1 to 93	1.04	5.08
SELM	Acetal	990	1473		-50 to 200	-46 to 93	1.24	6.05

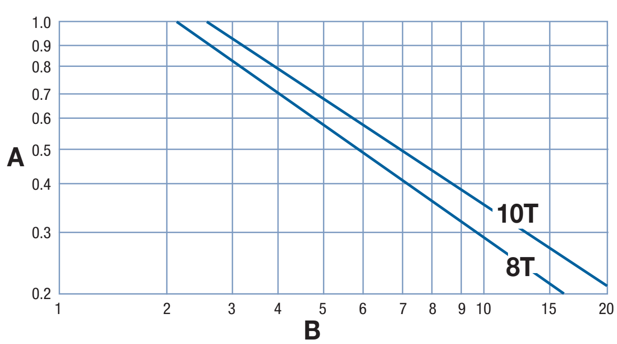
Sprocket and Support Quantity Reference[a]				
Belt Width Range[b]		Minimum Number of Sprockets Per Shaft[c]	Wearstrips	
in	mm		Carryway	Returnway
24	610	3	3	3
26	660	3	3	3
28	711	5	3	3
30	762	5	3	3
32	813	5	3	3
34	864	5	3	3
36	914	5	3	3
38	965	5	4	4
40	1016	5	4	4
42	1067	5	4	4
44	1118	7	4	4
46	1168	7	4	4
48	1219	7	4	4
50	1270	7	4	4
52	1321	7	4	4
54	1372	7	5	5
56	1422	7	5	5
58	1473	7	5	5
60	1524	9	5	5
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing			Contact Intralox Customer Service for more information.	Maximum 12 in (305 mm) centerline spacing

[a] For low-tension capstan drive spirals, contact Intralox Customer Service for suggested carryway support recommendations. Support belt edges using support rollers on drive shafts. Contact Intralox Customer Service for more information.

[b] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 24 in (610 mm). If the actual width is critical, contact Intralox Customer Service.

[c] This number is a minimum. Heavy-load applications can require additional sprockets. For lockdown location, see Retainer Rings and Center Sprocket Offset.

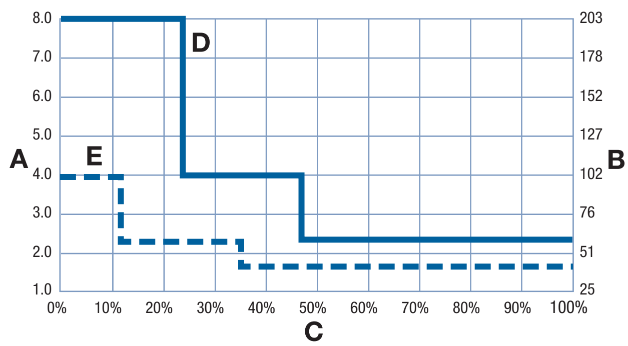
Strength Factor



A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

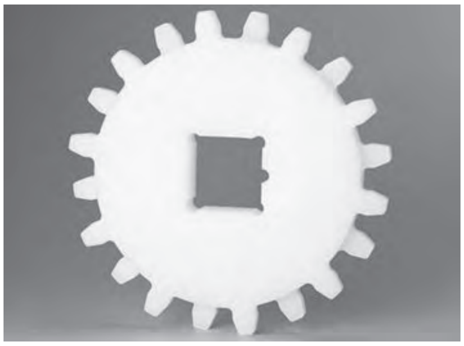
To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized



A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D solid line: square bore sprockets
E dashed line: round bore sprockets

Acetal Sprockets[a]										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
8 (7.61%)	5.2	132	5.4	136	0.8	20.32	1-1/4, 1-7/16, 1-1/2, 2	1-1/2, 2-1/2		40, 60
10 (4.89%)	6.5	165	6.7	170	0.8	20.32	1-1/4, 1-7/16, 1-1/2, 2	1-1/2, 2-1/2		40, 60



[a] Contact Intralox Customer Service for preferred method of locking down sprockets and for proper sprocket timing.

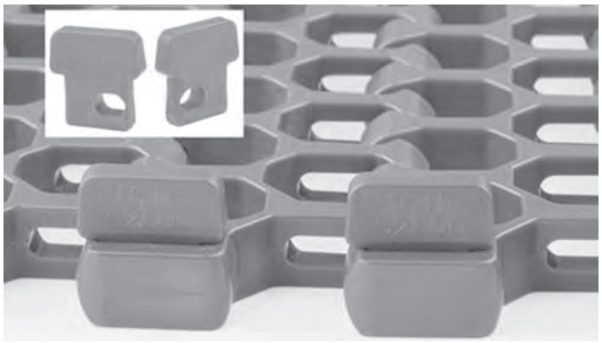
EZ Clean™ Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
10 (4.89%)	6.5	165	6.7	170	0.8	20.32		2.5		

Support Wheel					
Pitch Diameter		Available Bore Sizes			
in	mm	Round in	Square in	Round mm	Square mm
5.2	132	1.25, 1-7/16, 1.5, 2	1.5, 2.5		40, 60
6.5	165	1.25, 1-7/16, 1.5, 2	1.5, 2.5		40, 60

Universal Sideguards

Available Height		Available Materials
in	mm	
0.50	12.7	Acetal, SELM
1.00	25.4	
2.00[a]	50.8[a]	

- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is uncompromised.
- Compatible turn ratios: 1.6, 2.2, 2.5, and 3.2.

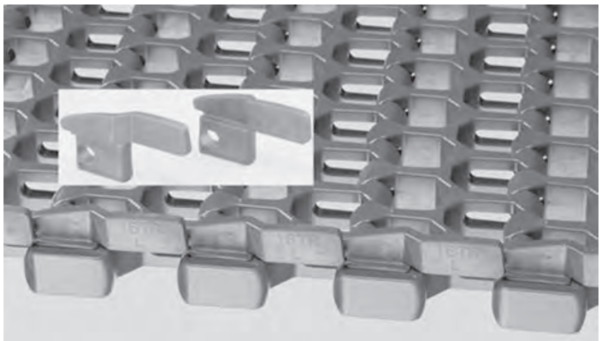


[a] Only available in 1.6 TR

Overlapping Sideguards

Available Height		Available Materials
in	mm	
0.50	12.7	Acetal, SELM
1.00	25.4	

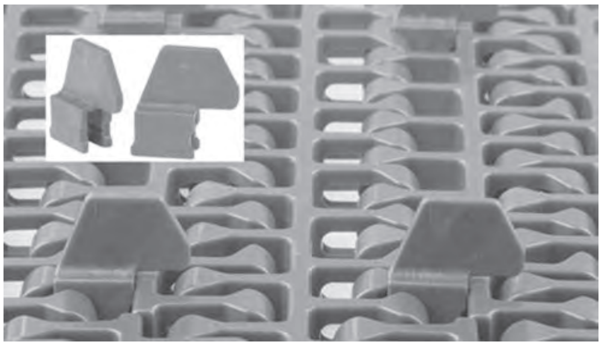
- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratios for 0.50 in (12.7 mm) acetal overlapping sideguards are 1.6, 2.2, 2.5, and 3.2.
- Turn ratio for 1.00 in (25.4 mm) overlapping sideguards is 1.6 only.



Lane Dividers

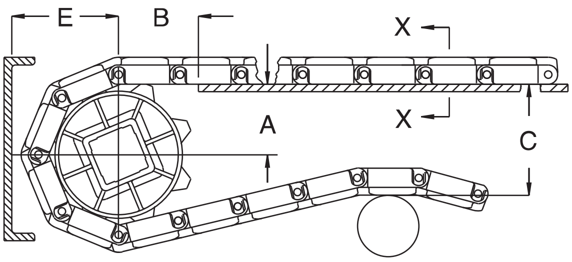
Available Height		Available Materials
in	mm	
0.75	19.0	Acetal, polypropylene

- Assembly does not require finger cuts on the modules, so the belt beam strength is uncompromised.
- For 1.6 turn radius modules, lane dividers can be placed on indents of 1.5 in(38.1 mm), 2.5 in (63.5 mm), 3.5 in (88.9 mm), 4.5 in (114 mm), 11.5 in (292 mm), and up, in 1.00 in (25.4 mm) increments.
- For 2.2 turn radius modules, lane dividers can be placed on indents of 4.5 in (114 mm) and up in 1.00 in (25.4 mm) increments.



CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



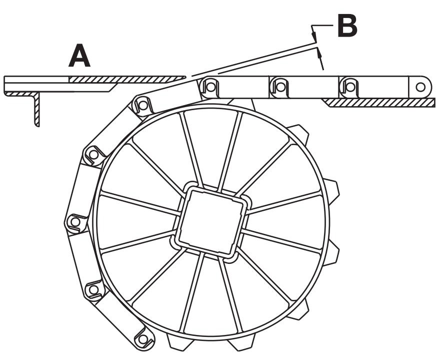
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 117: Basic dimensional requirements

S2600 Conveyor Frame Dimensions												
Sprocket Description					A		B		C		E	
Pitch Diameter		Nominal OD		Number of Teeth	Range (Bottom to Top)							
in	mm	in	mm		in	mm	in	mm	in	mm	in	mm
Spiral 1.0, 1.1, 1.6, 2.0, 2.2, 2.5, 3.2												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.23	133	2.97	75
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.47	164	3.59	91
Spiral Rounded Friction Top												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.46	139	3.21	82
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.71	170	3.83	97

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 118: Gap at transfer point between belt and dead plate

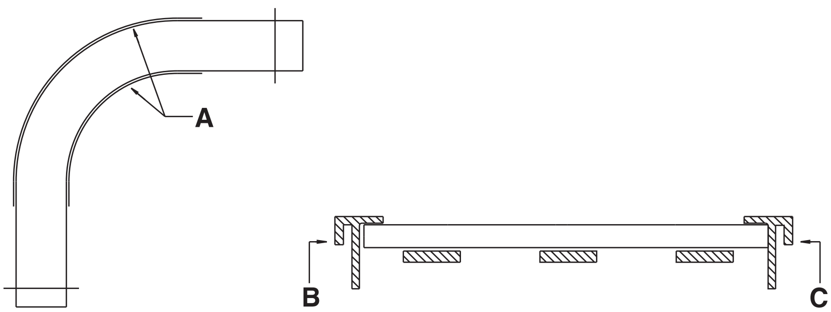
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

HOLD DOWN RAILS AND WEARSTRIPS

Use continuous hold down rails through an entire turn, in both the carryway and the returnway. Start the rails before the turn, at a distance of 1× the belt width. End the rails after the turn, at a distance of 1× the belt width. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory. For information about Intralox hold down wearstrips, see Custom Wearstrips.



A Hold down rail placement
B Outside hold down rail
C Inside hold down rail

Figure 119: Hold down rails and wearstrips for Series 2600 flat-turning applications

BELT SELECTION INSTRUCTIONS

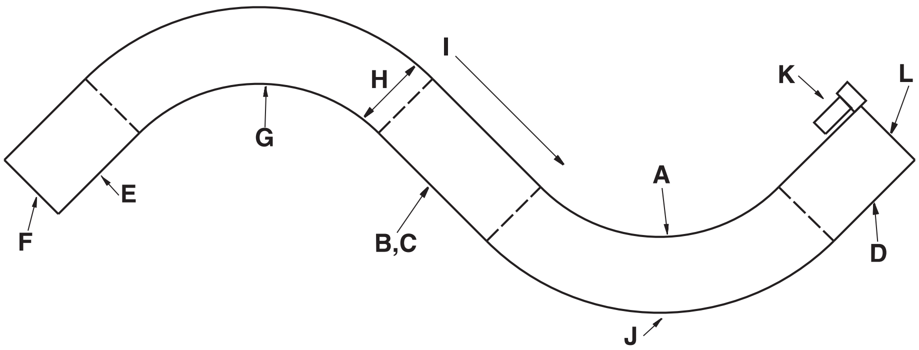
NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For more information, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.

- The minimum turn radius for S2600 is the turn radius times the belt width, measured from the inside edge.
- The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 times the belt width) require a weighted take up to avoid sprocket wear and tracking problems. See Special Take-Up Arrangements.

- The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 × the width), an idle roller can be used in place of sprockets.

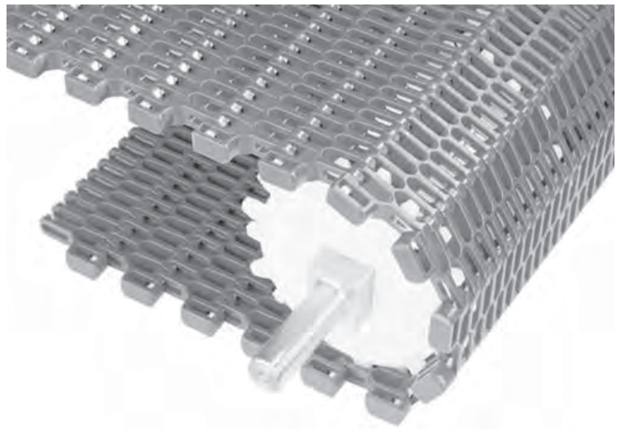


A turn radius, measured from the inside edge
B straight run between turns of opposing directions
C no straight run required between turns in the same direction
D final straight run leading to drive shaft
E first straight run immediately after idle shaft
F idle shaft
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

Figure 120: Typical two-turn radius layout

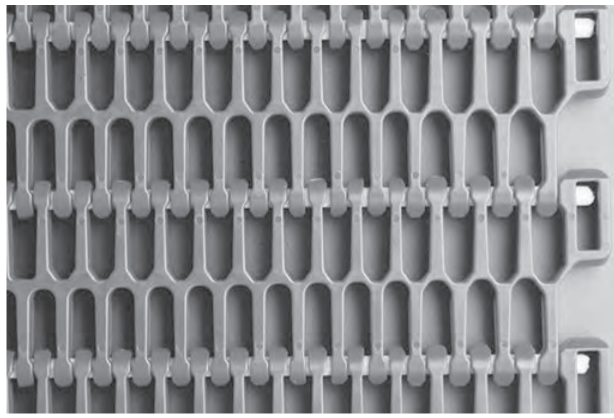
Spiral 1.6

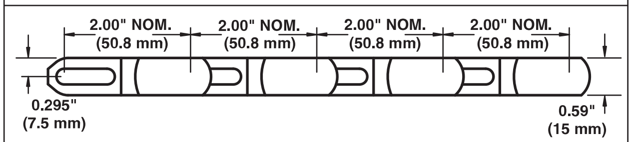
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 × 0.64	9.52 × 16.5
Open Area (fully extended)	45%	
Minimum Open Area (1.6 TR)	27%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 1.6 times the belt width (measured from inside edge).



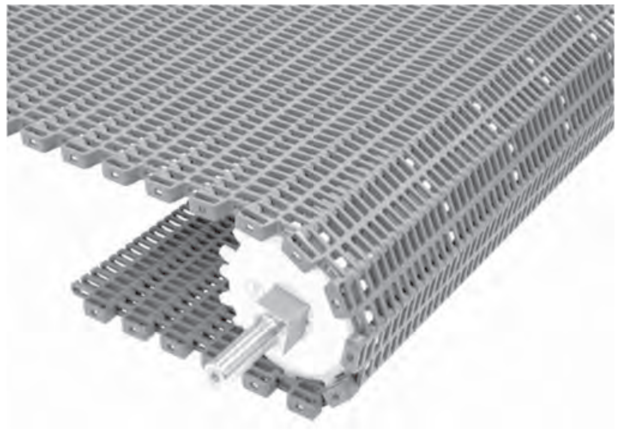


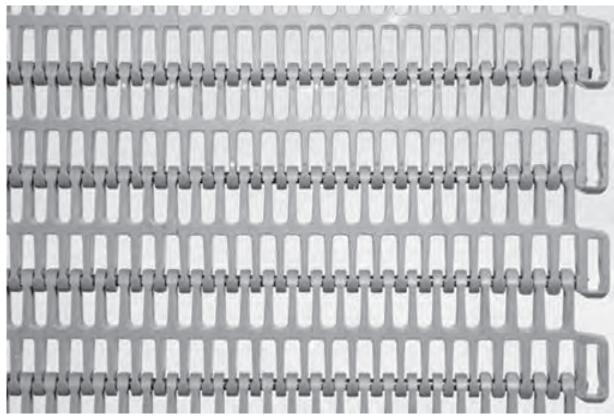
Belt Data									
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	2000	2976	375	170	-50 to 200	-46 to 93	1.74	8.50
SELM	Acetal	1060	1577	300	136	-50 to 200	-46 to 93	1.36	6.64

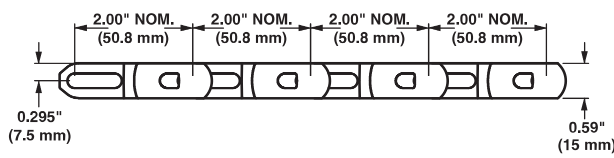
[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

Spiral 2.2

	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 x 0.64	9.52 x 16.5
Open Area (fully extended)	48%	
Minimum Open Area (2.2 TR)	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 2.2 times the belt width (measured from inside edge).

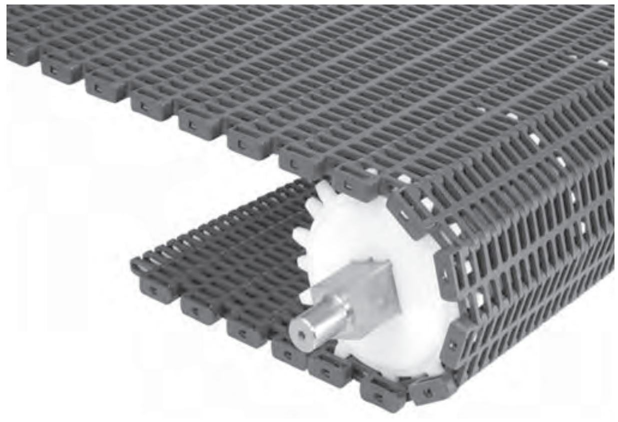
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	375	170	-50 to 200	-46 to 93	1.85	9.03
Polypropylene	Acetal	1500	2232	300	136	34 to 200	1 to 93	1.26	6.15
SELM	Acetal	1060	1577	300	136	-50 to 200	-46 to 93	1.44	7.03

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

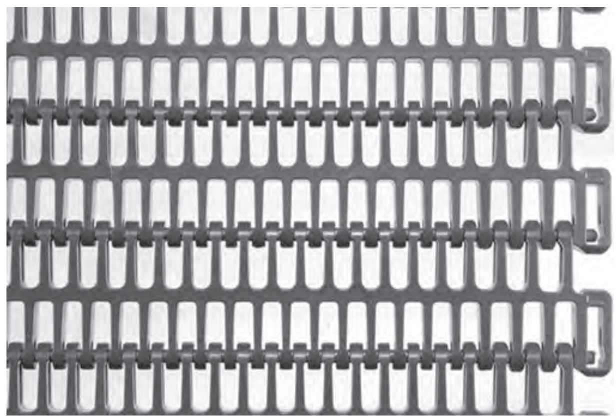
Spiral 2.7

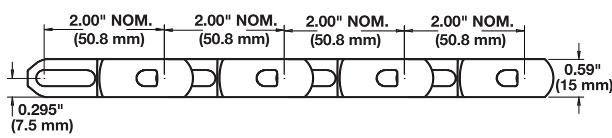
	in	mm
Pitch	2.00	50.8
Minimum Width	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 x 0.64	9.5 x 16.5
Open Area (fully extended)	48%	
Minimum Open Area (2.7 TR)	23%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- When considering belt widths under 24 in (610 mm), contact Intralox Customer Service
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 2.7 times the belt width (measured from inside edge).



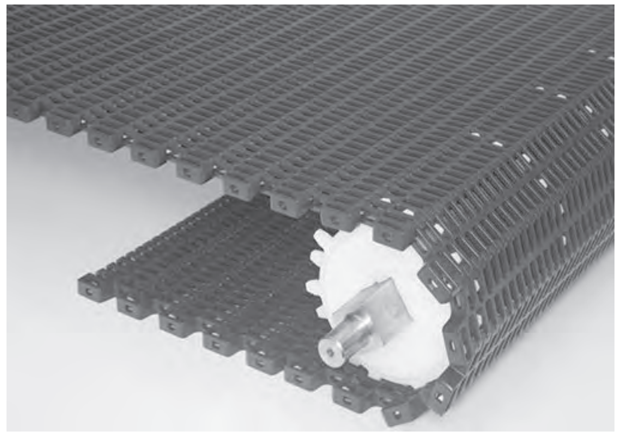


Belt Data									
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	375	170	-50 to 200	-46 to 93	1.86	9.08
Polypropylene	Acetal	1500	2232	300	136	34 to 200	1 to 93	1.26	6.15
SELM	Acetal	1060	1577	300	136	-50 to 200	-46 to 93	1.44	7.03

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

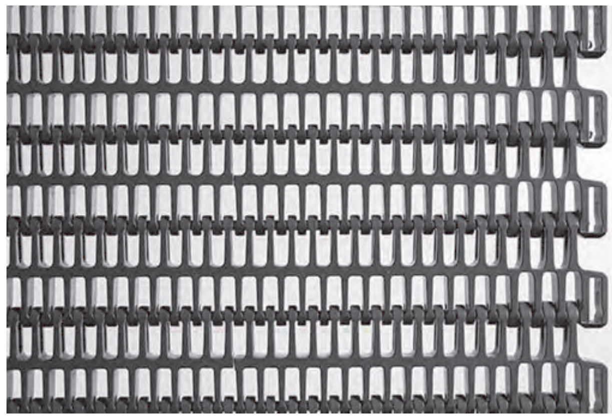
Dual Turning 2.0

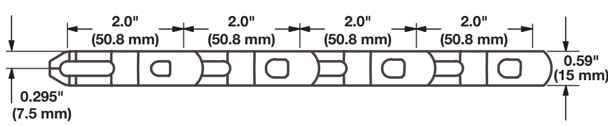
	in	mm
Pitch	2.00	50.8
Minimum Width (See *Product Notes*.)	12	304.8
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 x 0.64	9.5 x 16.5
Open Area (fully extended, see *Product Notes*)	44%	
Minimum Open Area (2.0 TR)	23%	
Hinge Style	Open	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in spiral conveyor systems.**
- Open area calculations for S2700 Dual Turning 2.0 are unique to this style, and are not directly comparable to other S2700 styles.
- Rods are inserted from the edge of the belt. No special tools are required.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for standard drive and i-Drive systems.
- Turn ratio of 2.0 times belt width (measured from inside edge).
- When considering belt widths under 12 in (305 mm), contact Intralox Customer Service
- Consult the *Intralox Engineering Program* and *i-Drive Program* for specific widths not listed here.
- Preferred run direction is to align slotted holes leading.





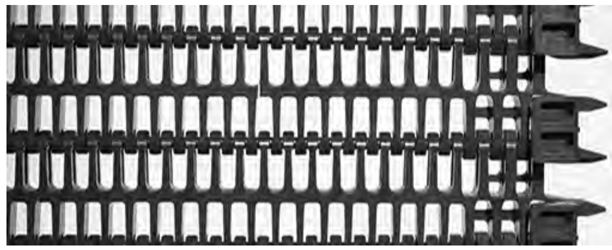
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength	Temperature Range (continuous)[a]		Belt Weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	1.84	8.98
Acetal	Nylon	1700	2530		-50 to 200	-46 to 93	1.81	8.84
SELM	Acetal	1060	1577		-50 to 200	-46 to 93	1.42	6.93
SELM	Nylon	1060	1577		-50 to 212	-46 to 100	1.40	6.84

[a] Belt functions mechanically up to 240°F (116°C). Belt used in the temperature window of 212°F to 240°F (100°C to 116°C) is not FDA-compliant.

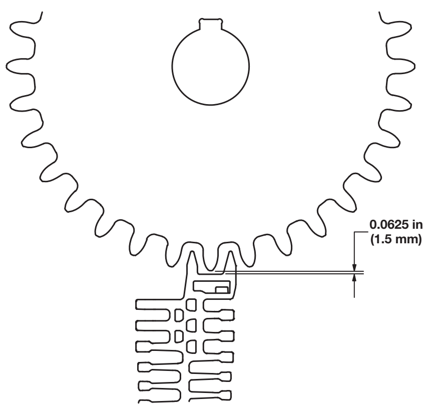
Side Drive

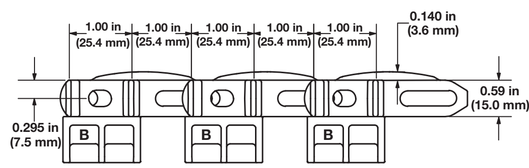
	in	mm
Module Pitch	2.0	50.8
Drive Tooth Pitch	1.0	25.4
Minimum Width	10	254.0
Maximum Width	42	1066.8
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 x 0.64	9.5 x 16.5
Open Area	44%	
Hinge Style	Open	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in live-drum spiral conveyor systems.**
- Teeth along the belt edge drive the belt and allow for atypical configurations and long conveyors without transfer points.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- A S2700 Spiral 1.6 module can be used on the inner edge to achieve a smaller turn ratio, but only for single-direction curve applications.
- The Intralox Side Drive Program can help predict the strength requirements of most side-driven applications, ensuring that the belt is strong enough for the application. Contact Intralox Customer Service for more information.
- Preferred run direction is to align with slotted holes leading. This belt is not designed to run in the opposite direction.
- The Z-dimension is the distance between the edge of the belt (not including drive teeth) and the outer diameter of the sprocket. Maintain this dimension to ensure proper engagement of the belt and sprocket.
- S2700 lane dividers can be used with this belt, but sideguards cannot be used.
- Designed for side-driven applications with a minimum turn radius of 2.0 times the belt width (measured from inside edge to outer edge, not including drive teeth).





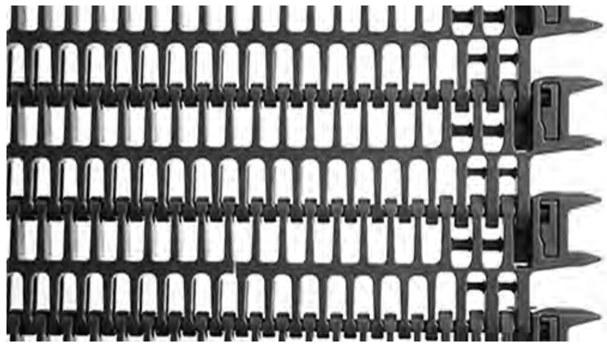
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Curved Belt Strength[a]		Temperature Range (continuous)		Belt Weight		Agency Acceptability	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²	FDA (USA)	EU MC[b]
Acetal	Acetal	175	260	150	220	40 to 200	4 to 93	2.17	10.6	c	c

[a] Published curved belt strengths and their method of calculation vary among belt manufacturers. Contact Intralox Customer Service for accurate comparison of curved belt strengths.
[b] European Migration Certificate providing approval for food contact according to EU Directive 2002/72/EC and all its amendments to date.
[c] Fully compliant.

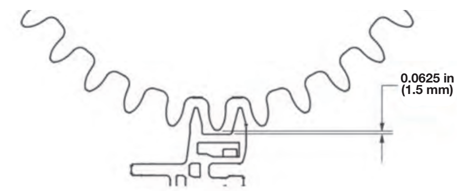
Side Drive V2

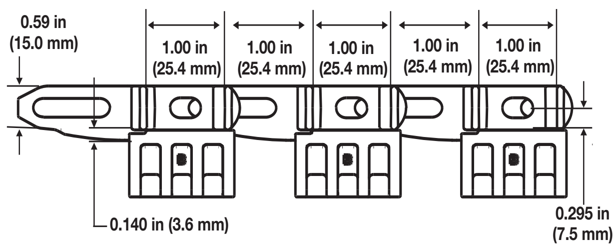
	in	mm
Module Pitch	2.0	50.8
Pitch	1.0	25.4
Minimum Width	10	254.0
Maximum Width	42	1067
Width Increments	0.50	12.7
Opening Size (approximately)	0.38 x 0.64	9.5 x 16.5
Open Area	44%	
Hinge Style	Open	

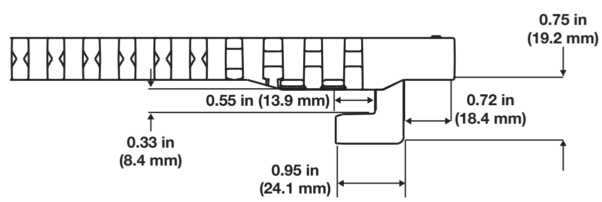


Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in live-drum spiral conveyor systems.**
- Flat belt surface allows for easier product transfer over the belt end.
- Teeth along the belt edge drive the belt and allow for atypical configurations and long conveyors without transfer points.
- The hold down tab location enables full use of the entire belt width.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for side-driven applications with a minimum turn radius of 2.0 times the belt width (measured from inside edge to outer edge, not including drive teeth).
- The Intralox Side Drive Program can help predict the strength requirements of most side-driven applications, ensuring that the belt is strong enough for the application. Contact Intralox Customer Service for more information.
- Design and install the belt with slotted holes leading in the run direction. This belt is not designed to run in the opposite direction.
- The distance between the belt edge (not including drive teeth) and the sprocket outer diameter is critical. Maintain this dimension to ensure proper belt-to-sprocket engagement.
- For single-direction curve applications, a S2700 Spiral 1.6 module can be used on the inner edge to achieve a smaller turn ratio.
- S2700 lane dividers can be used with this belt, but sideguards cannot be used.





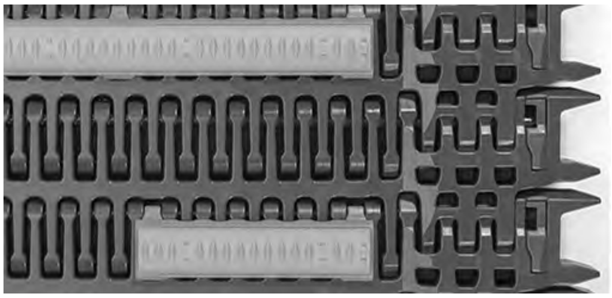


Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Curved Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	175	260	150	220	40 to 200	4 to 93	2.17	10.59

Spiral Rounded Friction Top

	in	mm
Module Pitch	2	50.8
Minimum Width	Varies according to base belt	
Maximum Width		
Width Increments	0.50	12.7
Hinge Style	Open	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in blue polypropylene (PP) and blue acetal with blue rubber or blue PP and blue acetal Mini Rib only.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Compatible with S2700 Side Drive, S2700 Dual Turning 2.0, and S2700 Spiral 1.6, 2.2, and 2.7.
- For minimum indent requirements, contact Intralox Customer Service.

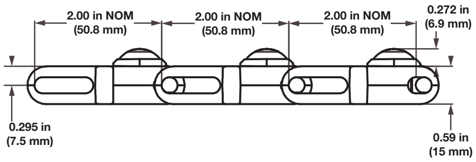


Figure 121: Module with friction top insert

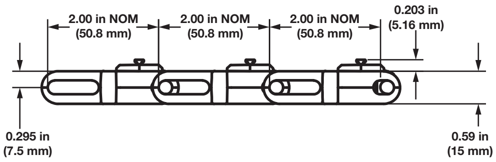


Figure 122: Module with Mini Rib insert

Belt Data													
Base Belt Material	Accessory Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength[a]		Spiral Belt Strength [a]		Temperature Range (continuous)		Belt Weight [a]		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Acetal	Friction Top insert: blue PP base with rubber overlay	Acetal	175	260	150	220	-50 to 200	-46 to 93	2.17	10.59	54 Shore A	c	d
Acetal	Mini Rib insert: blue acetal	Acetal	175	260	150	220	-50 to 200	-46 to 93	2.17	10.59	–	c	d

[a] Provided values are for Side Drive base belts. Values for other compatible base belts are provided on the product page for each belt. Contact Intralox Customer Service for more information.
[b] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
[c] FDA Compliant with restriction: Do not use in direct contact with fatty foods.
[d] EU Compliant with restriction: Do not use in direct contact with fatty foods.

SERIES 2700

Sprocket and Support Quantity Reference[a]				
Belt Width Range[b]		Minimum Number of Sprockets Per Shaft[c]	Wearstrips[d]	
in	mm		Carryway	Returnway
24	610	5	2	2
26	660	5	2	2
28	711	5	2	2
30	762	5	3	2
32	813	5	3	2
34	864	7	3	2
36	914	7	3	2
38	965	7	3	2
40	1016	7	3	2
42	1067	7	3	2
44	1118	7	3	2
46	1168	9	3	2
48	1219	9	3	2
50	1270	9	3	2
52	1321	9	3	2
54	1372	9	3	2
56	1422	9	4	3
58	1473	11	4	3
60	1524	11	4	3
For other widths, use an odd number of sprockets at Maximum 8 in (203 mm) centerline spacing.			Maximum 25 in (635 mm) centerline spacing	Maximum 30 in (762 mm) centerline spacing

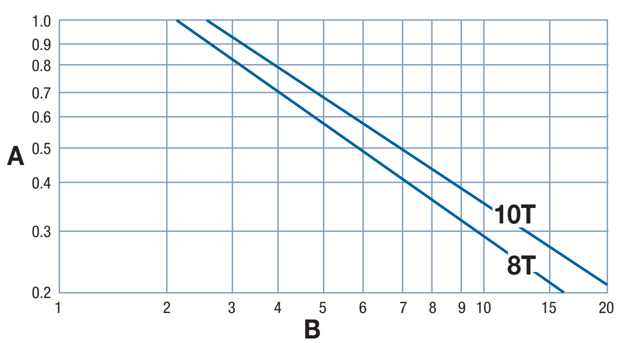
[a] For low-tension capstan drive spirals, contact Intralox Customer Service for suggested carryway support recommendations. Support belt edges using support rollers on drive shafts. Contact Intralox Customer Service for more information.

[b] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.50 in (12.7 mm) increments beginning with minimum width of 24 in (610 mm). If the actual width is critical, contact Intralox Customer Service.

[c] This number is a minimum. Heavy-load applications can require additional sprockets. For lockdown location, see Retainer Rings and Center Sprocket Offset.

[d] Carryway spacing depends on a distributed 2 lb/ft² at 65°F (18.3°C) for acetal belts with acetal rods with a 2 in (50.8 mm) and 4 in (101.6 mm) overhang.

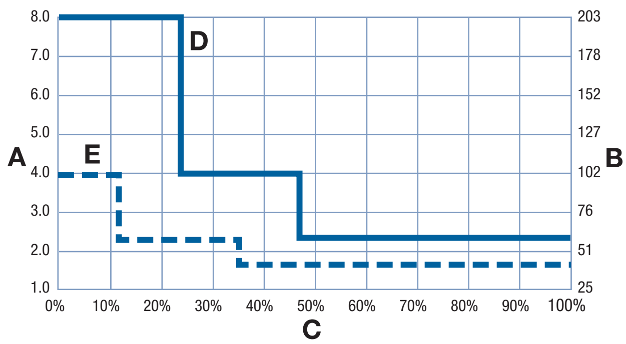
Strength Factor



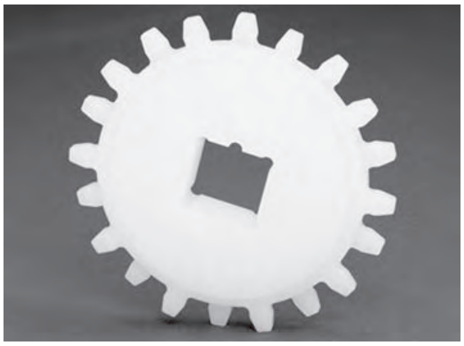
A strength factor
B speed/length ratio (V/L)
T number of teeth
V belt speed, ft/min (m/min)
L shaft centerline distance, ft (m)

To determine the speed/length ratio, divide the belt speed by the shaft centerline distance. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. See Belt Selection Instructions for more information.

Sprocket Spacing as a Function of Belt Strength Utilized

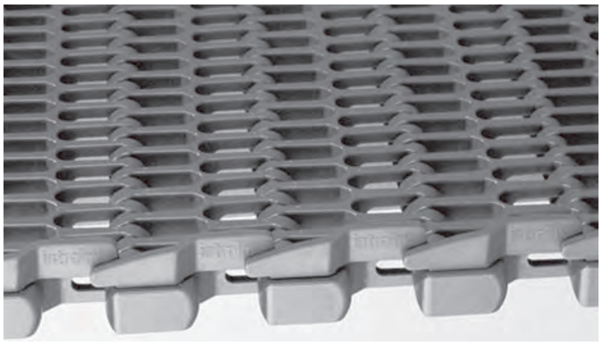


A sprocket spacing, in
B sprocket spacing, mm
C percentage of allowable belt strength utilized
D solid line: square bore sprockets
E dashed line: round bore sprockets

Acetal Sprockets[a]											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
8 (7.61%)	5.2	132	5.4	136	0.8	20.32	1-1/4, 1-7/16, 2	1-1/2, 2-1/2		60	
10 (4.85%)	6.5	165	6.7	170	0.8	20.32	1-1/4, 1-7/16, 2	1-1/2, 2-1/2		40, 60	

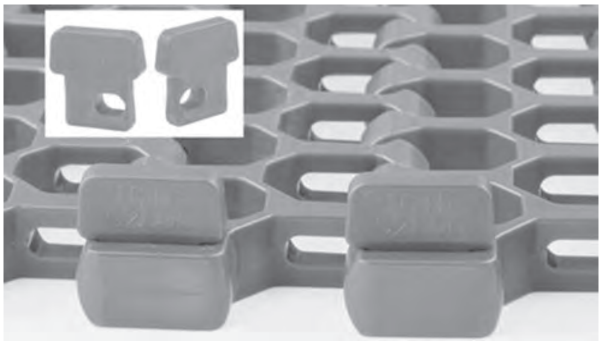
[a] Contact Intralox Customer Service for preferred method of locking down sprockets and proper sprocket timing.

Support Wheel						
Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
5.2	132	1.25, 1-7/16, 1.5, 2	1.5, 2.5		40, 60	
6.5	165	1.25, 1-7/16, 1.5, 2	1.5, 2.5		40, 60	

Overlapping Sideguards			
Available Height		Available Materials	
in	mm		
0.50	12.7	Acetal, SELM	
1.00	25.4		

- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratio for 0.50 in (12.7 mm) acetal overlapping sideguards in acetal is 1.6.
- The turn ratio for 1.00 in (25.4 mm) overlapping sideguard is 1.6 only.

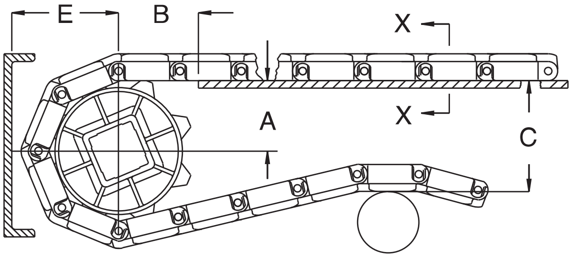
SERIES 2700

Universal Sideguards			
Available Height		Available Materials	
in	mm		
0.50	12.7	Acetal, SELM	
1.00	25.4		
2.00[a]	50.8[a]		
• Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent. • Assembly does not require "finger cuts" on the modules, so the belt beam strength is not compromised.			
[a] Only available in 1.6 TR			

Lane Dividers			
Available Height		Available Materials	
in	mm		
0.75	19	Acetal, SELM	
2.00	50.8		

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



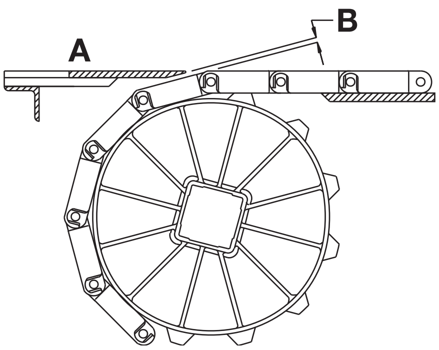
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 123: Basic dimensional requirements

S2700 Conveyor Frame Dimensions												
Sprocket Description					A		B		C		E	
Pitch Diameter		Nominal OD		Number of Teeth	Range (bottom to top)							
in	mm	in	mm		in	mm	in	mm	in	mm	in	mm
Spiral 1.6, 2.2, 2.7												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.23	133	2.97	75
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.47	164	3.59	91
Spiral Rounded Friction Top												
5.2	132	5.4	137	8	2.12–2.32	54–59	2.25	57	5.50	140	3.24	82
6.5	165	6.7	170	10	2.78–2.94	71–75	2.54	65	6.74	171	3.87	98

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 124: Gap at transfer point between belt and dead plate

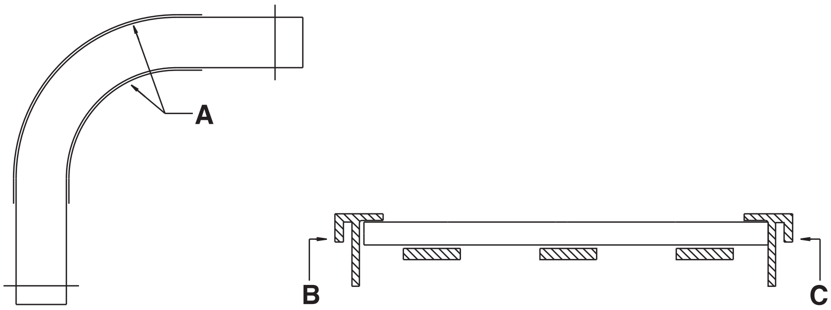
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

HOLD DOWN RAILS AND WEARSTRIPS

Use continuous hold down rails through an entire turn, in both the carryway and the returnway. Start the rails before the turn, at a distance of 1× the belt width. End the rails after the turn, at a distance of 1× the belt width. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory. For information about Intralox hold down wearstrips, see Custom Wearstrips.



A Hold down rail placement
B Outside hold down rail
C Inside hold down rail

Figure 125: Hold down rails and wearstrips for S2700 flat-turning applications

BELT SELECTION INSTRUCTIONS

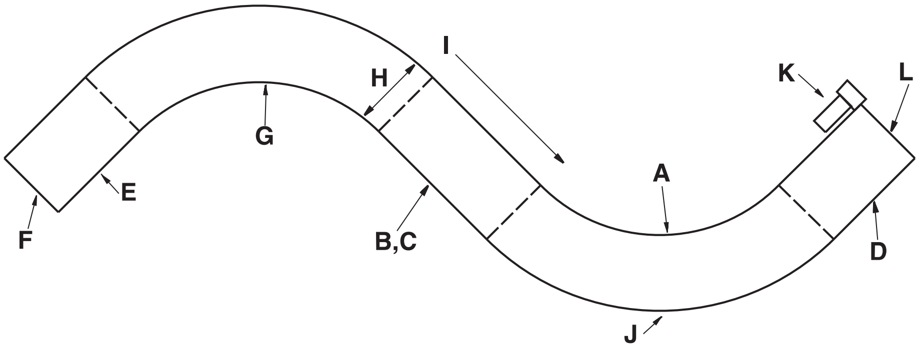
NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For more information, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.

- The minimum turn radius for the standard edge S2700 is 2.2 times the belt width, measured from the inside edge. For the tight turning style, the minimum turn radius is 1.7 times the belt width.
- The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 times the belt width) require a weighted take up to avoid sprocket wear and tracking problems. See Special Take-Up Arrangements.
- The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 × the width), an idle roller can be used in place of sprockets.

SERIES 2700

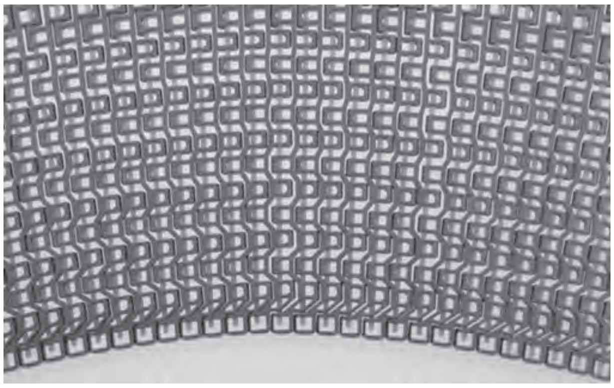


A turn radius, measured from the inside edge
B straight run between turns of opposing directions
C no straight run required between turns in the same direction
D final straight run leading to drive shaft
E first straight run immediately after idle shaft
F idle shaft
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

Figure 126: Typical two-turn radius layout

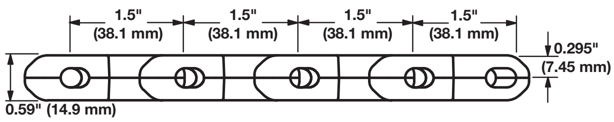
Spiral GTech 1.6

	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Open Area (fully extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Belt openings pass straight through the belt to simplify cleaning.
- Lightweight, relatively strong belt with smooth surface grid.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 1.6 times the belt width (measured from inside edge).
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.



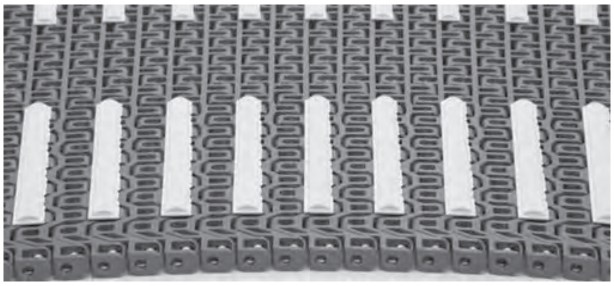
Belt Data									
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.60	7.81
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.28	6.25

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please contact Intralox Customer Service for accurate comparison of spiral belt strengths.

SERIES 2800

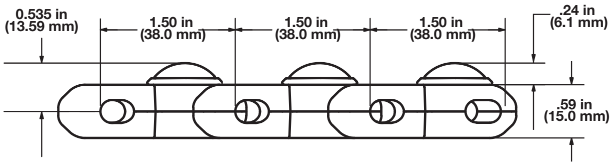
Spiral GTech Rounded Friction Top

	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Hinge Style	Open	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Robust edge feature adds strength to the outside edge of the belt.
- Available in white polypropylene with white rubber or blue polypropylene with high-performance blue rubber.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.
- Must have a 2.0 in (50.8 mm) minimum gap between friction inserts for correct sprocket placement.



Belt Data

Base Belt Material	Base/Friction Top	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability[b]	
			lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[c]
Acetal	White/white	Acetal	1700	2530	376 (475)	171 (215)	34 to 150	1 to 66	1.44 (1.54)	7.03 (7.52)	55 Shore A	d	e
Acetal	High-Performance FT blue/blue	Acetal	1700	2530	376 (475)	171 (215)	34 to 212	1 to 100	1.44 (1.54)	7.03 (7.52)	59 Shore A	d	e

[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Contact an Intralox spiral engineer for accurate comparison of spiral belt strengths.

[b] Before Intralox developed S2800, USDA-FSIS Meat and Poultry discontinued publishing a list of acceptable new products designed for food contact. As of the printing of this manual, third-party approvals are being investigated, but are not yet sanctioned by the USDA-FSIS.

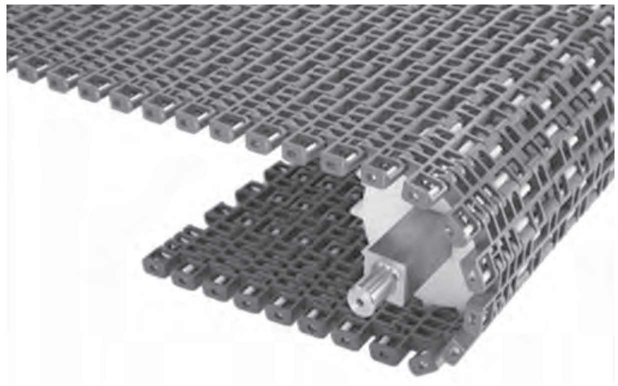
[c] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

[d] FDA compliant with restriction: Do not use in direct contact with fatty foods.

[e] EU compliant with restriction: Do not use in direct contact with fatty foods.

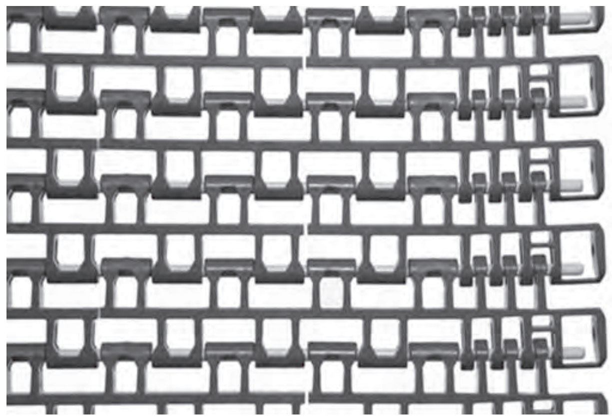
Spiral GTech 2.2 and 3.2

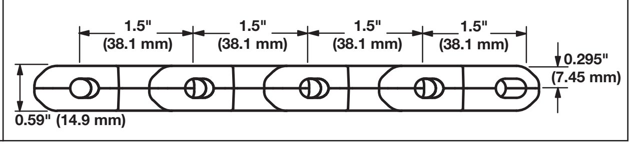
	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Open Area (fully extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Open hinge and slot design simplifies cleaning.
- Lightweight belt with extreme beam strength prevents bowing and buckling.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge).
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.





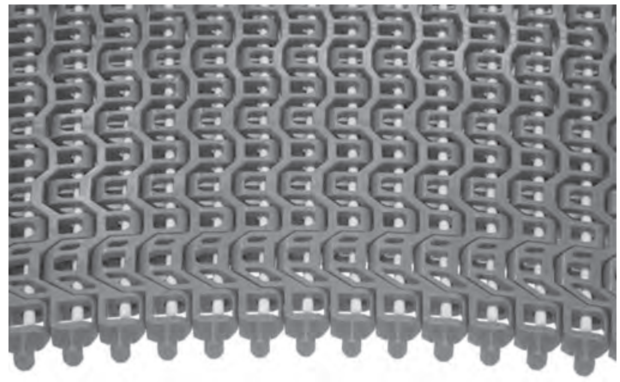
Belt Data

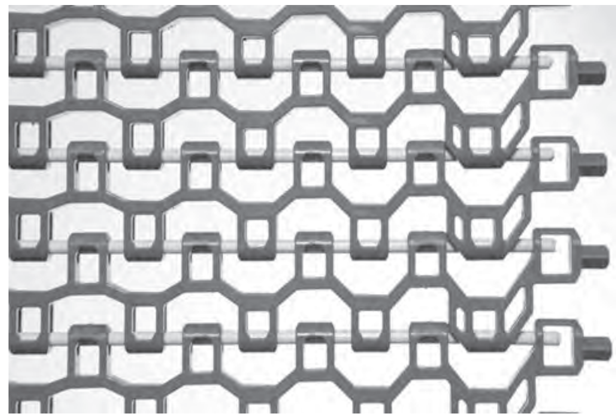
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.60	7.81
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.27	6.3

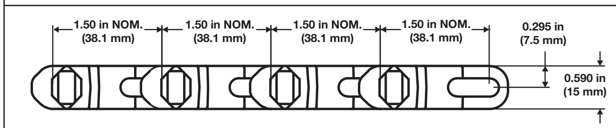
[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

Spiral DirectDrive™

	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Open Area (fully extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.

Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.60	7.81
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.27	6.2
Detectable MX	Detectable MX	1600	2381	475	215	-50 to 200	-46 to 93	1.85	9.03

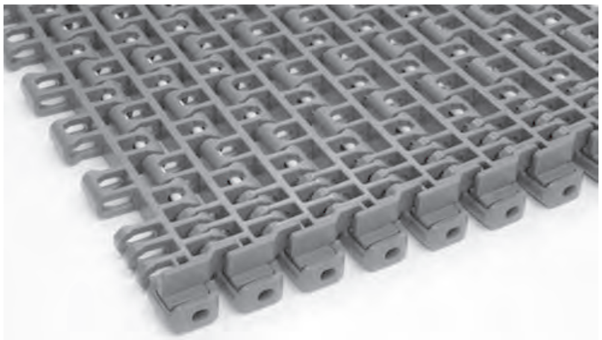
[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Contact Intralox Customer Service for accurate comparison of spiral belt strengths.

Acetal Sprockets										
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes			
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm
13 (1.92%)	6.2	157	6.4	163	1.2	30.5	1-7/16, 1-1/2, 2	1.5, 2.5		40, 60

Support Wheel					
Pitch Diameter		Available Bore Sizes			
in	mm	Round in	Square in	Round mm	Square mm
6.2	157	1-7/16, 2	1.5, 2.5		40, 60

Overlapping Sideguards		
Available Height		Available Materials
in	mm	
0.50	12.7	Acetal
1.0	25.4	Acetal

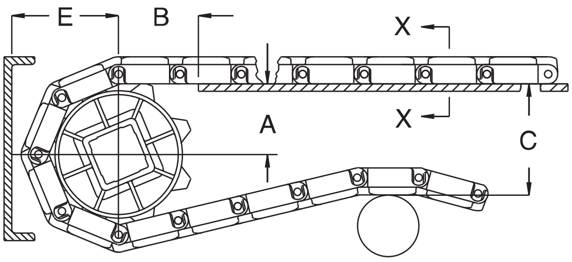
- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratio for 0.50 in (12.7 mm) overlapping sideguards is 1.6.



Lane Dividers			
Available Height		Available Materials	
in	mm		
0.75	19	Acetal, SELM	
• Assembly does not require finger cuts on the modules, so the belt beam strength is not compromised. • Lane dividers can be spaced 2 in (50.8 mm) apart along the width of the belt. • Minimum indent requirements: contact Intralox Customer Service.			

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



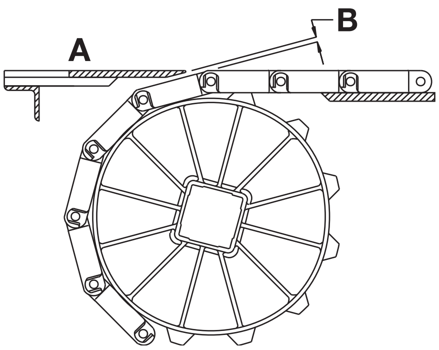
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 127: Basic dimensional requirements

S2800 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
Spiral GTech 1.6, 2.2 and 3.2 and DirectDrive											
6.2	157	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89	
Spiral GTech Rounded Friction Top											
6.2	157	13	2.75-2.84	70-72	2.51	64	6.51	165	3.74	95	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 128: Gap at transfer point between belt and dead plate

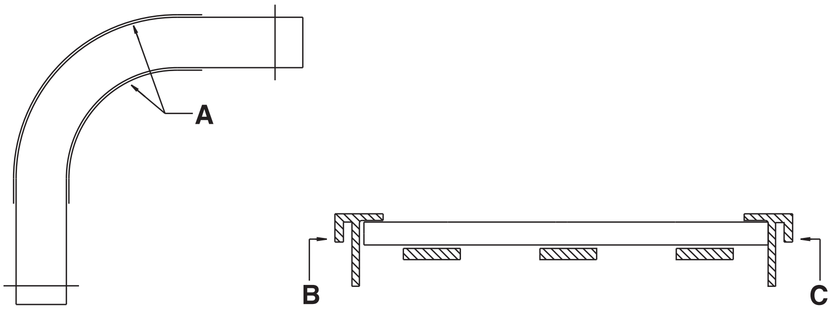
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.2	157	13	0.091	2.3

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

HOLD DOWN RAILS AND WEARSTRIPS

Use continuous hold down rails through an entire turn, in both the carryway and the returnway. Start the rails before the turn, at a distance of 1× the belt width. End the rails after the turn, at a distance of 1× the belt width. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory. For information about Intralox hold down wearstrips, see Custom Wearstrips.



A hold down rail placement
B outside hold down rail
C inside hold down rail

Figure 129: Hold down rails and wearstrips for flat turns using S2800 flush edge with wearstrips

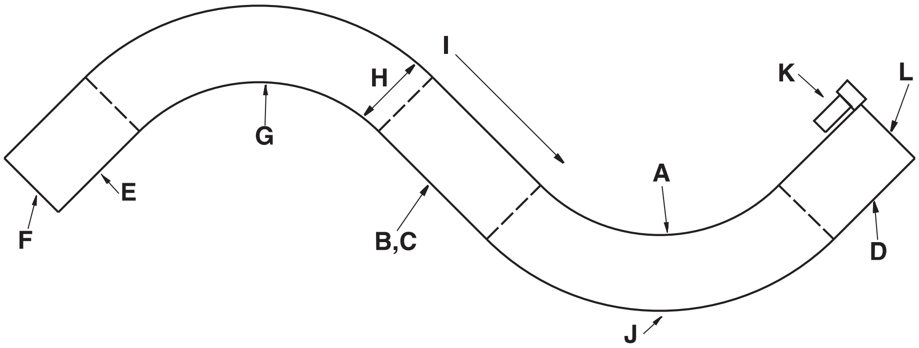
BELT SELECTION INSTRUCTIONS

NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For more information, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.

- The minimum turn radius for the S2800 standard edge is 1.6 times the belt width, measured from the inside edge.
- The minimum required straight run between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run leading to the drive shaft is a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances, down to 1.5 times the belt width, require a weighted take up to avoid sprocket wear and tracking problems. For more information about weighted take-ups, see Special Take-Up Arrangements.
- The minimum length of the first straight run immediately after the idle shaft is 1.5 times the belt width. When shorter lengths are required, down to 1.0 × the width, an idle roller can be used in place of sprockets.



A turn radius, measured from the inside edge
B straight run between turns of opposing directions
C no straight run required between turns in the same direction
D final straight run leading to drive shaft
E first straight run immediately after idle shaft
F idle shaft
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

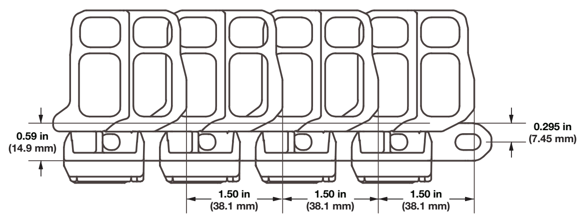
Figure 130: Typical two-turn radius layout

DirectDrive™ Stacker

	in	mm
Pitch	1.5	38.1
Minimum Width	12	304.8
Width Increments	2.00	50.8
Opening Size (approximate)	1.1 x 0.42	27.9 x 10.7
Open Area (fully extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

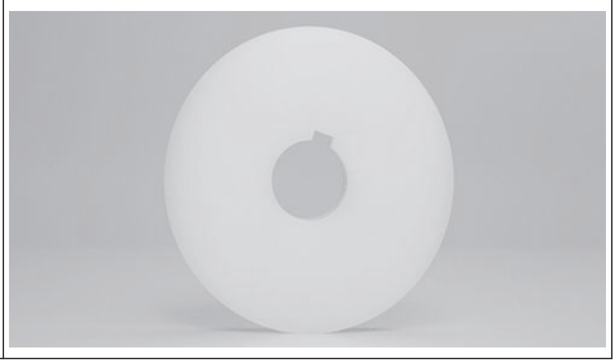
- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, strong belt with smooth surface grid for good product release.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sideplates are permanently installed and cannot be replaced.
- Designed for stacker applications using patented DirectDrive technology.
- Tier spacing: available in 60 mm, 80 mm, or 100 mm.



Belt Data									
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)[b]		Belt Weight	
		lb./ft	kg/m	lbs.	kg	°F	°C	lb./ft.²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.96	9.57

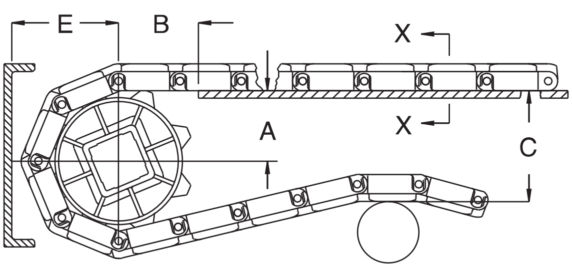
[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.
[b] Sideflexing applications must not exceed 180°F (82°C).

Acetal Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (1.92%)	6.2	157	6.4	163	1.2	30.5	2, 1-7/16	1.5, 2.5		40, 60	

Support Wheel						
Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
6.2	157	1-7/16, 2	1.5, 2.5		40, 60	

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



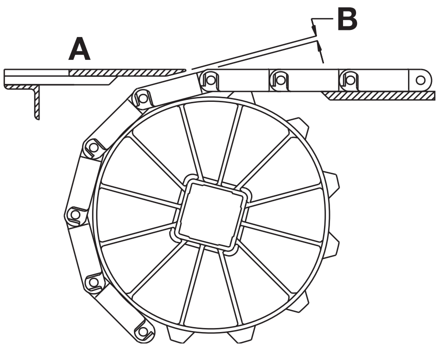
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 131: Basic dimensional requirements

S2850 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
DirectDrive Stacker											
6.2	157	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 132: Gap at transfer point between belt and dead plate

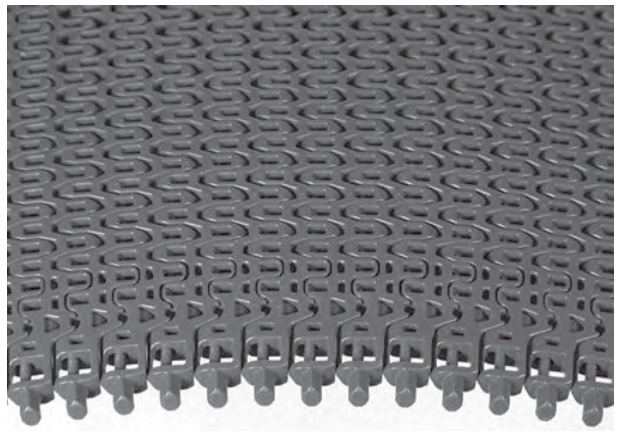
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

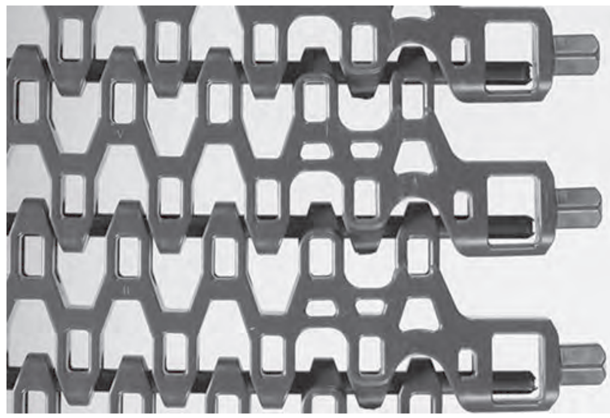
Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.2	157	13	0.091	2.3

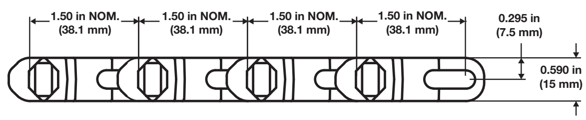
When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Spiral DirectDrive™ (DD)

	in	mm
Pitch	1.5	38.1
Minimum Width (See *Product Notes*.)	13.5	343
Maximum Width (See *Product Notes*.)	61.7	1567
Width Increments	1.0	25.4
Opening Size (approximate)	0.52 x 0.39	13 x 10
Open Area (fully extended)	44%	
Minimum Open Area (collapsed)	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Width dimension includes tooth protrusion.
- Belt openings pass straight through the belt to simplify cleaning.
- Robust edge feature adds strength to the outside edge of the belt.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.

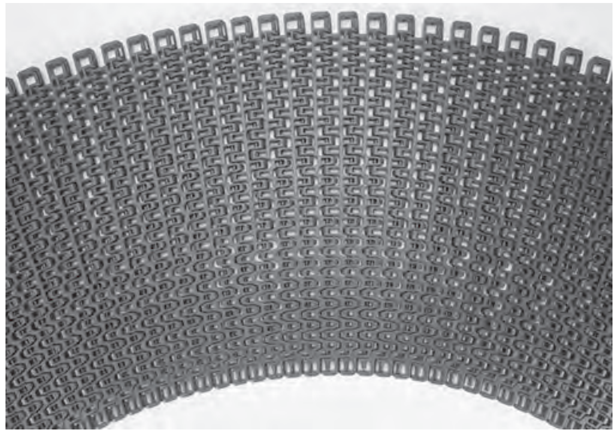
Belt Data

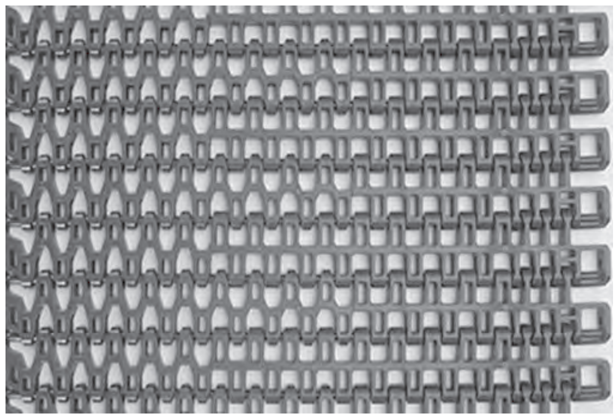
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft.²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.78	8.69
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.46	7.13
Detectable MX	Detectable MX	1600	2381	475	215	-50 to 200	-46 to 93	2.08	10.16

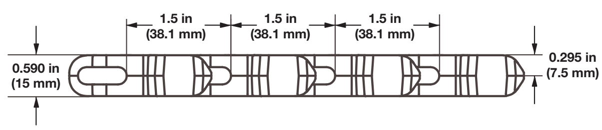
[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.

Spiral 1.6

	in	mm
Pitch	1.5	38.1
Minimum Width (See *Product Notes*.)	13.5	343
Maximum Width (See *Product Notes*.)	61.7	1567
Width Increments	0.5	12.7
Opening Size (approximate)	0.52 x 0.39	13 x 10
Open Area (fully extended)	44%	
Minimum Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Width dimension includes tooth protrusion.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Cage-friendly inside edge and frame-friendly outside edge
- Enhanced beam stiffness.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Eliminates product contamination from metal-wear debris.
- Enables simple, quick repairs and changeovers.
- Designed for friction drive, capstan, spiral applications with a minimum turn radius of 1.6 times the belt width (measured from the inside edge).
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.

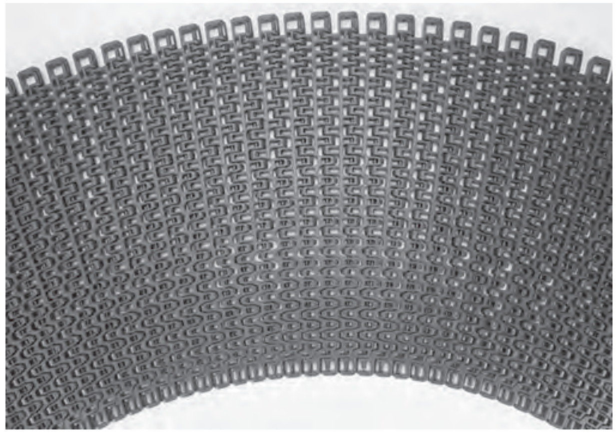
Belt Data

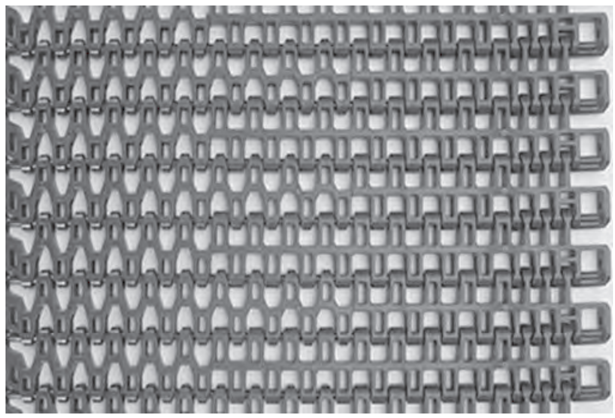
Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.78	8.69
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.46	7.13

[a] Published curved belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of curve belt strengths.

Spiral 2.2

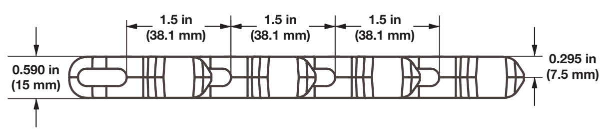
	in	mm
Pitch	1.5	38.1
Minimum Width (see *Product Notes*)	13.5	343
Maximum Width (see *Product Notes*)	61.7	1567
Width Increments	0.5	12.7
Opening Size (approximate)	0.52 x 0.39	13 x 10
Open Area (fully extended)	44%	
Minimum Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Width dimension includes tooth protrusion.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Cage-friendly inside edge and frame-friendly outside edge.
- Enhanced beam stiffness.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Eliminates product contamination from metal-wear debris.
- Enables simple, quick repairs and changeovers.
- Designed for friction drive, capstan, spiral applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge).
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.



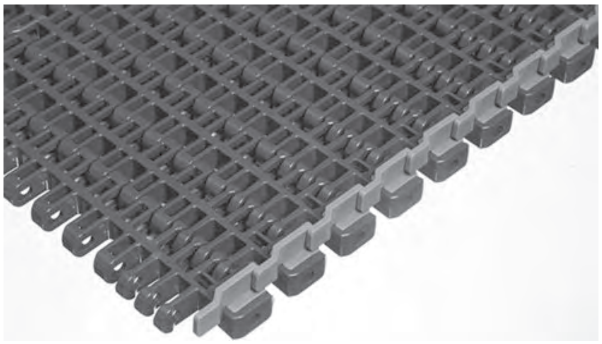
Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)		Belt Weight	
		lb./ft.	kg/m	lbs.	kg	°F	°C	lb./ft.²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.78	8.69
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.46	7.13

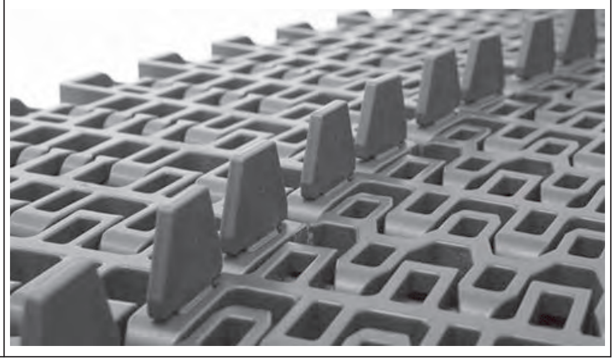
[a] Published curved belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of curve belt strengths.

Acetal Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (2.97%)	6.2	157	6.4	163	1.2	30.5	1-7/16, 2	1.5, 2.5		40, 60	

Support Wheel						
Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
6.2	157	1-7/16, 2	1.5, 2.5		40, 60	

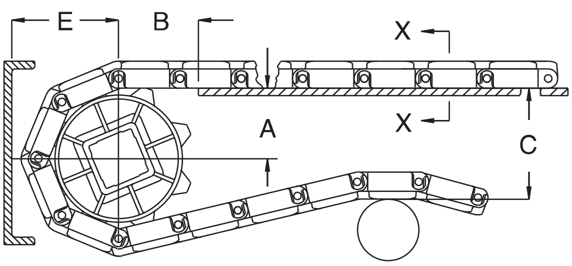
Overlapping Sideguards			
Available Height		Available Materials	
in	mm		
0.50	12.7	Acetal, Detectable MX	
1.0	25.4	Acetal, Detectable MX	

- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratio for 0.50 in (12.7 mm) overlapping sideguards 1.6.

Lane Dividers			
Available Height		Available Materials	
in	mm		
0.75	19	Acetal, Detectable MX, SELM	

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



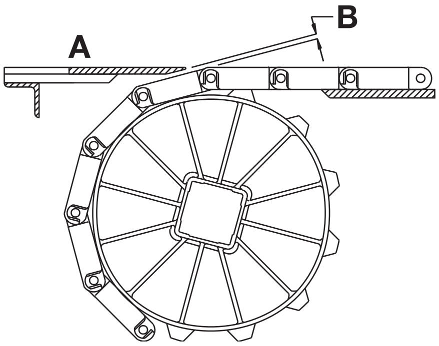
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 133: Basic dimensional requirements

S2900 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
Spiral DirectDrive											
6.2	157	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap

Figure 134: Gap at transfer point between belt and dead plate

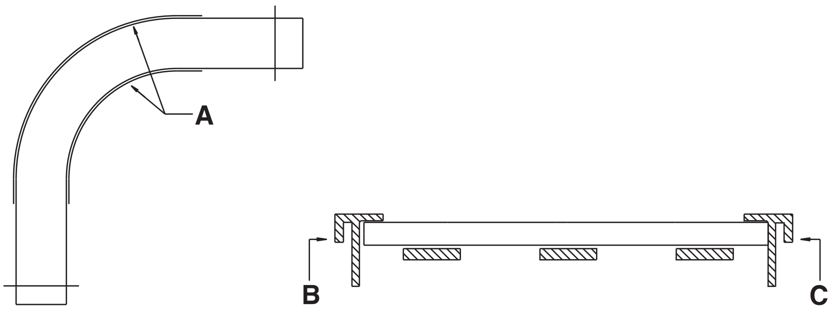
NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.2	157	13	0.091	2.3

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

HOLD DOWN RAILS AND WEARSTRIPS

Use continuous hold down rails through an entire turn, in both the carryway and the returnway. Start the rails before the turn, at a distance of 1× the belt width. End the rails after the turn, at a distance of 1× the belt width. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory. For information about Intralox hold down wearstrips, see Custom Wearstrips.



A hold down rail placement
B outside hold down rail
C inside hold down rail

Figure 135: Hold down rails and wearstrips for flat turns using S2900 flush edge with wearstrips

BELT SELECTION INSTRUCTIONS

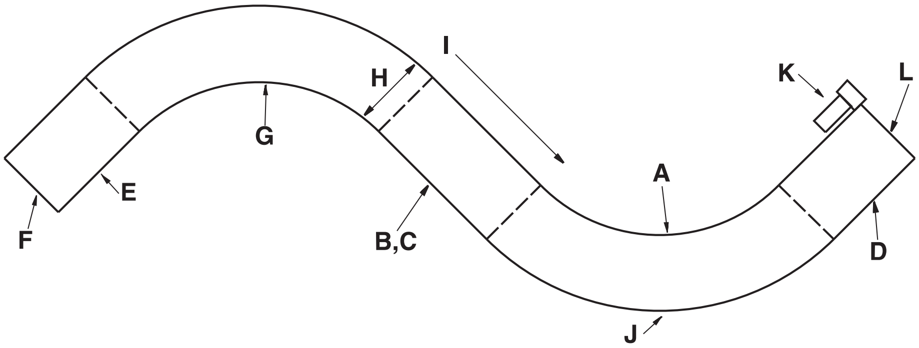
NOTE: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See Engineering Program Analysis for Spiral and Radius for more information.

DESIGN GUIDE SUMMARY

For more information, see the *Intralox Modular Plastic Conveyor Belts Installation, Maintenance & Troubleshooting Manual* at www.intralox.com.

- The minimum turn radius for the S2900 standard edge is 1.6 times the belt width, measured from the inside edge.
- The minimum required straight run between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- There is no minimum straight run required between turns that are in the same direction.
- The minimum final straight run leading to the drive shaft is a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances, down to 1.5 times the belt width, require a weighted take up to avoid sprocket wear and tracking problems. For more information about weighted take-ups, see Special Take-Up Arrangements.

- The minimum length of the first straight run immediately after the idle shaft is 1.5 times the belt width. When shorter lengths are required, down to 1.0 × the width, an idle roller can be used in place of sprockets.



A turn radius, measured from the inside edge
B straight run between turns of opposing directions
C no straight run required between turns in the same direction
D final straight run leading to drive shaft
E first straight run immediately after idle shaft
F idle shaft
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

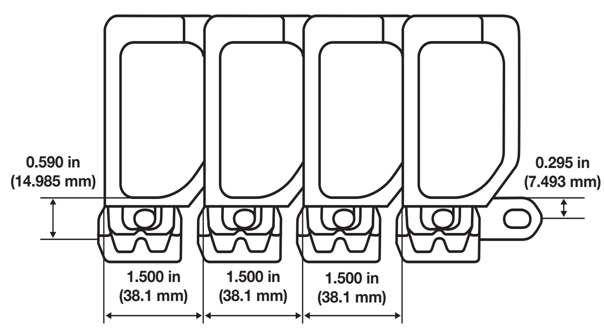
Figure 136: Typical two-turn radius layout

DirectDrive™ Stacker

	in	mm
Pitch	1.5	38.1
Minimum Width	12	304.8
Width Increments	1.00	25.4
Opening Size (approximate)	0.52 x 0.39	13.0 x 10.0
Open Area (fully extended)	44%	
Minimum Open Area	26%	
Hinge Style	Open	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, strong belt with smooth surface grid for good product release.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Detailed material information is provided at the beginning of Section 2: Product Line.
- Sideplates are permanently installed and cannot be replaced.
- Designed for stacker applications using patented DirectDrive technology.
- Tier spacing: available in 60 mm, 80 mm, or 100 mm.



Belt Data

Belt Material	Standard Rod Material, Diameter 0.24 in (6.1 mm)	Straight Belt Strength		Spiral Belt Strength[a]		Temperature Range (continuous)[b]		Belt Weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	2.18	10.64

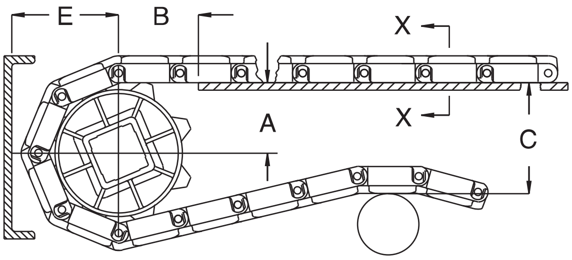
[a] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox spiral engineer for accurate comparison of spiral belt strengths.
[b] Sideflexing applications must not exceed 180°F (82°C).

Acetal Sprockets											
Number of Teeth (Chordal Action)	Nom. Pitch Diameter		Nom. Outer Diameter		Nom. Hub Width		Available Bore Sizes				
	in	mm	in	mm	in	mm	Round in	Square in	Round mm	Square mm	
13 (2.97%)	6.2	157	6.4	163	1.2	30.5	1-7/16, 2	1.5, 2.5		40, 60	

Support Wheel						
Pitch Diameter		Available Bore Sizes				
in	mm	Round in	Square in	Round mm	Square mm	
6.2	157	1-7/16, 2	1.5, 2.5		40, 60	

CONVEYOR FRAME DIMENSIONS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions *A*, *B*, *C*, and *E* are implemented in any design. For general applications and applications where end transfer of tip-sensitive product is not critical, use the *A* dimension at the bottom of the range. For complete descriptions of these dimensions, see Basic Conveyor Frame Requirements.



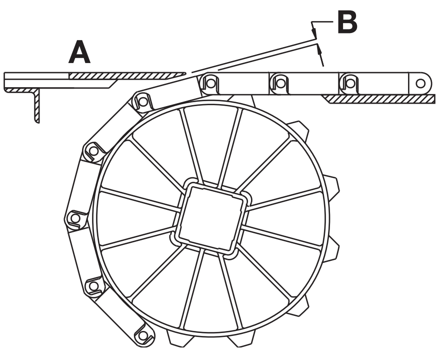
A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min.)

Figure 137: Basic dimensional requirements

S2950 Conveyor Frame Dimensions											
Sprocket Description			A		B		C		E		
Pitch Diameter		Number of Teeth	Range (Bottom to Top)								
in	mm		in	mm	in	mm	in	mm	in	mm	
DirectDrive Stacker											
6.2	157	13	2.71-2.81	69-71	2.47	63	6.20	157	3.46	88	

DEAD PLATE GAP

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.



A Top surface of dead plate
B Dead plate gap
Figure 138: Gap at transfer point between belt and dead plate

NOTE: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

Sprocket Description			Gap	
Pitch Diameter		Number of Teeth		
in	mm		in	mm
6.2	157	13	0.092	2.3

When contact is necessary between the tip of the dead plate and the belt, provide a hinge for the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

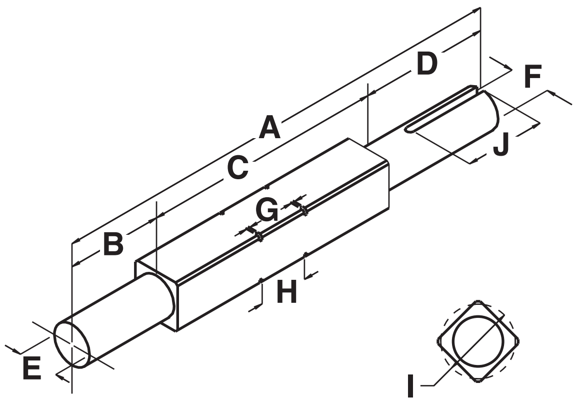
SQUARE SHAFTS

MACHINED TO CUSTOMER SPECIFICATIONS

After the stock is cut to length, the raw shaft is precision straightened. The bearing journals are turned, then the retainer ring grooves*, keyways, and chamfers are cut. The final step is a thorough, quality control inspection before shipping. For help with specifying shaft dimensions, contact Intralox Customer Service.

*If the shaft is to operate under high belt loads, retainer ring grooves are not recommended. Self-set or split heavy-duty retainer type rings are recommended in these cases. For retainer ring recommendations, contact Intralox Customer Service.

NOTE: If using the shaft in a hollow gearbox, contact Intralox Customer Service.



A length: overall
B length: bearing-end journal
C length: square section
D length: drive-end journal and keyway dimensions
E diameter: bearing journal
F diameter: drive-end journal
G width: retainer ring groove
H width: sprocket hub
I diameter: ring groove
J length of keyway

Figure 139: Shaft dimensions required

Square Shafts Available from Intralox USA[a]				
Size	**C1018 Carbon Steel**	**C1045 Carbon Steel**	**303/304 Stainless Steel**	**316 Stainless Steel**
0.625 in	+0.000 in to -0.003 in		+0.000 in to -0.004 in	+0.000 in to -0.004 in
1 in	+0.000 in to -0.003 in		+0.000 in to -0.004 in	+0.000 in to -0.004 in
1.5 in	+0.000 in to -0.003 in		+0.000 in to -0.006 in	+0.000 in to -0.006 in
40 mm		contact Intralox	+0.000 mm to -0.160 mm	
60 mm		contact Intralox	+0.000 mm to -0.180 mm	
2.5 in	+0.000 in to -0.004 in		+0.000 in to -0.008 in	+0.000 in to -0.008 in
3.5 in[b]	+0.000 in to -0.005 in		+0.000 in to -0.005 in	N/A

[a] Consult Intralox for shafts longer than 12 ft (3.7 m).
[b] 3.5 in carbon steel shafts can be nickel plated for corrosion resistance.

Square Shafts Available from Intralox Europe[a]		
Size	KG-37 Carbon Steel	303/304 Stainless Steel
25 mm	+0.000 mm to -0.130 mm	+0.000 mm to -0.130 mm
40 mm	+0.000 mm to -0.160 mm	+0.000 mm to -0.160 mm
60 mm	+0.000 mm to -0.180 mm	+0.000 mm to -0.180 mm
65 mm	+0.000 mm to -0.180 mm	+0.000 mm to -0.180 mm
90 mm	+0.000 mm to -0.220 mm	+0.000 mm to -0.220 mm
[a] Consult Intralox for shafts longer than 2 m.		

Tolerances (unless otherwise specified)	
Overall length	< 48 in: ±0.061 in (< 1200 ±0.8 mm)
	> 48 in: ±0.125 in (> 1200 ±1.2 mm)
Journal diameter	-0.0005 in/ -0.003 in (Øh7 vlgs. NEN-ISO 286-2)
Keyway widths	+ 0.003 in/- 0.000 in (+ 0.05/- 0.00 mm)

Surface Finishes	
Journal	63 microinches (1.6 micrometers)
Other machined surfaces	125 microinches (3.25 micrometers)

Keyways	
U.S. sizes	Unless otherwise specified — U.S. keyways are for parallel square keys (ANSI B17.1 - 1967, R1973).
Metric sizes	Metric keyways are for flat, inlaid keys with round ends (DIN 6885-A).

RETAINER RINGS AND CENTER SPROCKET OFFSET

SELECTING RECOMMENDED RETAINER RINGS

Intralox recommends the use of retainer rings to fix the location of one sprocket on each shaft. The fixed sprocket limits transverse movement of the belt during operation. In many applications, spring-type rings are used with success; however these rings require cutting small grooves into the corners of the shafts. In some applications where belt loads are higher and stresses in the shaft are greater, the presence of ring grooves is undesirable, as they create places where stresses are concentrated. In these cases, Intralox recommends using alternative retainer rings that require no grooves, such as the Self-Set or Split Collar rings.

Use Table 5: Belt Pull Limits Vs. Shaft Span for Retainer Ring Grooves to identify recommended limits of belt pull versus shaft span between bearings, then determine if retainer ring grooves can be used. For a given shaft size and span, if the belt pull (BP), exceeds the values shown, select a ring that requires no grooves in the shaft.

STANDARD RETAINER RINGS

Intralox provide standard retainer rings in plastic and stainless steel.

- For information about plastic retainer rings, see Standard Plastic Retainer Rings.
- For information about stainless steel retainer rings, see Standard Stainless Steel Retainer Rings.

STANDARD PLASTIC RETAINER RINGS

- Plastic retainer rings are available in sizes to fit 1.5 in and 2.5 in square shafts.
- Plastic retainer rings are made from polysulfone.
- The temperature range of polysulfone is -125°F to 300°F (-98°C to 149°C).
- Plastic retainer rings require grooves identical to the grooves used for stainless steel retainer rings on 1.5 in and 2.5 in shafts. See Retainer Ring Groove and Chamfer Dimensions.
- Plastic retainer rings are not compatible with all sprockets. See Stainless Steel Retainer Ring Restrictions.

PLASTIC RETAINER RING RESTRICTIONS

Standard retainer rings do NOT work with the following sprockets:

Retainer Ring Size	Series	Pitch Diameter		Bore Size	
		in	mm	in	mm
1.5 in	400	4.0	102	1.5	40
	1600	3.2	81	1.5	40
2.5 in	400	5.2	132	2.5	40
	1100	3.1	79	2.5	40

STANDARD STAINLESS STEEL RETAINER RINGS

- Stainless steel retainer rings are available to fit 5/8 in, 1.0 in, 1.5 in, 2.5 in, 3.5 in, 25 mm, 40 mm, 60 mm, 65 mm, and 90-mm square shafts.
- Stainless steel retainer rings are not compatible with all sprockets. See Stainless Steel Retainer Ring Restrictions.

The following ANSI Type 3AMI rings, conforming to MIL SPEC R-2124B are available:

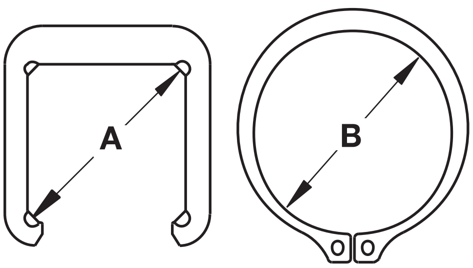
STAINLESS STEEL RETAINER RING RESTRICTIONS

Stainless steel retainer rings do not work with the following sprockets:

Retainer ring size	Series	Pitch Diameter[a]	
		in	mm
1.219 in	900	2.1	53
	1100	2.3	58

[a] To lock down the S900 2.1 in (53 mm) and (58 mm) pitch diameter sprockets, a setscrew is required. Place the setscrew on each side of the sprocket. Contact Intralox Customer Service for more information.

RETAINER RING GROOVE AND CHAMFER DIMENSIONS

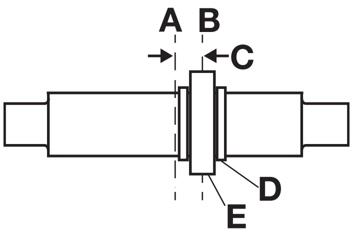


A ring groove diameter for plastic retainer rings
B ring groove diameter for stainless steel retainer rings
Figure 140: Retainer ring groove diameters

Shaft Size	Retainer Ring Groove and Chamfer Dimensions[a]		
	Groove Diameter	Width	Chamfer[b]
5/8 in	0.762 ± 0.003 in	0.046 + 0.003/- 0.000 in	0.822 ± 0.010 in
1 in	1.219 ± 0.005 in	0.056 + 0.004/- 0.000 in	1.314 ± 0.010 in
1.5 in	1.913 ± 0.005 in	0.086 + 0.004/- 0.000 in	2.022 ± 0.010 in
2.5 in	3.287 ± 0.005 in	0.120 + 0.004/- 0.000 in	3.436 ± 0.010 in
3.5 in	4.702 ± 0.005 in	0.120 + 0.004/- 0.000 in	4.773 ± 0.010 in
25 mm	30 ± 0.1 mm	2.0 + 0.15/- 0.00 mm	33 ± 0.25 mm
40 mm	51 ± 0.1 mm	2.5 + 0.15/- 0.00 mm	54 ± 0.25 mm
60 mm	80 ± 0.1 mm	3.5 + 0.15/- 0.00 mm	82 ± 0.25 mm
65 mm	85 ± 0.1 mm	3.5 + 0.15/- 0.00 mm	89 ± 0.25 mm
90 mm	120 ± 0.1 mm	4.5 + 0.15/- 0.00 mm	124 ± 0.25 mm

[a] In some instances, the retainer ring grooves are offset from the shaft center. See Retaining Sprockets.
[b] For S200, S400, and S800 molded sprockets, shafts must be chamfered to fit.

LOCKED SPROCKET POSITION ON SHAFT



A shaft centerline
B sprocket centerline
C center sprocket offset
D retainer ring
E sprocket

Figure 141: Locked sprocket position

Use the following table to determine the proper center sprocket offset.

To prevent incorrect placement of machined retainer ring grooves, consider using Self-Set Retainer Rings or Split Collar Retainer Rings, which allow easy adjustment of the center sprocket placement and do not require machined groves on the shaft.

Center sprocket placement can change when belt styles are combined. Contact Intralox Customer Service for more information.

Center Sprocket Offset						
Series	Number of Links	Offset		Max. Sprocket Spacing		Notes
		in	mm	in	mm	
100	even	0	0	6	152	
	odd	0.12	3	6	152	
200	even, odd	0	0	7.5	191	
200 Raised Rib	even, odd	0.09	2.3	7.5	191	
400	even	0	0	6	152	
	odd	0.16	4	6	152	
400 Roller Top, Angled Roller, Transverse Roller Top	See Center Sprocket Offset for Roller Belts.					
550	even	0	0	5	127	
	odd	0.5	12.7	5	127	

Center Sprocket Offset						
Series	Number of Links	Offset		Max. Sprocket Spacing		Notes
		in	mm	in	mm	
560	even	0.5	12.7	6	152	
	odd	0	0	6	152	
800	even, odd	0	0	6	152	
800 Angled EZ Clean sprockets	even, odd	0.16	4	6	152	Ensure 6-, 10-, and 16-tooth sprockets are placed on belt centerline.
800 Raised Rib	even	3	76	6	152	
	odd	0	0	6	152	
850	even, odd	0	0	6	152	
888	See Series 888 in the Installation Instructions or contact Intralox Customer Service.					
900	even	0	0	4	102	
	odd	0.16	4	4	102	
900 Open Flush Grid	For offset and number of links, see Series 900 in the Installation Instructions or contact Intralox Customer Service.					
1000	even	0	0	6	152	
	odd	0.25	6.44	6	152	
1000 Insert Roller, High Density Insert Roller	even	1.5	38.1	6	152	
	odd	0	0	6	152	
1000 High Density Insert Roller 85 mm	even	1.67	42.5	6	152	
	odd	0	0	6	152	
1100	even (whole)	0	0	4	102	The 8- and 12-tooth steel sprockets can be placed on belt centerline.
	odd (whole)	0.5	12.7	4	102	
	even, odd	0.25	6.35	4	102	Even or odd number of links in increments of 0.5 in (12.7 mm). The 8- and 12-tooth steel sprockets can be placed on belt centerline.
1100 EZ Track sprockets	even (whole)	0.19	4.8	4	102	
	odd (whole)	0.31	7.9	4	102	
	even, odd	0.06	1.52	4	102	Even or odd number of links in increments of 0.5 in (12.7 mm)
1200				6	152	For offset and number of links, see Series 1200 in the Installation Instructions or contact Intralox Customer Service.
1400	even	0	0	6	152	
	odd	0.5	12.7	6	152	
1400 FG				6	152	For offset and number of links, see Series 1400 in the Installation Instructions or contact Intralox Customer Service.
1500				6	152	For offset and number of links, see Series 1500 in the Installation Instructions or contact Intralox Customer Service.
1600	even, odd	0	0	4	102	
1650	even, odd	0.25	6.4	4	102	The 20-tooth sprocket has zero offset.
1700	even	0.5	12.7	4	102	
	odd	0	0	4	102	
1750	even	0	0	4	102	When determining number of links, drop the 0.5 link.
	odd	0.5	12.7			
1800	even, odd	0	0	6	152	
1900				3	76	For offset and number of links, see Series 1900 in the Installation Instructions or contact Intralox Customer Service.
2100	even, odd	1.97	50	3.94	100	

Center Sprocket Offset						
Series	Number of Links	Offset in	Offset mm	Max. Sprocket Spacing in	Max. Sprocket Spacing mm	Notes
2200	even	0.25	6.4	4	102	When determining number of links, drop the 0.5 link. Offset to left of shaft centerline looking in the direction of the preferred belt run direction.
	odd	0.25	6.4	4	102	When determining number of links, drop the 0.5 link. Offset to right of shaft centerline looking in the direction of the preferred belt run direction.
2300	even	0	0	6	152	
	odd	1.5	38	6	152	
2400	even	0.125	3.2	6	152	When determining number of links, drop the 0.5 link. Offset to left of shaft centerline looking in the direction of the preferred belt run direction.
	odd	0.125	3.2	6	152	When determining number of links, drop the 0.5 link. Offset to right of shaft centerline looking in the direction of the preferred belt run direction.
2600	even, odd	0	0	8	203	
2700	even, odd	0	0	8	203	
2800	even	0	0	6	152	
	odd	0.5	12.7	6	152	
4400	even, odd	0.5	12.7	9	229	
4500	even	0.5	12.7	6	152	
	odd	0	0	6	152	
4500 dual tooth sprockets	even	0	0	6	152	
	odd	0.5	12.7	6	152	
9000	even	0.5	12.7	4	102	
	odd	0	0	4	102	
10000 hinge drive (preferred)	even	0.25	6.3	5.91	150	Offset to left of shaft centerline looking in the direction of the preferred belt run direction.
	odd	0.25	6.3	5.91	150	Offset to right of shaft centerline looking in the direction of the preferred belt run direction.
10000 center drive	even	0.25	6.3	5.91	150	Offset to right of shaft centerline looking in the direction of the preferred belt run direction.
	odd	0.25	6.3	5.91	150	Offset to left of shaft centerline looking in the direction of the preferred belt run direction.
	Number of Rollers Per Row					
400 Roller Top, Angled Roller, Transverse Roller Top	even	0	0	6	152	
	odd	1	25.4	6	152	

Center Sprocket Offset for Roller Belts						
Series	Number of Rollers	Offset in	Offset mm	Max. Sprocket Spacing in	Max. Sprocket Spacing mm	Notes
400	even	0	0	6	152	
	odd	1	25.4	6	152	
4500	even	0	0	6	152	
	odd	1	25.4	6	152	
4550	even	0	0	6	152	
	odd	1	25.4	6	152	
7000	Divisible by 4	1	25.4	6	152	Number of rollers = belt width in inches - 1 (belt width in mm/25.4 - 1)
	Not divisible by 4	0	0	6	152	

Center Sprocket Offset for Roller Belts						
Series	Number of Rollers	Offset		Max. Sprocket Spacing		Notes
		in	mm	in	mm	
7050	Divisible by 8	1	25.4	6	152	
7050	Not divisible by 8	0	0	6	152	

SELF-SET RETAINER RINGS

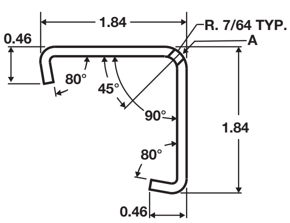
Self-set retainer rings are available to fit 1.0 in, 1.5 in, 2.5 in, 3.5 in, 40 mm, 60 mm, and 65-mm shafts.

Figure 142: Self-set retainer rings

- Retainer rings are made from non-corrosive 316 stainless steel.
- There is no need for machined grooves on the shaft and the shaft does not need to be removed to install these retainer rings.
- Self-set retainer rings are USDA-FSIS accepted.
- Self-set retainer rings snap into place on the square shaft and are fixed in position with a unique setscrew that cannot fall out of the retainer ring during operation.
- The shaft must have chamfered edges for the retainer ring to work properly.
- Self-set retainer rings are not recommended in applications where high lateral forces are to be expected.
- Self-set retainer rings have the following restrictions:

Self-Set Retainer Ring Restrictions			
Retainer Ring Size	Self-set retainer rings do NOT work with the following sprockets:		
	Series	Pitch Diameter	
		in	mm
1.0 in	100	2.0	51
	900	2.1	53
	1100	2.3	58

Self-Set Retainer Ring Restrictions			
Retainer Ring Size	Self-set retainer rings do NOT work with the following sprockets:		
		Pitch Diameter	
	Series	in	mm
40 mm	900	3.1	79
	1000	3.1	79
	1100	3.1	79
	1600	3.2	81
65 mm	400	5.2	132



A Custom setscrew, fully inserted, head first, from this side

Figure 143: Self-set retainer ring dimensions

ROUND SHAFT RETAINER RINGS

Figure 144: Round shaft retainer ring

- Round shaft retainer rings are available to fit 0.75 in, 1.0 in, and 25 mm round shafts.
- Made of stainless steel.
- Do not require a groove for placement, because friction holds the retainer rings in place.
  NOTE: Avoid grooves on round shafts. Grooves cause fatigue and shaft failure.

SPLIT COLLAR RETAINER RINGS

Figure 145: Split collar retainer rings

Split collar retainer rings are available to fit the following shaft sizes:

Split Collar Retainer Ring Shaft Compatibility	
Square Shafts	**Round Shafts**
1.5 in	3/4 in
2.5 in	1 in
40 mm	1-3/16 in
60 mm	1-1/4 in
	1-3/8 in
	1-7/16 in
	1-1/2 in
	2 in

- The retainer rings are made from 304 stainless steel.
- For use in applications with high lateral loads on the sprockets.
- These retainer rings do not require the shaft to be chamfered and do not require shaft removal, simplifying installation.
- Split collar retainer rings have the following restrictions:

Split Collar Retainer Ring Restrictions			
Split Collar Retainer Rings are not compatible with 3.0 in (76.2 mm) pitch diameter or smaller sprockets or with the following sprockets.			
		Pitch Diameter	
Retainer Ring Size	Series	in	mm
1.5 in and 40 mm	400	4.0	102
	900	3.1	79
	900	3.5	89
	1000	3.1	79
	1100	3.1	79
	1100	3.5	89
	1600	3.2	81
2.5 in and 60 mm	400	5.2	132
	1000	4.6	117
	1100	4.6	117
	1400	4.9	124
	2600	5.2	132
	2700	5.2	132

SPROCKET SPACERS

Use of sprocket spacers and retainer rings in the recommended locations prevents problems associated with sprocket migration and belt drift. Intralox can provide a recommended drive configuration, including sprockets, spacers, and retainer rings for your application and detailed guidelines for designing conveyors for use with Intralox™ FoodSafe® modular plastic belts. Contact Intralox Customer Service for more information.

Figure 146: Sprocket spacers on square shaft with sprockets and retainer rings

Sprocket Spacer[a]					
Nom. Sprocket Spacer Width		Available Bore Sizes			
		U.S.		Metric	
in	mm	Round in	Square in	Round mm	Square mm
1.0	25		1.5		40
1.5	38		1.5		40
2.0	51		1.5		40
3.0	76		1.5		40
3.5	89		1.5		40
4.0	102		1.5		40
5.0	127		1.5		40

[a] Contact Intralox Customer Service for available materials.

ROUND BORE ADAPTERS

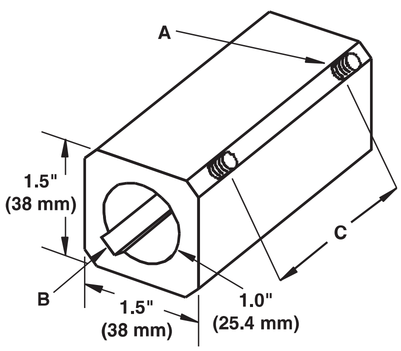
Sprocket inserts are available to adapt 1.5 in square bore sprockets to use 1 in diameter shafts. These inserts are only recommended for lightly loaded belts or for narrow belts up to 18 in (460 mm) wide.

Adapters are made of glass-filled polypropylene for strength and chemical resistance and are available in 2.5 in (64 mm) and 3.5 in (89 mm) lengths. The 2.5 in (64 mm) adapter has a torque limit of 875 in-lb (10,000 mm-kg). The 3.5 in (89 mm) adapter is limited to 1200 in-lb (13,800 mm-kg). The operating temperature limits are between 45°F and 120°F (7°C and 50°C).

Setscrews are provided to retain the sprockets on the adapters and to lock the center sprocket to the shaft. The 3.5 in (89 mm) adapter has a third tapped hole to accommodate a range of hub widths. To determine which adapter to use with a given sprocket hub width, see the following table.

For certain sprocket and adapter combinations, more than one sprocket can be placed on each adapter. See the sprockets per adapter column in the following table for more information.

NOTE: Round bore adapters are not recommended for use with split sprockets or abrasion resistant sprockets.



A 1/4 in - 20 × 5/8 in setscrews (UNC threads)
B keyway - 0.25 in × 0.125 in (6 mm × 3 mm)
C gap between setscrews:2.5 in (64 mm) adapter1.5 in (38 mm) gap3.5 in (89 mm) adapter2.5 in (64 mm) gap

Figure 147: Round bore adapter

Round Bore Adapter Selection Table[a]							
Sprocket Hub Widths		Locked Center Sprocket			Floating Sprockets		
		Adapter Sizes		Sprockets per Adapter	Adapter Sizes		Sprockets per Adapter
in	mm	in	mm		in	mm	
0.75	19	2.5	64	2	2.5	64	1
1.00	25	2.5	64	1	3.5	89	1
1.25	32	3.5	89	2	3.5	89	1

Round Bore Adapter Selection Table[a]							
Sprocket Hub Widths		Locked Center Sprocket			Floating Sprockets		
		Adapter Sizes		Sprockets per Adapter	Adapter Sizes		Sprockets per Adapter
in	mm	in	mm		in	mm	
1.50	38	2.5	64	1	3.5	89	1
2.50	64	3.5	89	1	3.5	89	1
[a] Spacers can be required to lock down center sprockets on adapters.							

SCROLL IDLERS

A scroll idler can be used in applications where excessive debris can hamper sprocket performance or damage the belt or where the drive shaft and sprockets must be kept clean. The curved, flighted surface of the scroll directs debris away from the belt center, toward the edges, where it can fall away from the belt and conveyor components.

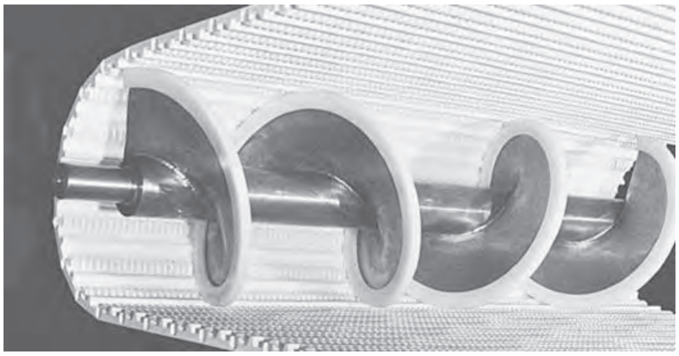


Figure 148: Scroll idler

Intralox offers scrolls in two nominal diameters: 6 in (152 mm) and 9 in (229 mm). Flight pitch, the axial distance for the flight to sweep through a full circle, is also 6 in (152 mm) and 9 in (229 mm), respectively. Since the scroll idler also serves as the idle shaft, each scroll idler has a minimum scroll length to ensure proper belt support. For narrow belts, or for extra support, a double-flighted scroll is available.

Scroll Dimensions							
Diameter				Minimum Scroll Length (exclusive of journals)			
Nominal		Actual		Single-Flighted		Double-Flighted	
in	mm	in	mm	in	mm	in	mm
6	152	6.7	170	12.5	318	6.5	165
9	229	9.7	246	18.5	470	9.5	241

Intralox scrolls are offered in carbon steel and stainless steel with a thick section of UHMW-PE wearstrip attached to the flight edges. Carbon steel scrolls are treated and painted for protection. Stainless steel scrolls with a polished weld bead are available for USDA-FSIS applications.

Scroll Features	Flight Material		
	Carbon Steel	Stainless Steel	Stainless Steel USDA-FSIS
6 in (152 mm) scroll diameter	•	•	•
9 in (229 mm) scroll diameter	•	•	•
Intermittent welds	•	•	
Continuous, polished welds			•
UHMW-PE flight edging	•	•	•
Primer grey paint	•		

- All scrolls are mounted on a 2.5 in (63.5 mm) diameter round shaft.
- Maximum journal diameter is 2.5 in (63.5 mm) and minimum journal length is 2 in (50.8 mm).

- Position the scroll idler assembly in the conveyor frame so the V-shape at the center of the scroll (where the left and right flights meet) points in the direction of belt travel. Adjust the shaft take-up, if there is one, to have even tension on both sides.
- Intralox scrolls have no built-in tracking ability. It can be necessary to use side-mounted wearstrips on the idle end.

WEARSTRIPS

FLAT WEARSTRIPS

Standard flat wearstrips are available in UHMW and Nylatron (a Molybdenum-filled nylon). UHMW wearstrips measure 0.25 in (6 mm) thick × 1.25 in (32 mm) wide × 120 in (3048 mm). Nylatron wearstrips measure 0.125 in (3 mm) thick × 1.25 in (32 mm) wide × 48 in (1219 mm). UHMW wearstrips are FDA and USDA-FSIS compliant for direct food contact. Nylatron wearstrips are not FDA or USDA-FSIS accepted for food applications.

Flat finger-joint wearstrips have a notched end design which provides overlapping sections for continuous support. UHMW wearstrips are available in 24 in (610 mm) and 60 in (1524 mm) lengths. Fasteners are supplied.

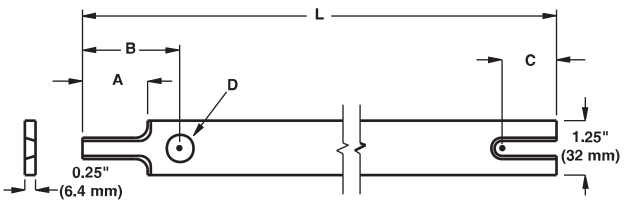


Figure 149: Flat finger-joint wearstrips

L	A	B	C
24 in (610 mm)	1.125 in (28.6 mm)	1.75 in (44.5 mm)	0.75 in (19.1 mm)
60 in (1524 mm)	1.875 in (47.6 mm)	2.25 in (57.2 mm)	1.50 in (38.1 mm)

ANGLE AND CLIP-ON WEARSTRIPS

Intralox also offers various angle and clip-on wearstrips. All clip-on wearstrips styles come in 120 in (3048 mm) lengths. These wearstrips are designed to attach directly to the conveyor frame without fasteners.

- For new applications, use flat wearstrips with wide surface area for carryways and returnways.
- Use clip-on wearstrips only for lightly loaded retrofit applications or to prove concepts. Clip-on wearstrips are not recommended for normal production operation.
- Contact Intralox Customer Service for application-specific information.

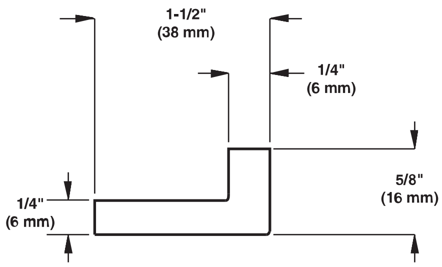


Figure 150: Standard angle UHMW wearstrips (B6XX21IXXWMV)

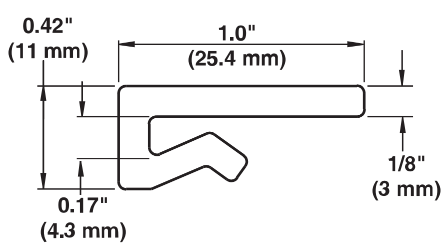


Figure 151: Clip-on UHMW wearstrips (B6XX25IXXWMV)

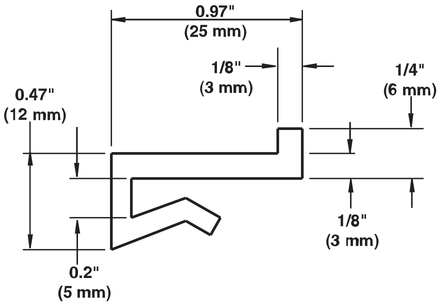


Figure 152: Clip-on with leg UHMW wearstrips (B6XX26IXXWMV)

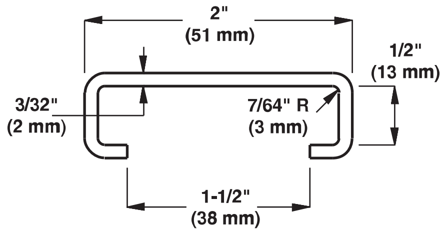


Figure 153: Guide rail snap-on UHMW wearstrips (B6XX27IXXWMV)

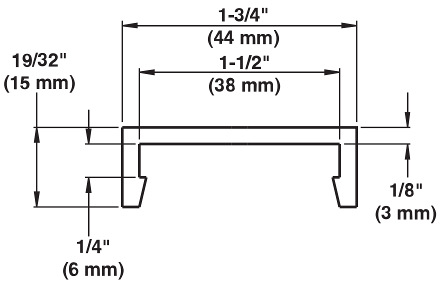


Figure 154: Barbed clip-on UHMW wearstrips (B6XX23IXXWMV)

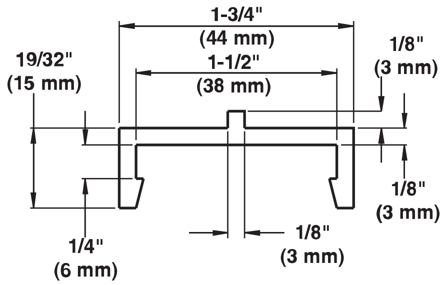


Figure 155: Barbed clip-on with leg UHMW wearstrips (B6XX24IXXWMV)

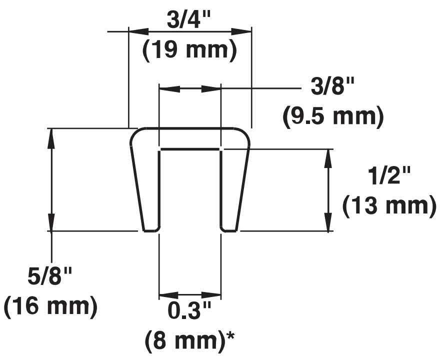


Figure 156: Standard bar snap-on UHMW wearstrips (B6XX28IXXWMV)

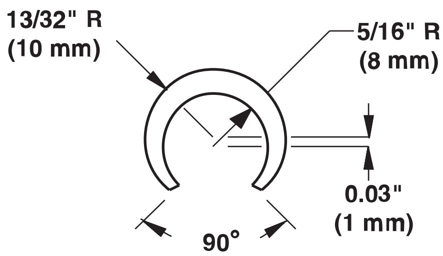
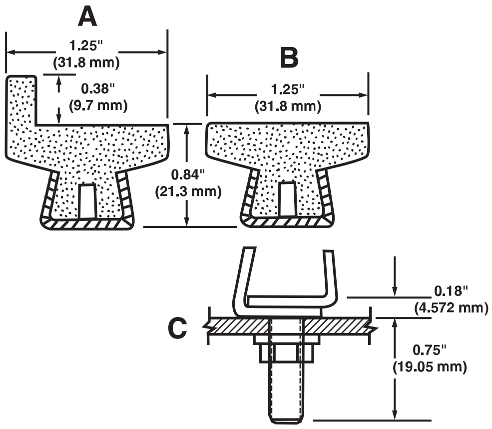


Figure 157: Full round snap-on UHMW wearstrips (B6XX29IXXWMV)

STAINLESS STEEL-BACKED UHMW-PE WEARSTRIP

- Stainless steel-backed UHMW-PE wearstrip can be used to create a rigid belt carryway surface on any frame with cross members.
- Stainless steel-backed UHMW-PE wearstrip is mounted to cross members with a self-tightening stainless steel clip with nut (self-tightening stainless steel clip with nut sold separately).
- Can be installed in parallel, chevron, or other configurations.
- Recommended for temperatures up to 160°F (71°C).
- Available in two profiles: flat (T) wearstrip and flanged (L) wearstrip.
- Available in 120 in (3048 mm) lengths.
- Allow for thermal expansion and contraction when installing wearstrips.
- Always chamfer or bend down the leading edges of any wearstrip.



A 120 in stainless steel back clip-on with leg I UHMW-PE wearstrip (B6XX43IXXWMV-00)
B 120 in stainless steel back t clip-on UHMW-PE wearstrip (B6XX42IXXWMV-00)
C stainless steel self-tightening wearstrip clip and nut, 5/16-18 UNC (C9AX1XXXXXXX-01)

Figure 158: Stainless steel backed UHMW-PE wearstrips

UHMW PRESSURE SENSITIVE TAPE

Intralox offers UHMW self-adhering wearstrip tape in rolls of 54 ft. (16.5 m). This tape can be used for quick and easy conversion of steel wearstrips to a lower friction UHMW wearstrip. The 1 in (25.4 mm) wide and 2 in (50.8 mm) wide tape is available0.010 in (0.25 mm) and 0.030 in (0.76 mm) thick.

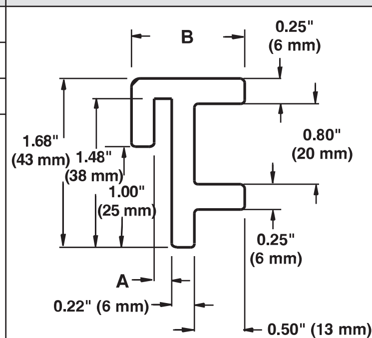
NOTE: UHMW pressure sensitive tape is only to be used in light-duty applications and temporary solutions.

CUSTOM WEARSTRIPS

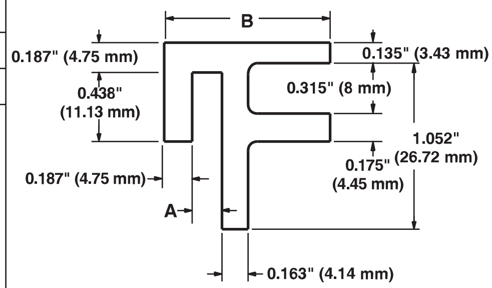
RADIUS BELT WEARSTRIPS

All radius belt wearstrips are available in natural UHMW-PE and self-lubricating, grey, oil-filled UHMW-PE. The angle and center rail wearstrips use the EZ Clean design. All wearstrips are available in either 1/8 in (3.2 mm) or 3/16 in (4.7 mm) sizes. S2400 is available in UHMW-PE only.

See the following figures for wearstrip dimensions and part numbers. See for dimensions.

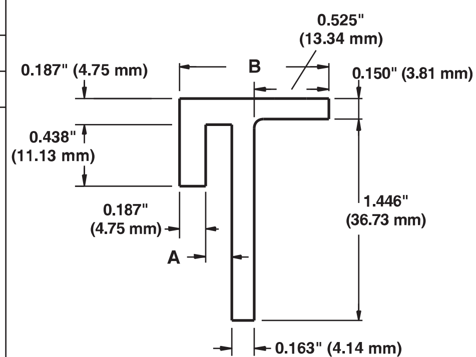
Standard Edge Hold Down Wearstrips			
Material	Size (A)	Part Number	
UHMW-PE	1/8 in (3.2 mm)	B6XX33IXXWMV-00	
UHMW-PE	3/16 in (4.7 mm)	B6XX32IXXWMV-00	
Oil-filled UHMW-PE	1/8 in (3.2 mm)	B6XX33IXXWMW-00	
Oil-filled UHMW-PE	3/16 in (4.7 mm)	B6XX32IXXWMW-00	**A** wearstrip size **B** 1.00 in (25.4 mm) for 1/8 in (3.2 mm) wearstrips; 1.13 in (29 mm) for 3/16 in (4.7 mm) wearstrips

Tabbed Edge Hold Down Wearstrips			
Material	**Size (A)**	**Part Number**	
UHMW-PE	1/8 in (3.2 mm)	B6XX39IXXWMV-20	
UHMW-PE	3/16 in (4.7 mm)	B6XX38IXXWMV-10	
Oil-filled UHMW-PE	1/8 in (3.2 mm)	B6XX39IXXWMW-00	
Oil-filled UHMW-PE	3/16 in (4.7 mm)	B6XX38IXXWMW-00	



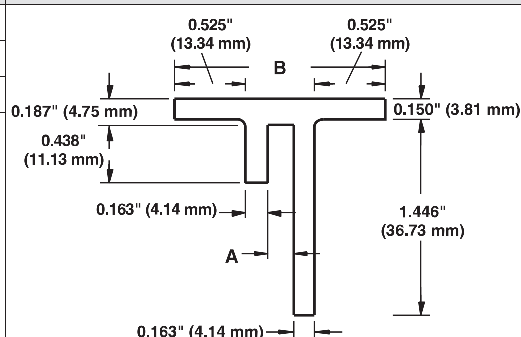
A wearstrip size
B 1.00 in (25.4 mm) for 1/8 in (3.2 mm) wearstrips; 1.06 in (27 mm) for 3/16 in (4.7 mm) wearstrips

Angled Hold Down Wearstrips			
Material	**Size (A)**	**Part Number**	
UHMW-PE	1/8 in (3.2 mm)	B6XX37IXXWMV-00	
UHMW-PE	3/16 in (4.7 mm)	B6XX36IXXWMV-00	
Oil-filled UHMW-PE	1/8 in (3.2 mm)	B6XX37IXXWMW-00	
Oil-filled UHMW-PE	3/16 in (4.7 mm)	B6XX36IXXWMW-00	

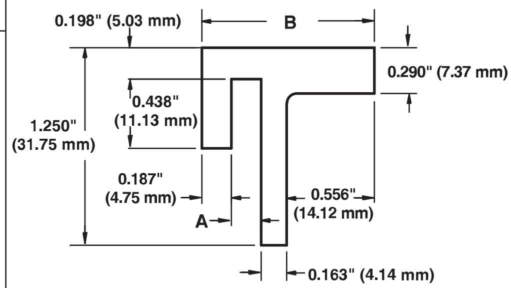


A wearstrip size
B 1.00 in (25.4 mm) for 1/8 in (3.2 mm) wearstrips; 1.06 in (27 mm) for 3/16 in (4.7 mm) wearstrips

Center Rail Hold Down Wearstrips			
Material	**Size (A)**	**Part Number**	
UHMW-PE	1/8 in (3.2 mm)	B6XX41IXXWMV-00	
UHMW-PE	3/16 in (4.7 mm)	B6XX40IXXWMV-00	
Oil-filled UHMW-PE	1/8 in (3.2 mm)	B6XX41IXXWMW-00	
Oil-filled UHMW-PE	3/16 in (4.7 mm)	B6XX40IXXWMW-00	



A wearstrip size
B 1.56 in (40 mm) for both 1/8 in (3.2 mm) and 3/16 in (4.7 mm) wearstrips

Series 2400 Hold Down Guide Wearstrips			
Material	Size (A)	Part Number	
UHMW-PE	1/8 in (3.2 mm)	B6F546IXXWMV-00	
UHMW-PE	3/16 in (4.7 mm)	B6F547IXXWMV-00	**A** wearstrip size **B** 1.03 in (40 mm) for 1/8 in (3.2 mm) wearstrips; 1.09 in (28 mm) for 3/16 in (4.7 mm) wearstrips

PUSHER BARS

Accumulation tables are most often used in the beverage industry, allowing upstream production machinery to operate continuously and economically when downstream machinery interrupts product flow. These tables act as a buffer to absorb the product overflow until the downstream problem is rectified. The principal function of a pusher bar is to move the last few product rows off the accumulation table, past the dead plate area, and onto the primary conveyor lines. Pusher bars rest on the accumulation table, which must use a Raised Rib style belt (S100, S400, and S900).

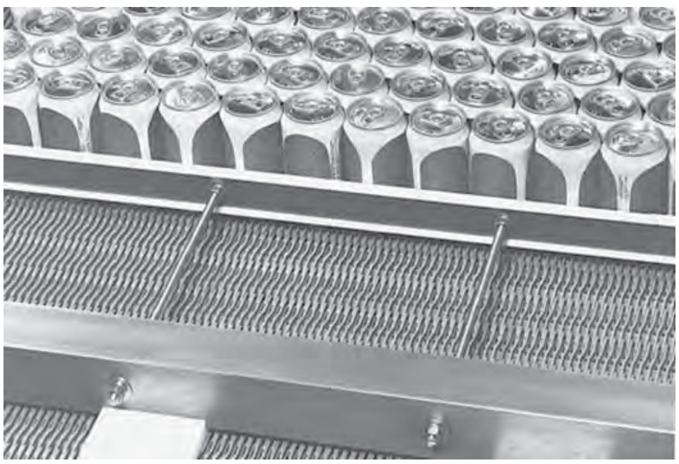
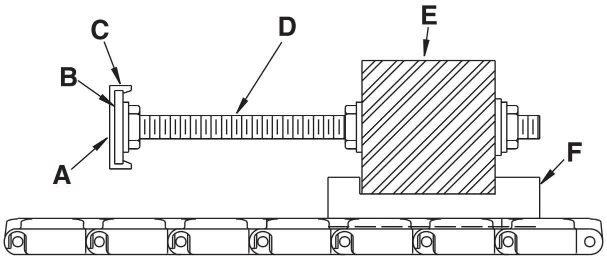


Figure 159: Pusher bar side view

The bar is a 2.5 in (63.5 mm) square stainless or carbon steel shaft which rides in several slotted UHMW guide shoes. The shoes are slotted on the bottom to mesh with the ribs of the belt and keep the bar aligned, perpendicular to the direction of belt travel. The shoes bear the entire weight of the pusher bar, so it is recommended that wearstrips be placed to support the belt directly under the shoes.

The blade of the pusher bar actually does the pushing. Blades are available in 24 in to 120 in (610 mm to 3048 mm) lengths and consists of a rigid steel bar capped with UHMW-PE wearstrips, to avoid marking or damaging products. The blade is set off from the weighted shaft by threaded steel rods, making the amount of offset adjustable to individual needs.



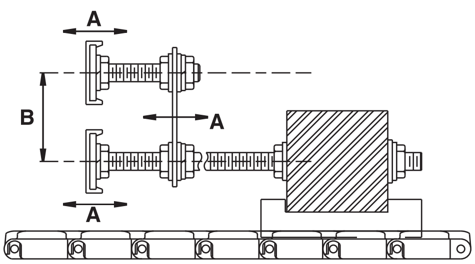
A blade
B barstock
C clip-on wearstrip
D threaded rod
E weight
F guide shoe (slotted bottom surface)

Figure 160: Pusher bar assembly

A dual blade pusher bar is also available for tall or contoured products. The upper blade of this configuration is adjustable up and down and can be extended past or retracted further back from the lower blade.

Adjustment of the pusher bar is dependent upon: 1) placement of the device which limits forward travel of the pusher bar, and 2) dimensions of the product being conveyed. Standard offset is approximately equal to the length of the finger plate to be used:

- S100: 5.75 in (146 mm)
- S400: 7.5 in (191 mm)
- S900: 6.5 in (165 mm)

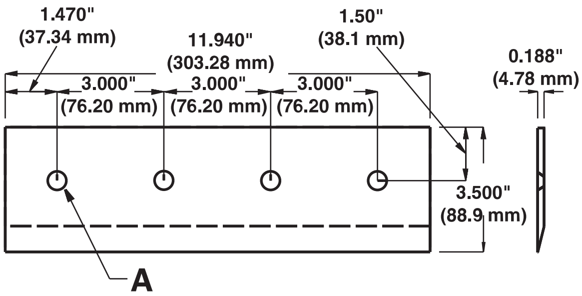


A adjustable
B adjustable from 2–4 in (51–102 mm)

Figure 161: Dual blade pusher bar assembly

TRANSFER PLATES

Intralox offers UHMW-PE transfer plates with operating temperature limits of -100°F to 180°F (-73°C to 82°C).



A holes for 0.25 in (6 mm) bolts

Figure 162: Transfer plates

EZ CLEAN™ IN PLACE (CIP) SYSTEM

Compatible with most conveyors, the EZ CIP system cleans belts quickly, effectively, and consistently while minimizing water usage.

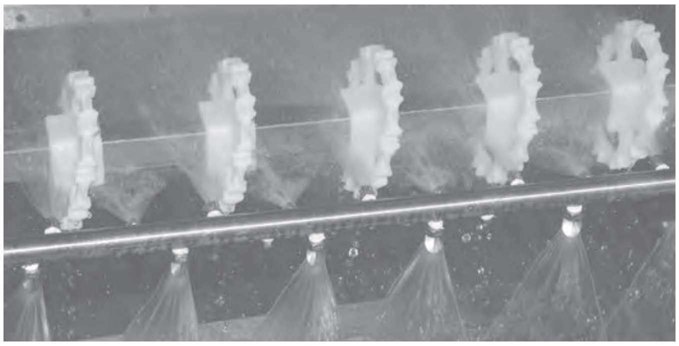


Figure 163: EZ Clean In Place (CIP) System

The CIP system features a spray bar optimally located to increase and expedite debris removal and a custom-engineered spray pattern. The spray pattern is designed to provide thorough cleaning of the belt underside, sprockets, and shaft. The system mounts within the conveyor frame behind the conveyor shaft and sprays the belt at three separate locations. Fan nozzles spray through the open belt hinges below and above the shaft as the belt travels around the sprockets. High-impact nozzles spray the belt underside along the belt drive bars to maximize the debris channeling effect built into EZ Clean belts. Cleaning is further optimized when used along with Angled EZ Clean sprockets.

This system can be installed on the drive end or idle end, but the drive end is preferred. The system is made of 303/304 stainless steel, with highly polished surfaces. The minimum water pressure recommended at the system intake is 150 PSI (10 bar).

Figure 164: Spray pattern designed to clean of belt underside, sprockets, and shaft

HOLD DOWN ROLLERS

Hold down roller assemblies can be used in place of hold down shoes or rails on wide elevating conveyors. On typical elevating conveyors, flights have a notch in the center of the belt so that a hold down rail or shoe can be used to keep the belt on the conveyor frame. Product loss or damage from these shoes is an inevitable side effect.

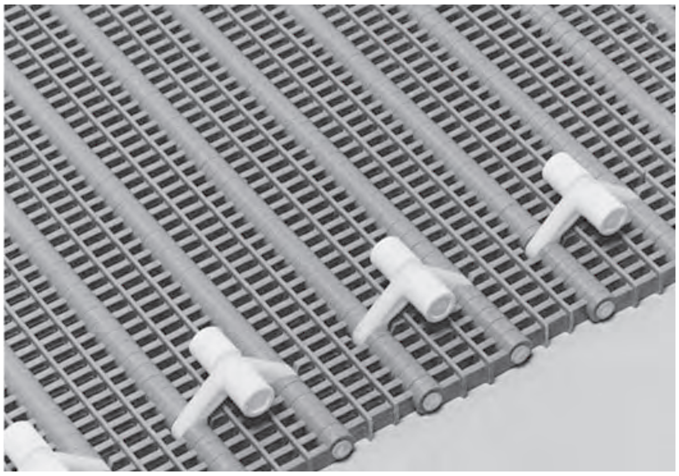


Figure 165: Hold down rollers

Standard roller assemblies have a bracket made of acetal, with polypropylene rollers and rods, and are available for the following belt styles:

Series	Style					
	Flat Top	Flush Grid	Open Grid	Open Hinge	Mesh Top	Perforated Flat Top
S200	•	•	•	•		•
S400	•	•		•		
S800	•	•			•	•

Hold down roller assemblies are built securely into the underside of the belt, held in place by the belt hinge rods. The rollers ride in tracks that anchor the belt in position as it enters the incline of the conveyor. These assemblies can also be used in place of traditional hold down rails or shoes on the side of the conveyor.

Hold down rollers can be placed as frequently as every other belt row, a minimum of 4 in (102 mm) apart to a recommended maximum of 24 in (610 mm) apart. Normally, 8 in (203 mm) spacing, every fourth row is sufficient. Sprocket size is limited by the rollers protruding from the bottom surface of the belt. To keep rollers from coming into contact with the shaft, when using a 1.5 in or 40 mm square shaft, the minimum allowable sprocket pitch diameter is 6.4 in (163 mm). When using a 2.5 in or 60 mm shaft, the minimum sprocket pitch diameter allowable is 7.7 in (196 mm). See Design Guidelines for more information.

ABRASION RESISTANCE SYSTEM

Excessive rod and sprocket wear in abrasive applications can cause various undesirable conditions. Aside from the obvious effect of reduced belt life, there can be added difficulties in making repairs. A badly worn rod cannot be removed easily. Often, belt modules are damaged in the process. Worn rods also cause belt pitch to increase, which decreases sprocket engagement and, in turn, increases the wear rate on sprocket teeth. The belt may not run as smoothly as it should under these circumstances.

Intralox has developed stainless steel split sprockets and Abrasion Resistant (AR) hinge rods which enhance the performance of Intralox belts in abrasive or gritty environments. Rigorous testing shows that these AR components significantly outlast standard components and increase belt module life. Abrasive particles are less likely to become embedded in the harder AR material. Thus, the components themselves do not become abrasive surfaces wearing on the belt.

SPLIT SPROCKETS

Intralox split sprockets are an alternative to molded plastic sprockets. Split sprockets are constructed from FDA-compliant materials, but are not USDA-FSIS accepted. See the individual shaft and sprocket data pages for detailed information.

The old style—all stainless steel abrasion-resistant sprockets—are still available as special order items. Contact Intralox Customer Service for more information.

Figure 166: Split sprockets

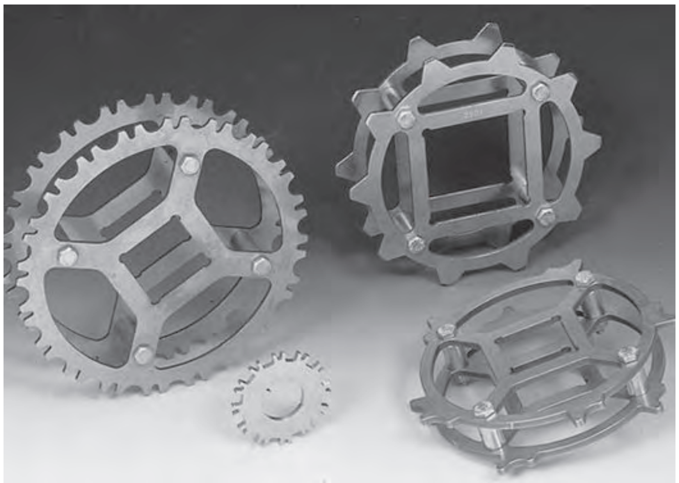


Figure 167: Abrasion resistant (all steel) sprockets

ABRASION RESISTANCE HINGE RODS

Abrasion resistant (AR) rods are stiffer than standard rods, so belt pull capabilities are not sacrificed. AR rods are lighter, less expensive and are more flexible than steel rods. They also provide good chemical resistance, low friction, a wide operating temperature range and are FDA-compliant for direct food contact.

In all belt styles which employ the Intralox snap-lock rod retention system, AR rods are held in place with rodlets installed on both edges of the belt. Rodlets are short, headed rods that are also made of abrasion resistant material.

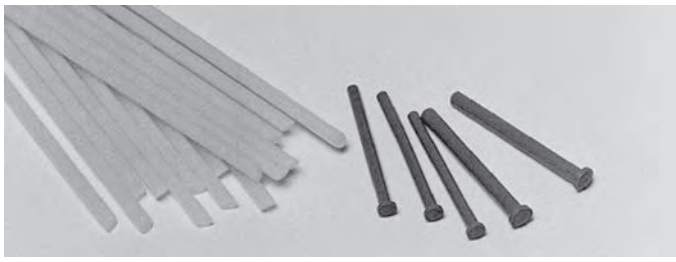


Figure 168: AR rods and rodlets

Belts that utilize an unheaded rod retention system or belts with Slidelox do not require a head of any type.

Figure 169: Unheaded rod retention

Figure 170: Slidelox rod retention

The Slidelox rod retention system is an unheaded rod retention method. This system uses a Shuttleplug to retain the rods during operation. The Slidelox plug can be easily moved to the side when work on the belt is required.

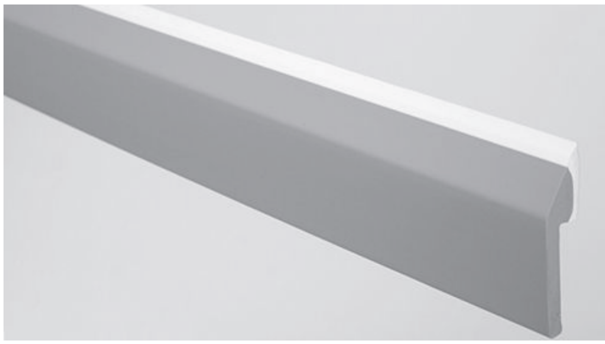
To remove a rod after a belt has been in service for some time, apply a soapy solution or other lubricant to the belt hinge. This approach helps loosen any grit that has become trapped between the rod and the module.

AR rods can absorb water and expand in length and diameter when used in continuously wet, elevated-temperature environments. If an application requires an AR rod in these conditions, contact Intralox Customer Service to determine the approximate expansion due to water absorption.

EZ MOUNT FLEX TIP SCRAPER

Available Height		Available Length		Available Materials
in	mm	in	mm	
2.75	70	72	1830	Rigid PVC base with flexible polyurethane tip

- Available in only one size.
- Only cut to length upon receipt.
- Designed for wet or greasy product applications.
- Not for use with dry products or applications.
- FDA compliant.



RETURNWAY RINGS

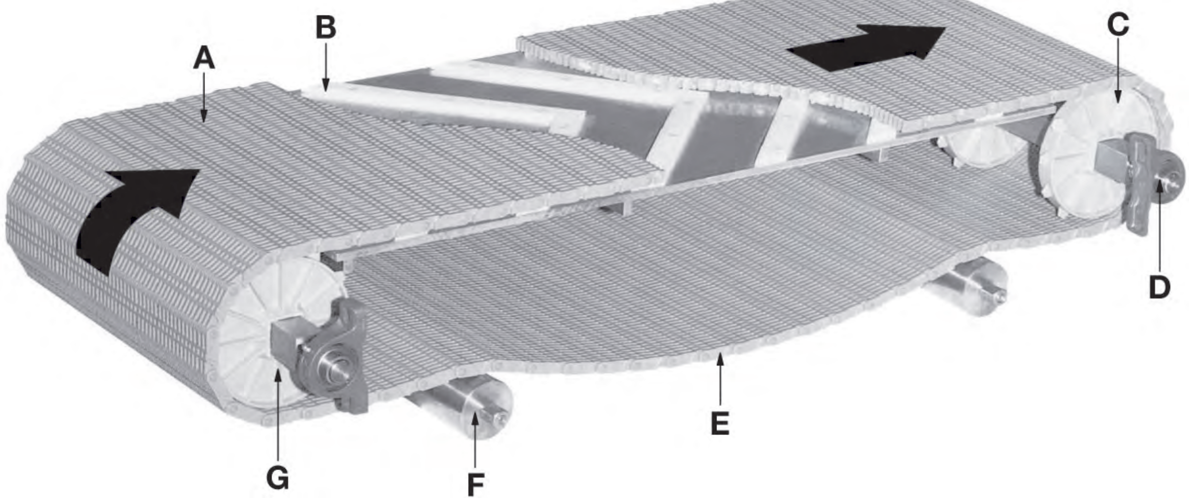
Available Sizes						Available Materials
Outer Diameter		Inner Diameter		Ring Width		
in	mm	in	mm	in	mm	
4	102	1.90	48.3	1.0	25	Black rubber
4	102	2.50	63.5	0.7	19	
6	152	2.50	63.5	2.0	51	
6	152	2.36	60.0	2.0	51	

- 4 in (102 mm) rings are not available with text indicating bore diameter.
- Solid rubber material dampens sound.

3 DESIGN GUIDELINES

After selecting a belt (series, style and material) and accessories, the conveyor frame must be designed. Intralox provides the following dimensional data and guidelines, based on good design principles and practice, for use in designing new conveyor frames or adapting and retrofitting existing ones.

The following figure shows typical components in a conventional, horizontal conveyor.



A belt
B carryway (chevron wearstrips)
C drive shaft and sprockets
D shaft bearing
E catenary sag
F returnway support roller
G idle shaft and sprockets

Figure 171: Conventional conveyor components

BASIC CONVEYOR FRAME REQUIREMENTS

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions “A”, “B”, “C”, “D” and “E” in the following illustrations and tables can be implemented in any design. Also, the conveyor can allow access to the side of the belt at some point for rod clearance during the installation, tensioning, or removal of the belt.

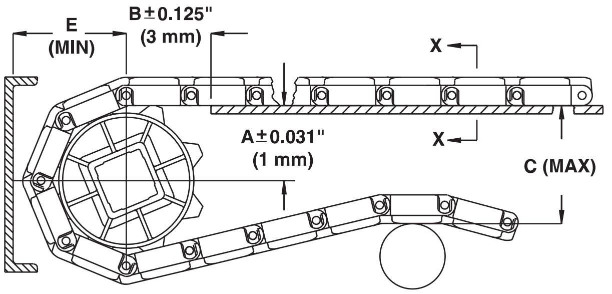


Figure 172: A, B, C and E dimensions

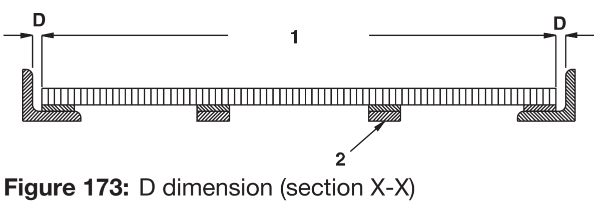


Figure 173: D dimension (section X-X)

DIMENSION DEFINITIONS

The A dimension is the vertical distance between the centerline of the shaft and the top of the carryway.

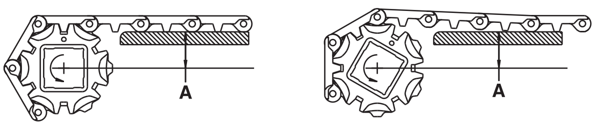
The belt-to-sprocket engagement and end-off/end-on product transfers are affected by the “A” dimension and the amount of chordal action between the belt and sprockets. Chordal action occurs as each row of modules in a belt rises and falls as it engages the drive sprockets or disengages the idle sprockets. This effect is most pronounced in the large pitch belt/small pitch diameter sprocket combination, such as Series 800 with 4.0 in (102 mm) pitch diameter sprockets.

For small pitch diameter sprockets, the “A” dimension is given as a range to indicate when belts will be horizontal at both high and low points of the chordal action.

For large pitch diameter sprockets/small pitch belt combinations, the effects of chordal action are small and fall within the allowable tolerance. For these sprockets, a range for the “A” dimension is not necessary.

The bottom of the range is determined when the center of the module is at the top of the sprocket. At this point, this leading, engaged module is horizontal. (See the following figure.) As this row of modules rotates around the sprocket, the next row starts engaging the sprockets and is lifted above horizontal. It returns to horizontal as this row fully engages the sprockets.

The row of engaging modules is raised above horizontal when the center of the hinge is at the top of the sprocket. The row of engaging modules returns to horizontal as the center of the module passes the center of the sprocket.



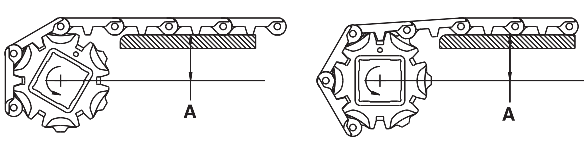
A Vertical distance between shaft centerline and top of carryway

Figure 174: Chordal effects - bottom of range

NOTE: For general applications and applications where end transfer of tip-sensitive product is not critical, use the “A” dimension at the bottom of the range.

The top of the range is determined when the center of the hinge, between two rows of modules, is at the top of the sprocket. At this point, the leading module is horizontal. (See the following figure.) As this row of modules engages the sprockets, the row drops below horizontal. It returns to horizontal as the leading edge of the next row starts to engage the sprockets. Avoid this arrangement with Series 800 belts, since the underside module geometry can cause chatter, noise, and wear on the wearstrip or wear plate ends.

The row of engaging modules is horizontal when the center of the hinge is at the top of the sprocket, but goes below horizontal as the center of the module passes the center of the sprocket.



A Vertical distance between shaft centerline and top of carryway

Figure 175: Chordal effects - top of range

The “A” dimension can be set at any point inside the given range. If an “A” dimension is selected, which is between the top and bottom of the range, the belt will both rise above horizontal and drop below horizontal as each row engages the sprockets.

The B dimension is the horizontal distance between the centerline of the shaft and the beginning of the carryway. This dimension assumes that a 0.5 in (12.7 mm) thick carryway is used, allowing for a typical 0.25 in (6.4 mm) support and 0.25 in (6.4 mm) wearstrip. The carryway can be extended to within 0.5 in (12.7 mm) of the centerline of the shaft if the supports extend between the sprockets. See Anti-Sag Carryway Wearstrip Configuration.

The C dimension is the vertical distance between the top of the carryway and the top of the returnway rails or rollers. This approach provides between 180-degree belt wrap (minimum) and 210-degree belt wrap around the drive sprockets. The listed dimensions provide the minimum 180-degree wrap required by most belts for proper engagement.

Some exceptions are Series 1700, which requires a maximum of 180 degrees of belt wrap, and Series 550, which requires no more or no less than 180 degrees of belt wrap.

The D dimension is the clearance between the edges of the belt and the side frame member, 0.25 in (6.4 mm) min. Note that the minimum edge clearance between side frames and the belt must be determined at the operating temperature of the belt. Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt. See Thermal Expansion and Contraction and Expansion Due to Water Absorption sections to calculate the operating width of your belt at temperatures above ambient.

The E dimension is the minimum horizontal distance between the centerline of the shaft and any framework.

DRIVE GUIDELINES

Intralox square shafts provide maximum efficiency in driving the belt. The two primary advantages are: 1) the positive transmission of torque to the sprockets without keys and keyways, and 2) allowing lateral movement of sprockets to accommodate the inherent differences in thermal expansion or contraction between plastics and metals.

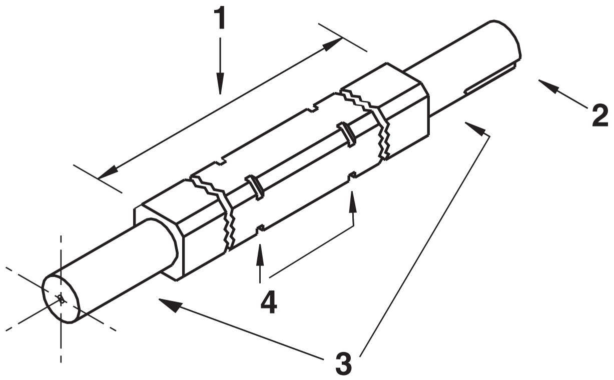
SHAFT SIZES AND MATERIALS

Intralox stocks square shaft materials in the following sizes:

Available Square Shaft Sizes and Materials													
		Intralox, LLC USA							Intralox, LLC Europe				
Material	Grade	0.625 in	1 in	1.5 in	40 mm	60 mm	2.5 in	3.5 in	25 mm	40 mm	60 mm	65 mm	90 mm
Carbon steel	KG-37	•	•	•			•	•	•			•	•
Stainless steel	303/304	•	•	•	•	•	•						
	304								•	•	•	•	•
	304 HR							•					
	316			•			•						

Determine the proper shaft size for your application using the Belt Selection Instructions, or in the Formulas section. For material properties for each shaft size, see Table 3: Shaft Data.

NOTE: If using a shaft in a hollow gearbox, contact Intralox Customer Service.



1 square section length [distance between bearings, less 0.25 in (6 mm)]
2 keyway for driver hub (not required on idle shaft)
3 bearing journals
4 retainer ring grooves
Figure 176: Typical shaft features

DRIVE SHAFT TORQUE LOADING

An important consideration in the selection of shaft sizes is the torque loading that the drive shaft must absorb. The belt pull, acting through the sprockets, introduces the torsional or twisting load on the drive shaft. Under any given set of conditions, i.e., product loading and frictional resistance, the belt pull remains constant, but torque on the drive shaft varies with the size of sprockets chosen. As the sprocket pitch diameter is increased, the torque on the shaft is also increased. If a particular shaft size is desired but the torque to be absorbed exceeds the limit of the shaft, recalculate the torque with a smaller diameter sprocket available in the belt series. To achieve the same belt speed, the rotational speed (RPM) must be proportionally greater with the smaller sprocket.

POWER REQUIREMENTS

The power required to drive the belt can be calculated in the Belt Selection Instructions, or from the formulas beginning on Formulas. This calculated power does not include the power required to overcome mechanical or other inefficiencies in the system. Conveyor arrangements and power trains can consist of many possible choices. Use the following table to determine the amount of added power needed for your design.

Average Mechanical Efficiency Losses									
		Gear Reducers							
		Spur And Helical Gears			Worm Gears				
Ordinary Sleeve Bearings	Ball Bearings	Single Reduction	Double Reduction	Triple Reduction	Single Reduction	Double Reduction	Roller Chains	V Belts	Hydraulic Power Systems
2% to 5%	1%	2%	4%	5%	5%	10% to 20%	3% to 5%	2% to 4%	Consult the manufacturer.

Use the following formula to determine the required motor power:

Formula 11:

$$HP = \frac{A}{100 - B} \times 100$$

where:
HP = required motor horsepower
A = belt drive power
B = total of all average mechanical efficiency losses

For example, if the total mechanical efficiency loss is 15% and the belt drive power is 2.5 horsepower, the required motor horsepower is 3 horsepower.

RETAINING SPROCKETS

It is necessary to laterally retain only one sprocket on each of the drive and idler shafts. This sprocket will provide the positive tracking necessary to keep the belt running properly between side frames of the conveyor. By allowing the other sprockets to move laterally, thermal expansion differences between the belt and frame are easily accommodated. By convention, Intralox recommends the sprocket next to or on the belt's centerline be retained using retainer rings on both sides of the sprocket. When only two sprockets are used, retain the sprockets on the drive journal side of the conveyor.

Sometimes, the "center" sprocket will be slightly offset from the centerline of the belt. Ensure the locked sprockets on the idle and drive shaft are aligned on the shafts. If a radius belt Standard Edge or Tabbed Edge wearstrip is used to contain the Series 2200 belt up to the sprockets, it is not recommended that any sprockets be retained on the shaft. In this case, the wearstrip is used to maintain the belt's lateral position.

INTERMEDIATE BEARINGS

On conveyors with wide belt or heavy tension loads, one or more additional bearings can be needed. The additional bearings support the center of the drive and idler shafts to reduce deflection to acceptable levels. Excessive drive shaft deflection causes improper belt-to-tooth engagement, a condition which must be avoided.

When intermediate bearings are considered, the shaft deflection formulas are different from the one which applies to shafts supported by only two bearings. With a third bearing located in the center of the shaft, the deflection formula is:

Formula 12:

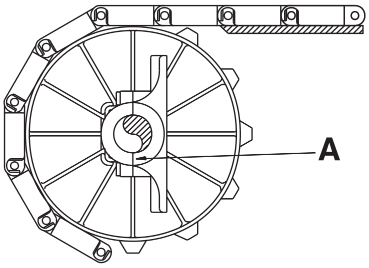
$$D_3 = \frac{1}{185} \times \frac{\frac{w}{2} \times L_S^{3}}{E \times I}$$

$$= \frac{w \times L_S^{3}}{370 \times E \times I}$$

where:
D_3 = deflection on a shaft with three (3) bearings
L_S = length of shaft between bearings, in (mm)
E = modulus of elasticity from Table 3: Shaft Data
I = moment of inertia from Table 3: Shaft Data
w = total shaft load

When the third bearing is placed off-center, or when more than three bearings are used, the analysis is so complicated that convenient general formulas for deflection cannot be given. A simpler approach is to allow the designer to determine a safe maximum span length, using the charts in Section 4. After calculating the total shaft load, determine the maximum span for available shaft sizes and materials using Table 7: Maximum Drive Shaft Span Length.

Intermediate bearings usually are split journal bearings. Mount these bearings on the conveyor frame, with the split of the bearing housing perpendicular to the direction of the belt travel. In cases requiring intermediate bearings, it is prudent to utilize sprockets with the largest practical diameter because of the rather large housing dimensions. Otherwise, a bearing modification can be required so the bearing fits in the limited space available.



A bearing housing split must be perpendicular to the belt run direction.

Figure 177: Recommended mounting

NOTE: If the split is parallel with the belt travel, its load capacity is reduced significantly.

ROLLERS AS IDLE SHAFTS AND SPROCKET REPLACEMENTS

In many applications, idle shafts and their sprockets may be replaced by rollers, supported by stub shafts to account for roller deflection. These pipe rollers can be considerably stiffer than a comparable length of solid, square shafting. For example, a 4 in (102 mm) — Schedule 40 pipe and a 6 in (152 mm) — Schedule 40 pipe have more than twice the stiffness of 2.5 in (63.5 mm) and 3.5 in (88.9 mm) square steel shafts, respectively. Therefore, in cases where loads are high and the belt is wide, the use of rollers such as these may eliminate the need for intermediate bearings to reduce shaft deflection to acceptable levels. Flanging or spooling of the ends of the rollers to retain the belt laterally is necessary in some cases.

Scroll idlers can also be used in place of idle sprockets. See Scroll Idlers. Scroll idlers are used to help keep the returnway clean and free of debris.

SOFT-STARTING MOTORS AND FLUID COUPLINGS

Rapid starting of high-speed or loaded conveyors is detrimental to good belt and sprocket life. Rapid starting also causes adverse effects on the entire drive train. When the motor power exceeds 1/4 horsepower per foot of belt width (612 watts per meter), Intralox strongly recommends the use of soft-starting electric motors, variable-frequency drives (VFDs), or one of the several fluid couplings (wet or dry) presently available. These devices are beneficial for all components, since they allow the driven conveyor to accelerate gradually (ramp up and ramp down) to operating speeds.

CARRYWAYS

Intralox belts can be supported in the load-bearing part of travel by carryways of various arrangements. Since their primary purposes are to provide a lower friction running surface and reduce wear on both belt and frame, give careful consideration to this part of the design.

Belt contact surfaces in the carryway can be metal, usually cold-rolled finished carbon or stainless steel, or one of the commonly used plastics available from Intralox. For frictional characteristics of each material, see the belt data pages in Product Line, or the coefficients of startup friction and running friction in and . For a description of the plastic wearstrips available from Intralox, see Wearstrip Types and Sizes).

SOLID PLATE CARRYWAYS

Solid plate carryways are continuous sheets of metal, UHMW, or HDPE over which the belt slides. They extend the full width of the belt and almost the entire length between idler and drive sprockets. The plates can be perforated with slots or holes to allow for drainage and the passage of foreign material. In heavily loaded applications, this type of carryway surface is considered a good choice because of the continuous support it provides to the belt. Contact Intralox Customer Service for material recommendations.

WEARSTRIP CARRYWAYS

All wearstrips are available in Ultra High Molecular Weight (UHMW) Polyethylene. Certain styles are also available in High Density Polyethylene (HDPE) and Molybdenum-filled nylon (Nylatron).

WEARSTRIP TYPES AND SIZES

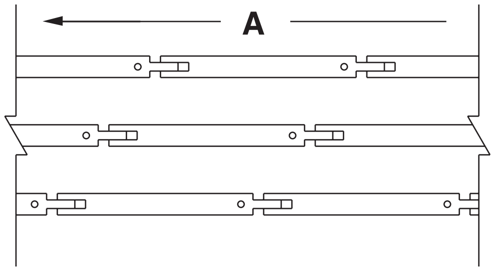
Intralox can provide wearstrips of three different types:

- Standard flat wearstrips are relatively thick, narrow, flat bars of UHMW, HDPE, or Nylatron. UHMW and HDPE flat wearstrips are available in 0.25 in (6.4 mm) thick × 1.25 in (31.8 mm) wide × 10 ft. (3 m) lengths. Molybdenum-filled nylon (Nylatron) flat wearstrips are available in 0.125 in (3.2 mm) thick × 1.25 in (31.8 mm) wide × 8.5 ft. (2.6 m) lengths. The strips are applied directly to the frame and attached with plastic bolts and nuts in slotted holes. This approach allows the strips to expand and contract freely with temperature changes.
- Flat finger-joint wearstrips have a notched-end design that provides an overlapping section for continuous belt support without sharp edges. The 0.25 in (6.4 mm) thick wearstrips are fastened in short lengths at the leading end only, with a 0.375 in (9.5 mm) gap, to provide freedom for elongation caused by temperature changes. They are available in UHMW and HDPE.
- Angle and clip-on wearstrips normally are used in applications where belt edge protection is needed or lateral transfer is required. They are available in lengths of 10 ft. (3 m) in UHMW. In addition to the standard angle wearstrip, several specialty clip-on or snap-on strips are available. These strips attach to the frame without the need of fasteners. See Wearstrips for more information on available wearstrips.

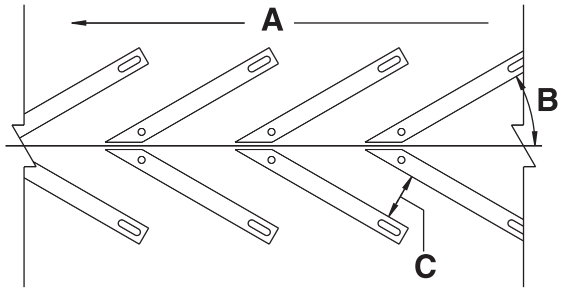
WEARSTRIP ARRANGEMENTS

- Straight, parallel runners are supports that consist of strips, either metal or plastic, placed on the frame parallel with the belt travel. While relatively inexpensive to install, their disadvantage is that belt wear is confined to the narrow areas in contact with the strips. This arrangement is recommended, therefore, in low-load applications only.
- By placing the strips in an overlapping “V” or chevron array, the underside of the belt is supported across its full width as it moves along the carryway. Thus the wear is distributed evenly. The angled surfaces can be effective in removing gritty or abrasive material from the underside of the belt. A minimum 0.4 in (10.2 mm) gap is recommended between the points of the wearstrip to reduce debris buildup. This arrangement is also good for heavily loaded applications. By reducing the spacing between adjacent chevrons, the bearing load on the strips and the unsupported belt span is decreased.

Standard flat wearstrips can be modified to form the chevron array.



A run direction
Figure 178: Straight, parallel wearstrip arrangement



A run direction
B 10 degrees to 30 degrees allowable
C conventional: 2 in (51 mm), maximum: 5 in (127 mm)
Figure 179: Chevron wearstrip arrangement

ANTI-SAG CARRYWAY WEARSTRIP CONFIGURATION

Under certain conditions, the belt tension is not great enough to support product between the end of the wearstrip support and the beginning of the sprocket support. Without adequate support, the belt can buckle.

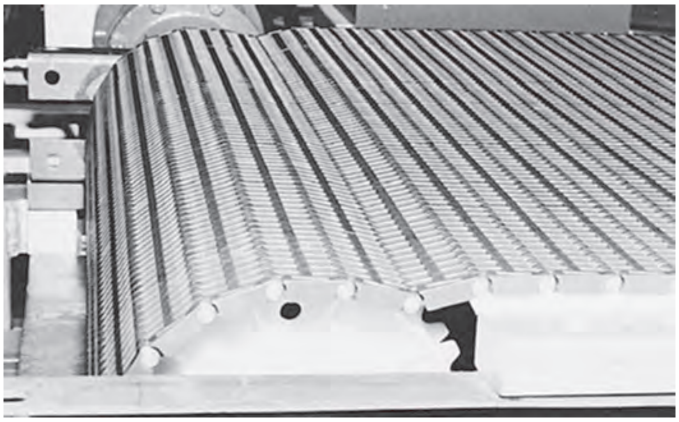


Figure 180: Buckling belt rows

This buckling can be eliminated by extending the wearstrip supports between the sprockets, to within 0.5 in (12.7 mm) of the shaft centerline.

Belts with a pitch of 1.07 in (27.18 mm) or smaller can need more support, with no more than 2 in (51 mm) of unsupported span. To prevent the belt from sagging or bowing under weight, place the wearstrips so the unsupported spans between the strips do not exceed 2 in (50.8 mm). For both parallel or chevron patterns, measure the width of the unsupported span perpendicular to the support structure, regardless of the angle of the support to the belt run direction.

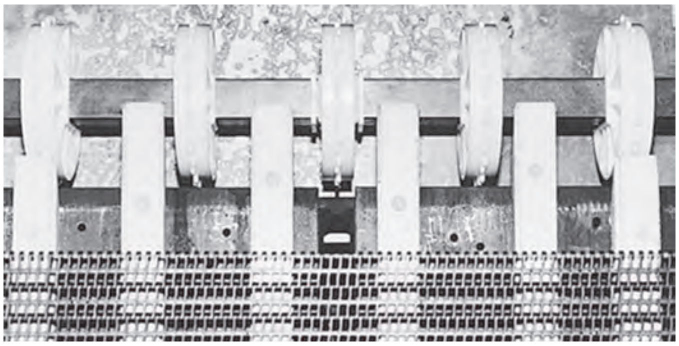


Figure 181: Extend wearstrip supports between sprockets

WEARSTRIP DESIGN

Temperature Limits

UHMW-PE flat and angle wearstrips are recommended up to 160°F (71°C). HDPE is recommended up to 140°F (60°C); Molybdenum-filled nylon (Nylatron) up to 250°F (121°C).

Thermal expansion and contraction

Installation of Intralox flat and angle wearstrips should allow for thermal expansion and contraction. See Thermal Expansion and Contraction, for Coefficients of Expansion. At operating temperatures of 100 °F (38 °C) or less, it is sufficient to bevel-cut the opposing ends of strips at an angle of 30° from the horizontal and provide a clearance gap of 0.30 in (7.6 mm). At temperatures exceeding 100°F (38°C), the angle of the cut should be 60°. The clearance should be determined from thermal expansion calculations. It is recommended that wearstrip joining locations be staggered for smooth belt operation.

Chemical Resistance

See the polyethylene columns of the Chemical Resistance Guide, for information on UHMW and HDPE wearstrips.

RETURNWAYS AND TAKE-UPS

The return side of conventional conveyors using Intralox belts are generally exposed to relatively low tension loads, but nonetheless, are very important in the overall design.

NOTE: On bi-directional and push-pull conveyors where return side tensions are high, careful attention must be paid to this part of the design. For more information about these conveyor designs, see Special Conveyors.

CONTROL OF BELT LENGTH

One of the principal functions of the returnway is to properly accommodate the change in belt length while operating.

NOTE: Control of belt length is vital in maintaining sufficient tension after the belt disengages from the drive shaft sprockets. A belt which increases in length can disengage from its drive sprockets if proper design criteria are not followed.

A belt which contracts due to cold temperatures can cause over-tensioning and excessive shaft loads if some surplus belt is not provided. Belts either elongate or contract in operation because of three factors: temperature variations, elongation (strain) under load, and elongation due to break-in and wear.

TEMPERATURE VARIATIONS

Assuming belts are installed at average ambient conditions, normally about 70°F (21°C), any significant temperature change in operation results in contraction or elongation of the belt. The magnitude of the thermal contraction or expansion is dependent upon the belt material, the difference in temperatures, and the overall belt length. To determine the temperature effects in a particular application, see Thermal Expansion and Contraction.

ELONGATION (STRAIN) UNDER LOAD

All belts elongate if tension is applied. The amount of increase in length depends upon the belt series and style, the belt material, the amount of tension (belt pull) applied, and the operating temperature. Generally, on conventional conveyors where adjusted belt pull (ABP) is about 30% of allowable belt strength (ABS), this load-induced elongation is approximately 1% of the conveyor length. If ABP reaches the ABS, this strain should not exceed 2.5% of the conveyor length.

ELONGATION DUE TO BREAK-IN AND WEAR

New belts usually experience elongation in the first days of operation, as the hinge rods and modules seat themselves. In severe applications, where heavy loads exist or abrasives are present, older belts experience elongation due to wear of the hinge rods and enlargement of the module link rod holes.

CATENARY SAG

Due to elongation under load, temperature variations, and pitch elongation, catenary sag is required to ensure proper back tension and belt storage for Intralox belts with low tension. For applications that will experience a large amount of expansion in length, other take-up arrangements may be required. See Special Take-Up Arrangements for an explanation of these alternate arrangements.

BACK TENSION

For proper belt-to-sprocket engagement, an adequate amount of returnway tension is needed directly after the drive sprocket. This tension is commonly referred to as back tension.

The span length, and the depth of the first catenary sag section directly after the drive sprockets provide this back tension. Back tension is increased as the span is increased, or as the depth is decreased. For this reason, do not allow the depth of this catenary section to exceed the recommendations in the following illustrations. Also avoid allowing the sagged belt to bottom-out on the conveyor frame. This approach greatly reduces the back tension, and can cause sprocket disengagement.

The roller directly after the drive sprocket is commonly called the *snub roller*. Place the snub roller so that the belt is wrapped between 180 degrees and 210 degrees around the drive sprockets. See the "C" dimension in Dimension Definitions.

In the design of conventional conveyors, it is seldom necessary to know precisely the amount of sag and tension required for good belt-to-sprocket engagement. When catenary sag is used to accommodate belt length changes, it can be necessary to know the length of a belt section hanging between two supports, and the tension created by that hanging section. For formulas to determine these factors, see Formulas. These simplified formulas give close approximations for predicting the results of catenary sag conditions. The actual formulas for catenary curves are more complex. However, in practice, where the span-to-sag ratio is large, these simpler formulas are sufficiently accurate for most applications. For example, with a span-to-sag ratio of 10 to 1, the error in the tension formulas is approximately 2%.

STANDARD RETURNWAYS

Use the following guidelines for most end-drive conveyors.

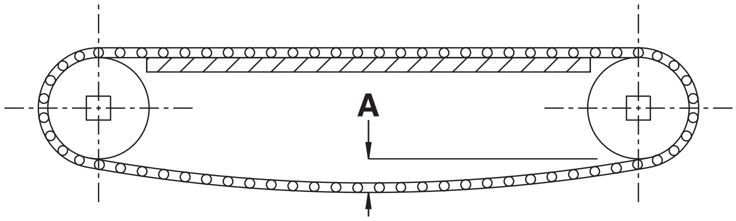
- Ensure the catenary sag depth (A) between each set of returnway supports on longer conveyors or between the drive and idle sprockets on short conveyors is between 1 in (25.4 mm) and 4 in (102 mm).
- On conveyors 6 ft (1.8 m) or longer:
  - Place the snub rollers (B) 9 in to 18 in (229 mm to 457 mm) from the drive and idle shafts.
  - Place the snub support so the belt wraps between 180 degrees and 210 degrees around the sprockets.
  - Ensure the distance (C) between returnway supports is 36 in to 48 in (914 mm to 1219 mm)[1]. This distance combines with proper catenary sag and snub roller position to provide the proper amount of return side tension for good sprocket engagement.
  - For belt pitches up to 1.07 in (27 mm) the minimum returnway support roller diameter (D) is 2 in (51 mm). For larger belt pitches, the minimum returnway support roller diameter is 4 in (102 mm).

The following illustrations provide recommended returnway arrangements which have proven successful in many applications.

[1] S100 and S400 require 48 in to 60 in (1219 mm to 1524 mm) between returnway supports.

SHORT CONVEYORS

On very short conveyors, less than 6 ft (1.8 m) long, a returnway support usually is unnecessary. The catenary sag between drive and idler sprockets alone is sufficient for good operation if the sag is limited to a maximum of 4 in (102 mm).

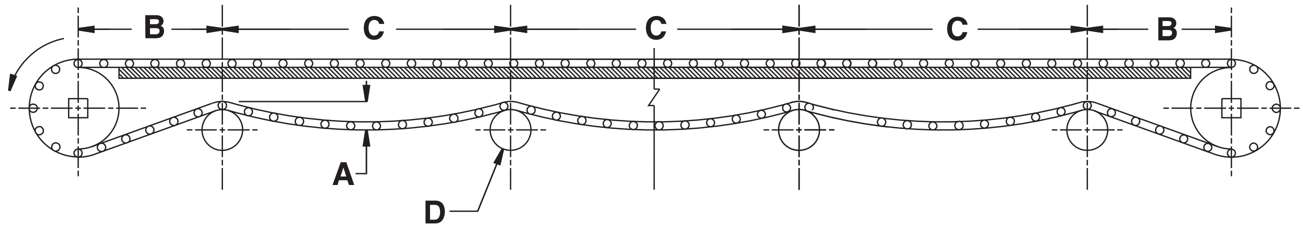


A catenary sag

Figure 182: Short conveyors—less than 6 ft (1.8 m)

MEDIUM TO LONG CONVEYORS

On longer conveyors, it is necessary to provide intermediate returnways supports, but the belt must be unsupported for a significant part of the total length.

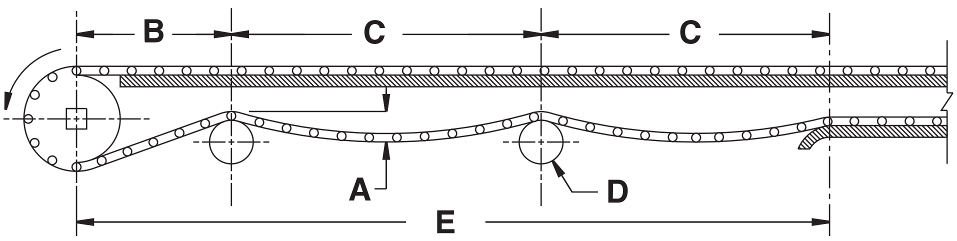


A catenary sag
B distance between snub roller and the drive or idle shaft.
C distance between returnway supports
D returnway support (roller or shoe)

Figure 183: Medium to long conveyors—6 ft (1.8 m) and longer

SLIDE BED RETURNWAYS

For returnways with slide beds, ensure the distance (E) between slide beds and drive sprockets is at least 60 in (1524 mm). A combination of return rollers and a slide bed can be used. Ensure the combined length of the catenary sag sections is at least 1/3 of the conveyor length.



A catenary sag
B distance between snub roller and the drive or idle shaft
C distance between returnway supports
D returnway support (roller or shoe)
E distance between slide beds and drive sprockets

Figure 184: Slide bed returnway

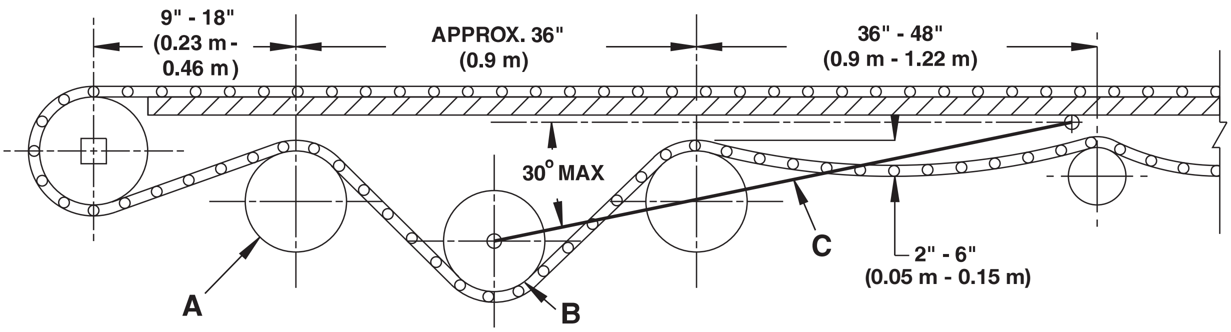
SPECIAL TAKE-UP ARRANGEMENTS

Catenary sag can be described as a dynamic take-up. In many applications, it does not provide adequate tension to prevent sprockets from slipping. In these cases, other types of take-ups are required.

GRAVITY TAKE-UPS

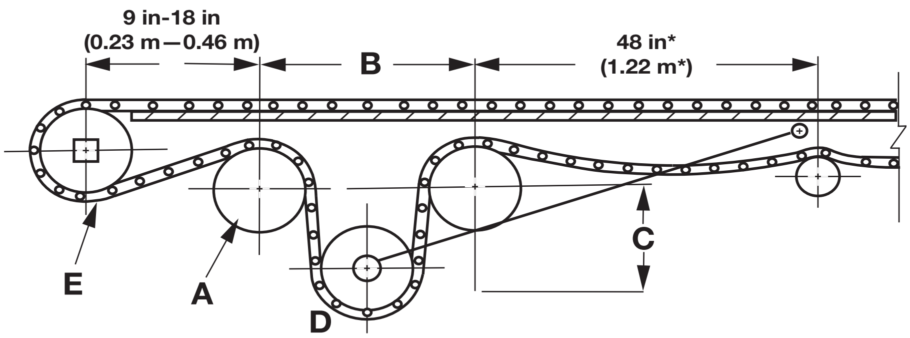
Gravity style take-ups usually consist of a roller resting on the belt in the returnway. The roller weight provides the tension required to maintain proper sprocket engagement. The weight is most effective when placed near the drive shaft end of the returnway. These take-ups are recommended for conventional conveyors which are:

- Over 75 ft (23 m) long, or
- Over 50 ft (15 m) long with belt speeds over 150 ft/min (30 m/min), or
- Exposed to large temperature variations, or
- Operated at speeds over 50 ft/min (15 m/min), and with frequent starts under loads of over 25 lb/ft² (120 kg/m²). For 1.00 in (25.4 mm) pitch belts, a 4 in (100 mm) diameter roller is required with a mass that generates a minimum back tension of 10 lb/ft (15 kg/m) of belt width. This back-tension ensures proper sprocket engagement at 100% allowable belt pull. For 2.00 in (50.8 mm) pitch belts, the recommended specifications are: 6 in (152 mm) diameter and 20 lb/ft (30 kg/m) of belt width.



A load-bearing shafts (typical)
B gravity take-up roller
C swing arm

Figure 185: Create back tension on short conveyors



A load-bearing roller diameter must be at least three (3) times the belt pitch.
B spaced just far enough for the opening between load-bearing rollers to be bigger than the gravity take-up roller
C this distance must be no less than three (3) times the belt pitch
D gravity take-up roller at least as large as A (swing arm optional, if necessary)
E drive sprocket
***** typical

Figure 186: Create back tension and belt storage on long conveyors

Load-Bearing Roller Diameters

Load-Bearing Roller Diameters			
Belt Pitch		Load-Bearing Roller Diameter	
in	mm	in	mm
0.5	12.7	2	50.8
0.6 to 1	15.2 to 25.4	4	101.6
2	50.8	6	152.4

SCREW TAKE-UPS

Screw take-ups shift the position of one of the shafts, usually the idle shaft, by using adjustable machine screws to move the shaft longitudinally, which changes the conveyor length. The shaft bearings are placed in horizontal slots in the conveyor frame. Screw take-ups can be used only to make minor adjustments to return the catenary sag to its best position. They cannot be used as primary length control devices.

The disadvantages of screw take-ups are that shafts can be misaligned easily, and the belt can be over tightened, reducing belt and sprocket life as well as increasing shaft deflection.

SPECIAL CONVEYORS

BI-DIRECTIONAL CONVEYORS

Bi-directional conveyors are usually designed in two basic drive configurations: the pull-pull type and the push-pull type. Both configurations share some common features, but each has certain advantages and disadvantages. Use the following information to help determine the best configuration for a particular application.

PULL-PULL CONVEYORS

Pull-pull conveyors are designed to operate in either direction. Three common pull-pull designs are center-drive, two-motor drive, and dual-chain end-drive.

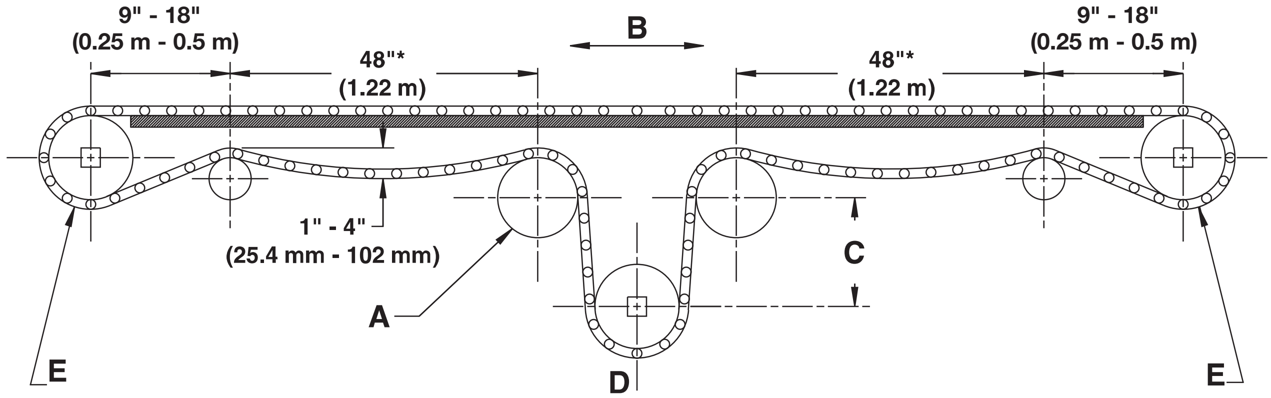
Center-Drive Conveyors

In a center-drive conveyor design, a reversible drive shaft is placed in the returnway, near the center of the conveyor. Place this drive shaft so that adequate belt tension develops on both sides of the returnway with catenary sag sections. This design uses load-bearing rollers and requires shafts and bearings designed to support this load.

Center-drive bi-directional conveyors, when designed correctly, provide excellent operating characteristics because sprocket engagement occurs over 180 degrees of rotation. In addition, only one reversing motor is required.

NOTE: Because belt tension is applied to both the carryway and returnway sides of the idle shafts at both ends of the conveyor, it is important to design these shafts for twice the belt tension determined by calculating the adjusted belt pull (ABP). Therefore, the shaft deflection calculations and sprocket spacing determination must be based on two times the ABP. Because of these larger shaft loads, it can be necessary to use very large shafts, or to use rollers instead of an idle shaft and sprockets.

Load-Bearing Roller Diameters for Center-Drive Conveyors			
Belt Pitch		Load-Bearing Roller Diameter	
in	mm	in	mm
0.5	12.7	2	50.8
0.6 to 1	15.2 to 25.4	4	101.6
2	50.8	6	152.4
2.5	63.5	8	203.2

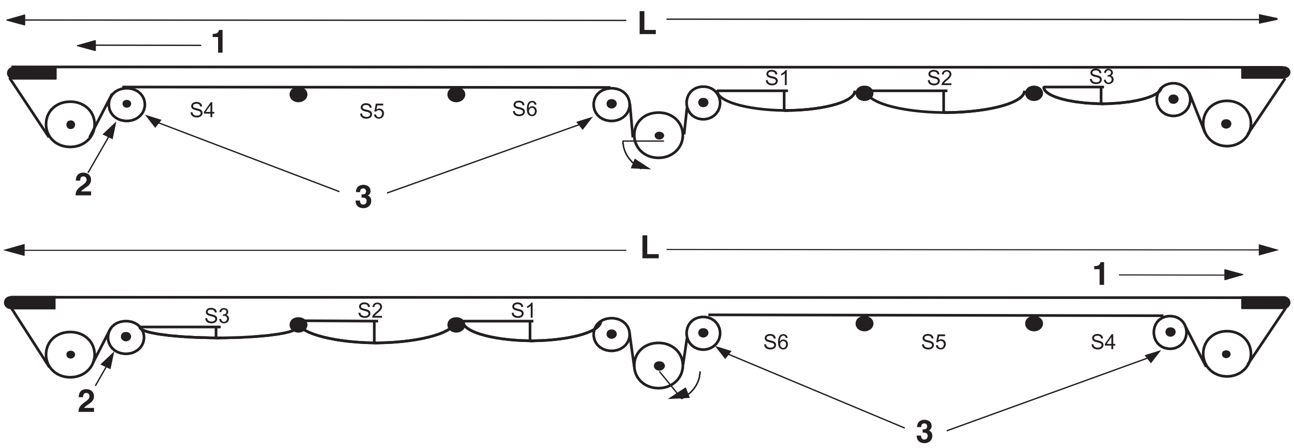


A Load-bearing rollers (typical)
B Belt travel
C This distance must be no less than three (3) times the belt pitch
D Drive sprockets
E Rollers can be substituted for sprockets to avoid using intermediate bearings. On conveyors that have a length that is no greater than twice the width, unspooled rollers can be used. On longer conveyors, the rollers must be spooled allowing 3/16 in to 3/8 in (5 mm to 10 mm) clearance between the inside of the flange and the belt edges.

NOTE: For belts operating at temperatures above ambient, this clearance must exist at operating temperature.

***** typical

Figure 187: Center-drive bi-directional conveyor with load-bearing rollers



1 Belt travel
2 Snub rollers
3 Reaction force
L Length of conveyor, ft (m) centerline to centerline

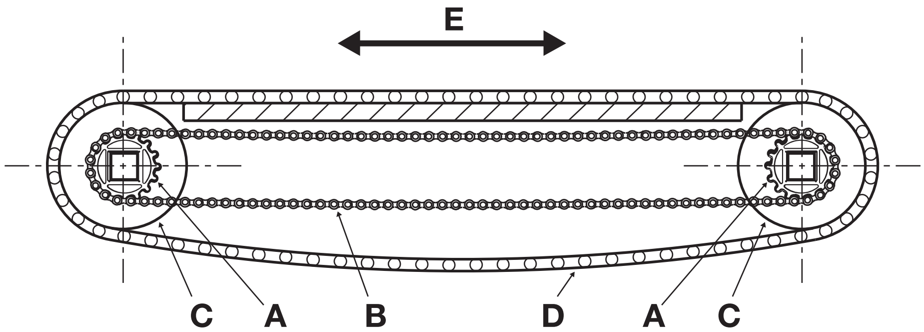
Figure 188: Center-drive bi-directional conveyor with nosebars

Two-Motor Drive Conveyors

The two-motor drive design has the advantage of relatively low returnway belt tension, but requires additional hardware (an additional motor and slip clutches) and electrical control components. Despite the additional equipment requirements, on extremely large conveyors with heavy loads, this approach is often the most practical drive system.

Dual-Chain End-Drive Conveyors

Another low-tension option is a reversible, single-motor design. This conveyor design uses a roller chain to alternately drive either of two chain sprockets on the conveyor shafts. The additional hardware required for this design does increase cost. Because of the roller chain length, the dual-chain end-drive design is usually used on short conveyors. See the following figure for an example of this design.



A chain sprocket
B roller chain
C belt drive sprocket
D belt
E belt travel

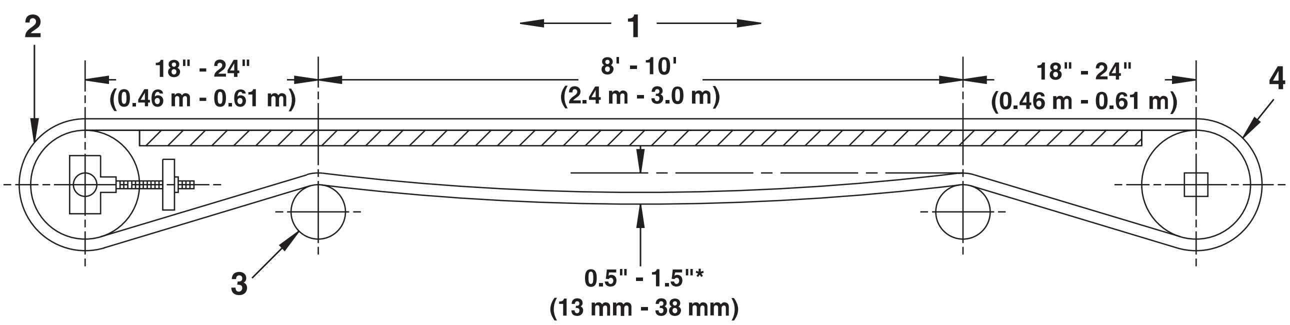
Figure 189: Dual-chain end-drive conveyor

PUSH-PULL CONVEYORS

Push-pull designs require special attention to returnway tension, shaft deflection, and sprocket spacing. When the drive shaft pulls the load towards itself, the conveyor acts like other conventional units. If the direction of belt travel is reversed, the drive shaft pushes the loaded belt. Sprocket slipping or jumping can occur in this situation, if the return-side tension is not greater than the carryway tension. Excess belt can buckle upwards in the carryway and interfere with product handling.

It is important to design a push-pull bi-directional conveyor with the required return-side belt tension. Experience has shown this tension must be about 120% of the carryway-side ABP. To determine the carryway-side ABP, see Belt Selection Instructions, or Formulas. After the carryway-side ABP is identified, use the following formula to calculate the required returnway tension.

The required returnway tension is 1.2 × ABP.



1 belt travel
2 screw take-up end
3 roller or shoe
4 drive sprocket
***** sag

Figure 190: Push-pull bi-directional conveyor

Effect on Shaft Deflection and Sprocket Spacing

Since both the drive and idle shafts experience a tension load as the belt approaches and leaves the sprockets, the total shaft load is more than twice that of a conventional uni-directional conveyor. Therefore, when calculating the shaft deflection, it is important to increase the total running shaft load for the added belt tension. The corrected adjusted belt pull can be found from:

Formula 13:

$$\text{Corrected ABP} = 2.2 \times \text{ABP}$$

Use this value in calculating the total shaft load and shaft deflection. Formulas for these values can be found in the Belt Selection Instructions, or in Formulas. Because the belt is tensioned on both sides of the sprockets, a greater shaft deflection of about 0.22 in (5.6 mm) is tolerable for these conveyors.

The corrected ABP can also be used to determine the proper spacing of shaft sprockets. See the drive shaft sprocket spacing chart in Product Line for the belt being considered. Remember that both shafts are considered as drive shafts for deflection and sprocket spacing calculations.

Returnways tension does not affect the power and torque to drive the push-pull unit, however, the greater shaft loading does affect the loads on bearings. Always allow for this additional load when selecting shaft bearings.

ELEVATING CONVEYORS

Elevating conveyors are similar to horizontal conveyors but have several design differences required for good operation. First, the upper shaft is strongly recommended as the drive shaft. The extreme difficulty of pushing product up an incline precludes this approach as a viable alternative. Second, as the angle of incline increases, the effectiveness of catenary sag as a method of length control decreases. Intralox recommends using some mechanical form (screw or spring) of take-up on the lower or idle shaft.

Elevating conveyors almost always involve the use of flights and sideguards, which create additional design requirements. For example, returnway supports and slide beds must be designed so these flights or sideguards do not interfere with the smooth operation of the conveyor.

GENERAL GUIDELINES FOR ELEVATING CONVEYORS

The following general notes apply to all elevating conveyors. See Variations for illustrations and additional notes.

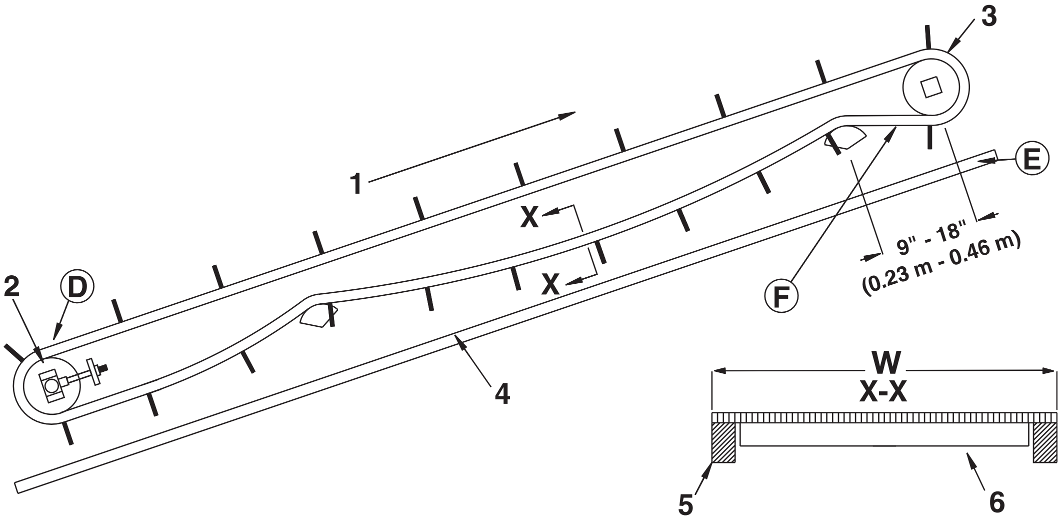
- If sprockets are used at intermediate points, the center sprockets are NOT retained.
- If using rollers or shoes, provide a 3 in (76 mm) minimum radius for 1.00 in (25.4 mm) pitch belts, and a 5 in (127 mm) minimum radius for 2.00 in (50.8 mm) pitch belts.
- To minimize wear, ensure the hold down shoe radius is as large as the application allows. The minimum radius is 6 in (152 mm).
- Internal rollers or shoes must have a minimum diameter of 3 in (76 mm).
- Consider a drum or scroll on the idle end if products or foreign materials are expected to fall between the belt and the sprockets.
- Keep drip pans clear of flights and sideguards between the drive sprockets and the first shoe or roller.
- For proper sprocket engagement, do not allow belt sag to develop between the drive sprocket and the first roller or shoe.

VARIATIONS

- Incline Conveyors
- Decline Conveyors
- Elevating Conveyors with Belt Edge Slider Returns
- Elevating Conveyors with Wide Sideguards and Returnway Support Shoes
- Elevating Conveyors with Returnway Support Shoes

Incline Conveyors

- For belt pitches greater than 1.07 in (27.2 mm), provide a notch at the center point in the flight if the belt width (W) exceeds 24 in (610 mm). For belt pitches less than or equal to 1.07 in (27.2 mm), provide a center notch in the flights if the belt width is greater than 18 in (457 mm).
- Consider a drum or scroll (D) on the idle end if product or foreign materials are expected to fall between the belt and the sprockets.
- Keep drip pans (E) clear of flights and sideguards between drive sprockets and the first shoe or roller.
- For proper sprocket engagement, do not allow belt sag to develop between the drive sprocket and the first roller or shoe. (F)

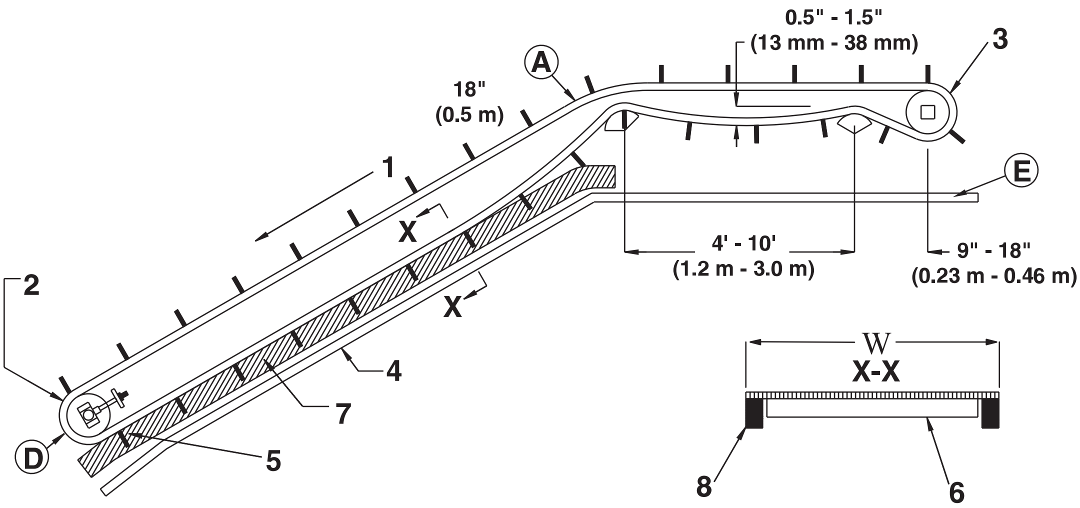


1 run direction
2 idle sprocket
3 drive sprocket
4 guard or drip pan
5 shoe or rollers
6 flights
D drum or scroll
E drip pan
F avoid sag
W belt width

Figure 191: Incline conveyor

Decline Conveyors

- For loads under 10 lb/ft^2 (50 kg/m^2), provide a catenary length of 4 ft to 5 ft (1.2 m to 1.5 m). For loads over 10 lb/ft^2 (50 kg/m^2), provide a catenary length of 8 ft to 10 ft (2.5 m to 3 m).
- If sprockets are used at intermediate points (A), the center sprockets are NOT retained. If using rollers or shoes at intermediate points, provide a 3 in (76 mm) minimum radius for 1.00 in (25.4 mm) pitch belts, and a 5 in (127 mm) minimum radius for 2.00 in (50.8 mm) pitch belts.
- Consider a drum or scroll (D) on the idle end if product or foreign materials are expected to fall between the belt and the sprockets.
- Keep drip pans (E) clear of flights and sideguards between drive sprockets and the first shoe or roller.
- Provide a center notch if the belt width (W) exceeds 24 in (610 mm).
- Use active take-up on the idle end to maintain proper belt tension in the returnway.

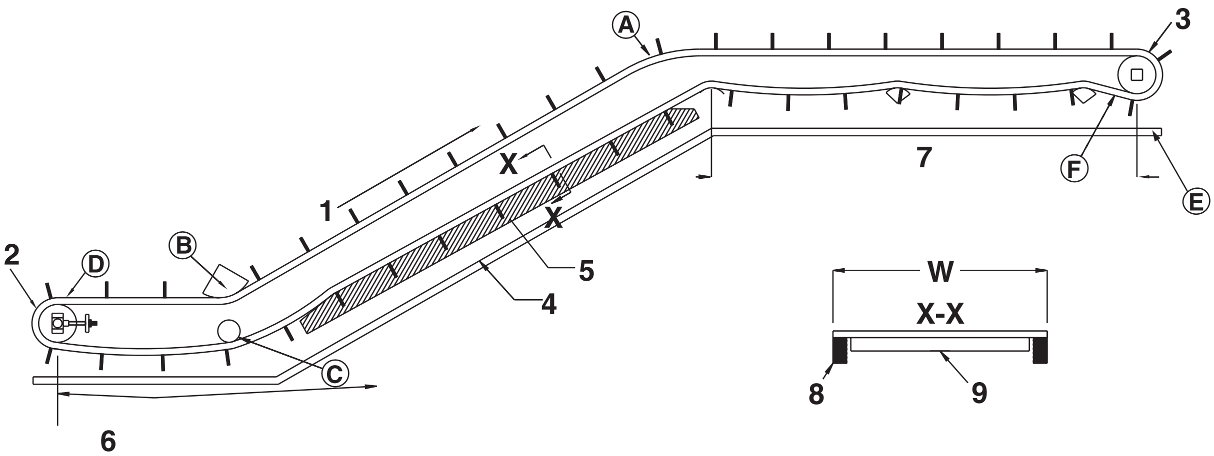


1 run direction
2 idle sprocket
3 drive sprocket
4 guard or drip pan as required
5 active take-up on idle end
6 flights
7 slider supports
8 slider supports on belt edges
A intermediate points
D drum or scroll
E drip pan
W belt width

Figure 192: Decline conveyor

Elevating Conveyors with Belt Edge Slider Returns

- If sprockets are used at intermediate points (A), the center sprockets are NOT retained. If using rollers or shoes, provide a 3 in (76 mm) minimum radius for 1.00 in (25.4 mm) pitch belts, and a 5 in (127 mm) minimum radius for 2.00 in (50.8 mm) pitch belts.
- To minimize wear, ensure the hold down shoe (B) radius is as large as the application allows. The minimum radius is 6 in (152 mm).
- Internal roller or shoe (C) must have a minimum diameter of 3 in (76 mm).
- Consider a drum or scroll (D) on the idle end if product or foreign materials are expected to fall between the belt and the sprockets.
- Keep drip pans (E) clear of flights and sideguards between drive sprockets and the first shoe or roller.
- For proper sprocket engagement, do not allow belt sag to develop between the drive sprocket and the first roller or shoe (F).
- Provide an adequate unsupported length (6) for catenary sag to absorb expected belt elongation. Alternatively, provide an active idle end take-up (gravity, spring-loaded, or pneumatic type).
- For belt pitches greater than 1.07 in (27.2 mm), provide a center notch (9) if the belt width exceeds 24 in (610 mm). For belt pitches less than or equal to 1.07 in (27.2 mm), provide a center notch if the belt width is greater than 18 in (457 mm).

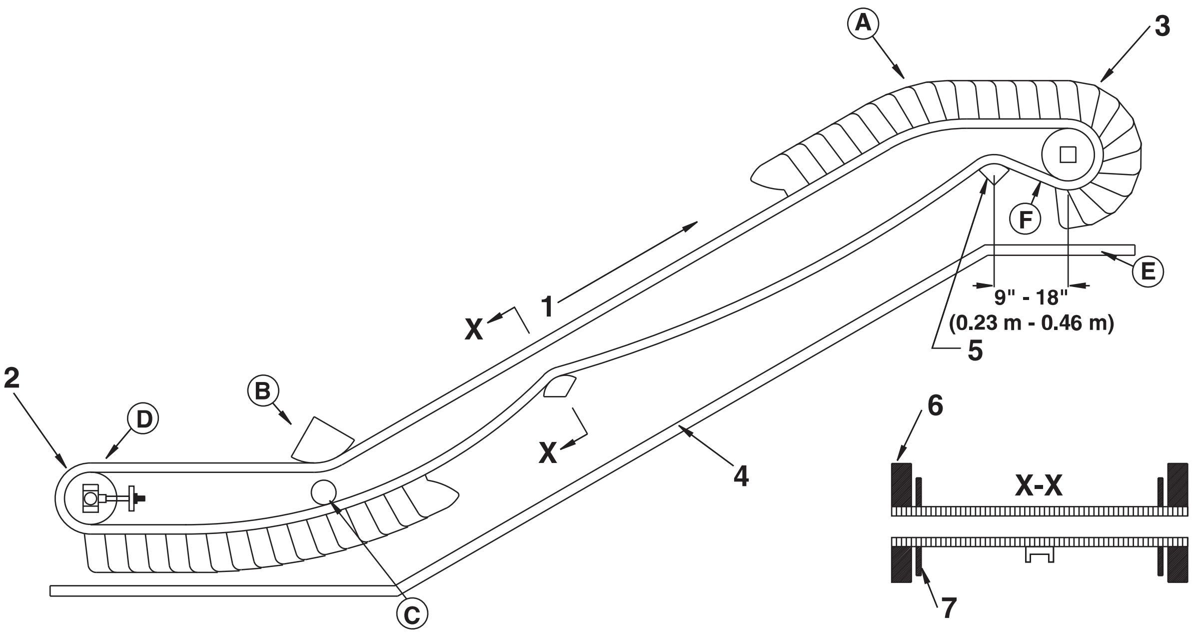


1	run direction	**9**	center notch if needed
2	idle sprocket	**A**	intermediate point
3	drive sprocket	**B**	hold down shoe
4	guard or drip pan	**C**	internal roller or shoe
5	slider supports	**D**	drum or scroll
6	unsupported length for catenary sag	**E**	drip pan
7	use returnway design dimensions on Standard Returnways	**F**	avoid sag
8	slider supports on belt edges	**W**	belt width

Figure 193: Elevating conveyor with belt edge slider return

Elevating Conveyors with Wide Sideguards and Returnway Support Shoes

- If sprockets are used at intermediate points (A), the center sprockets are NOT retained. If using rollers or shoes, provide a 3 in (76 mm) minimum radius for 1.00 in (25.4 mm) pitch belts, and a 5 in (127 mm) minimum radius for 2.00 in (50.8 mm) pitch belts.
- To minimize wear, ensure the hold down shoe (B) radius is as large as the application allows. The minimum radius is 6 in (152 mm).
- Internal roller or shoe (C) must have a minimum diameter of 3 in (76 mm).
- Consider a drum or scroll (D) on the idle end if product or foreign materials are expected to fall between the belt and the sprockets.
- Keep drip pans (E) clear of flights and sideguards between drive sprockets and the first shoe or roller.
- For proper sprocket engagement, do not allow belt sag to develop between the drive sprocket and the first roller or shoe (F).
- Backbend shoes or rollers (5) must have a minimum radius 4.5 in (115 mm).



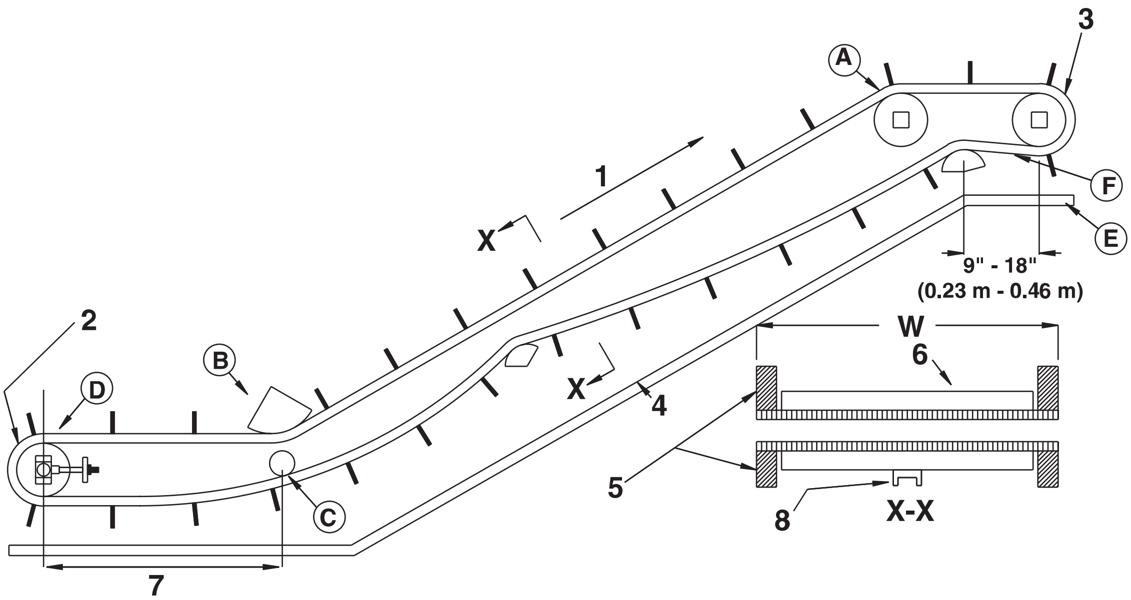
1 run direction
2 idle sprocket
3 drive sprocket
4 guard or drip pan as required
5 backbend shoe or roller
6 shoes or rollers
7 sideguards

A intermediate points
B hold down shoe
C internal roller or shoe
D drum or scroll
E drip pan
F avoid sag

Figure 194: Elevating conveyor with wide sideguards and returnway support shoes

Elevating Conveyors with Returnway Support Shoes

- If sprockets are used at intermediate points (A), the center sprockets are NOT retained. If using rollers or shoes, provide a 3 in (76 mm) minimum radius for 1.00 in (25.4 mm) pitch belts, and a 5 in (127 mm) minimum radius for 2.00 in (50.8 mm) pitch belts.
- To minimize wear, ensure the hold down shoe (B) radius is as large as the application allows. The minimum radius is 6 in (152 mm).
- Internal roller or shoe (C) must have a minimum diameter of 3 in (76 mm).
- Consider a drum or scroll (D) on the idle end if product or foreign materials are expected to fall between the belt and the sprockets.
- Keep drip pans (E) clear of flights and sideguards between drive sprockets and the first shoe or roller.
- For proper sprocket engagement, do not allow belt sag to develop between the drive sprocket and the first roller or shoe. (F)
- For belt pitches greater than 1.07 in (27.2 mm), provide a center notch if the belt width (W) exceeds 24 in (610 mm). For belt pitches less than or equal to 1.07 in (27.2 mm), provide a center notch if the belt width is greater than 18 in (457 mm).
- If the conveyor is longer than 4 ft (1.2 m), provide returnway supports in the catenary section before the idle end. (7)



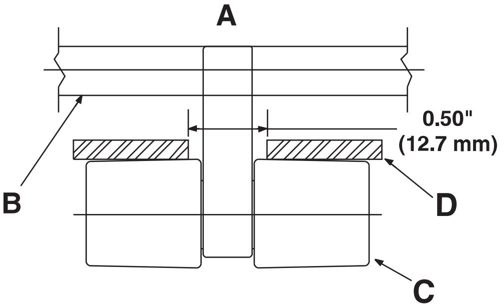
1 run direction
2 idle sprocket
3 drive sprocket
4 guard or drip pan
5 shoes or rollers
6 flights
7 catenary section at idle end
8 center notch

A intermediate point
B hold down shoe
C internal roller or shoe
D drum or scroll
E drip pan
F avoid sag
W belt width

Figure 195: Elevating conveyor with shoe return

HOLD DOWN ROLLERS

Hold down roller can be used on some elevating conveyors, in place of hold down shoes or rollers. These roller assemblies ride in steel rails on the carryway and returnway. To minimize wear, ensure that the rail bend radius is as large as the application allows. Ensure that the minimum bend radius is 12 in (305 mm). The minimum rail thickness is 0.125 in (3.2 mm), and must be at least 0.75 in (19 mm) wide. The minimum bend radius is proportional to the thickness of the carryway rail. A thicker rail requires a larger bend radius. Normally, the roller assemblies are spaced every fourth row along the length of the belt. The tightest spacing possible is every second row. Assembly spacing has no effect on bend radius.



A top belt surface
B bottom belt surface
C roller assembly
D steel rail 0.125 in × 0.175 in (3.2 mm × 19 mm)

Figure 196: Hold down roller

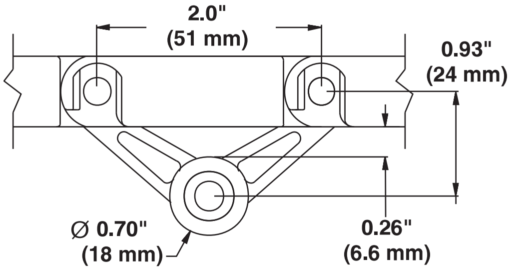
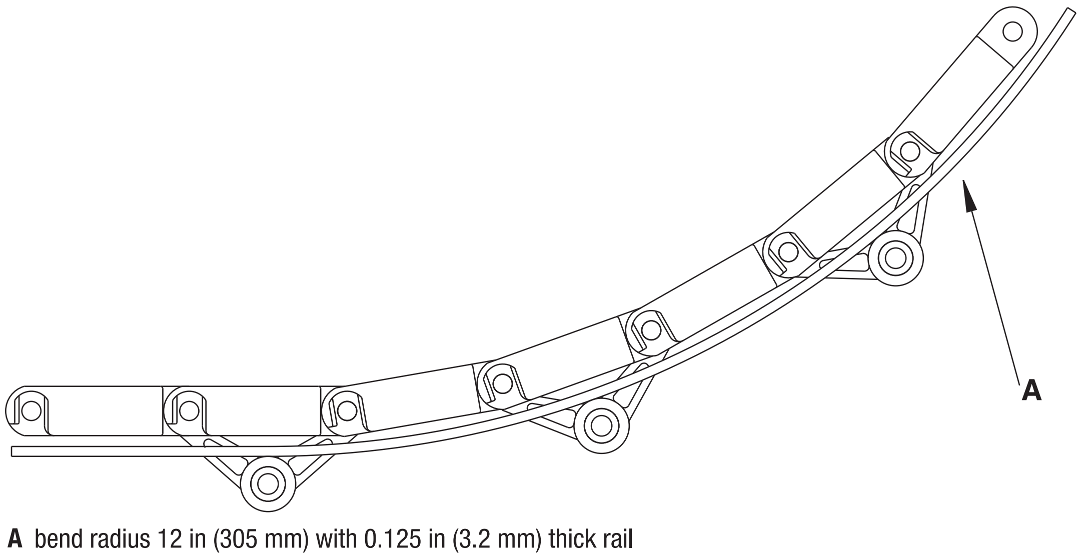


Figure 197: Hold down roller, side view



A bend radius 12 in (305 mm) with 0.125 in (3.2 mm) thick rail

Figure 198: Hold down rollers installed in S400 Flush Grid every 4 in (102 mm)

Thermal Expansion and Contraction

When large temperature variations are expected, rails must be carefully placed to accommodate the thermal expansion of the belt. Use the following formula to calculate the transverse movement of the hold down roller assemblies. For coefficients of thermal expansion for most belt and conveyor component materials, see Thermal Expansion and Contraction.

For example, a 24 in (610 mm) S400 Flush Grid polypropylene belt with hold down rollers indented 4 in (102 mm) from each side will operate at 100°F (38°C). At an ambient temperature of 70°F (21°C), the distance from a hold down roller assembly to the belt centerline is 8 in (203 mm).

Formula 14:

$$\Delta = L_1 \times (T_2 - T_1) \times e$$

$$= 8 \text{ in} \times (100°\text{F} - 70°\text{F}) \times 0.0008 \text{ in/ft/°F} \times \frac{1 \text{ ft}}{12 \text{ in}}$$

$$= 0.016 \text{ in } (0.41 \text{ mm})$$

L_1 distance from hold down roller to belt centerline
T_1 ambient temperature
T_2 operating temperature
e thermal expansion coefficient for polypropylene: 0.0008 in/ft/°F

Each hold down roller assembly moves 0.016 in (0.41 mm) when the belt is raised to operating temperature.

BUCKETS FOR SERIES 200 BELTS

Buckets are available for use with Series 200 Open Grid, Flush Grid, Flat Top and Perforated Flat Top belts. The same guidelines that apply to flighted belts generally apply to belts with buckets. The minimum backbend radius of a belt with buckets is 3.5 in (88.9 mm). Rollers and shoes must be sized accordingly.

Sprockets cannot be located behind the bucket gussets. Gussets interfere with the normal action of the sprockets.

FRICTION MODULES

Several Intralox belt styles incorporate a high friction material to move products (cartons, trays, bags, etc.) on inclines.

INTEGRAL FRICTION SURFACE MODULES

The high friction rubber of Friction Top modules is molded to a polypropylene or polyethylene base. Normal wearstrip, carryway, and sprocket recommendations apply.

CONVEYOR DESIGN GUIDELINES FOR BELTS WITH FRICTION MODULES

The following guidelines apply:

- Design the returnway to eliminate rubbing contact with friction modules. When using return rollers, the minimum roller diameter is 3 in (76 mm). For detailed returnway information, see Elevating Conveyors.
- The friction between the product and the belt is deliberately very high. Flow pressures and belt pulls are high in applications where the product is allowed to back up. These situations are not recommended for any friction top belt.
- End-to-end transfers at both the infeed and discharge ends are recommended. Sliding side transfers are ineffective, due to the high friction quality of the friction modules.
- Thermal expansion is controlled by the base material.
- Operating temperature limits are controlled by the limits of both the friction top material and the base material.

RADIUS CONVEYORS

S2200 and S2400 are designed for radius applications with a turn radius of 2.2, measured from the inside belt edge, or 1.7 for tight-turning S2400. Radius systems have many more design considerations than straight running systems. Some design considerations are discussed in Product Line. The data pages for S2200 and S2400 list requirements for calculating the belt loads on a radius system and provide basic design requirements for each belt. Contact Intralox Customer Service for more information.

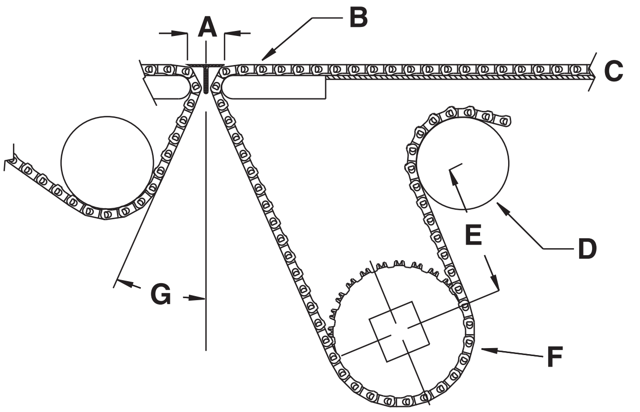
TIGHT TRANSFER METHODS

When tight transfers are desired, nosebars or nose-rollers can be used for S550, 560, 1000, 1100, 1500, 2300, and 2400. For S550, S560, and 2300, contact Intralox Customer Service for Design Guidelines.

Arrangements which allow the nosebars to rotate freely are preferred. Belt tension increases dramatically as it slides around stationary nosebars. The increased belt pull is a function of the friction between the sliding belt and the stationary nosebar, and the angle of wrap between the belt and the nosebar.

Nosebar conveyors often cause an increased amount of belt hinge movement, leading to accelerated hinge wear. Therefore, we recommend using premium materials for both modules and rods. If the application allows this approach, acetal modules and AR-nylon rods are the preferred materials. Contact Intralox Customer Service for recommendations specific to your application.

Select the nosebar material to result in the lowest possible sliding friction between the belt and nosebar. Lower friction reduces belt tension. The amount of belt wrap around the nosebar also affects belt tension. Allow as little wrap as possible. A common nosebar configuration is shown in the following figure. For belts with a pitch less than 0.6 in (15.2 mm), see the *Series 550 Nosebar Conveyor Design Guidelines*.



A 1 in (25.4 mm) dead plate
B 0.875 in (22.2 mm) minimum diameter nosebar or roller
C Use side wearstrip for tracking
D 3 in (76 mm) minimum diameter suggested
E 4 in (102 mm) minimum
F drive sprocket
G typically 20 degrees to 25 degrees. This angle is used to reduce wear on the rods and rod holes. Increasing this angle could increase wear on the rods and rod holes

Figure 199: Common nosebar configuration for belts with pitch ≥ 0.6 in (15.2 mm)

A static nosebar is often exposed to a combination of high contact pressure and high belt speed. Therefore, the nosebar material must be able to deal with this combination of pressure and speed. For the combination of relative low speed and low pressure, a wear-resistant material like oil-filled nylon works well (check PV-value with your supplier). For applications with high contact pressure and/or high belt speed, a nose-roller is recommended (check applied forces and rpm with your supplier).

S1100 FLAT TOP AND PERFORATED FLAT TOP EDGE LOSS

In order to go around a 0.875 in nosebar and achieve self-clearing dead plates, S1100 Flat Top and Perforated Flat Top belts do not have a sealed edge. To accurately size the fan, both airflow through the belt and edge loss of airflow must be considered. For airflow rates per square foot of belt area, see Table 6: Airflow Rate Through Belt, per Square Foot of Belt Area.

For example, to determine the fan flow required for the S1100 Perforated Flat Top belts:

For a 30 in wide belt that is 10 ft long, under a vacuum of 4 in of water, the area under vacuum is 25 sq ft. The length under vacuum is 10 ft. Table 6: Airflow Rate Through Belt, per Square Foot of Belt Area shows that at a vacuum of 4 in of water, airflow is 450 SCFM per sq ft through the belt and 110 SCFM per linear foot for the edge. SCFM = (square feet belt under vacuum × airflow through the belt) + (linear feet belt × edge loss). Therefore, total flow is (25 × 450) + (10 × 110) = 12,350 SCFM.

TRANSFER DESIGN GUIDELINES

FINGER TRANSFER PLATES

Intralox Raised Rib belts and matching finger transfer plates are a highly efficient, low maintenance transfer system currently used in many container handling applications.

Correct installation of finger transfer plates is essential for trouble-free service and long belt life. Proper installation is particularly important in applications where belts are subjected to high temperature variations and significant thermal expansion.

Drill and tap the metal plate support angle used to secure the finger transfer plates to the conveyor frame for 1/4–20 (metric size M6) screws. Accurate drilling and tapping are important. Finger transfer plates are molded with slots for Intralox shoulder bolts. These bolts prevent the plate from being clamped too tightly to the support angle. The loose fit allows the plates to move laterally and remain properly engaged with the belt ribs during expansion or contraction caused by changes in temperature. The length of the slots in the finger transfer plates limits the amount of expansion and contraction that can be accommodated. It is possible that very wide belts undergoing large temperature variations will exceed the expansion or contraction limits. See Temperature Effects on Finger Transfer Plates.

For an even number of finger transfer plates, locate from the centerline of the belt. For an odd number of plates, straddle the centerline. Ensure the finger transfer plate is level with the belt +0.03 in (0.8 mm), -0.00 with hinge rod at top dead center.

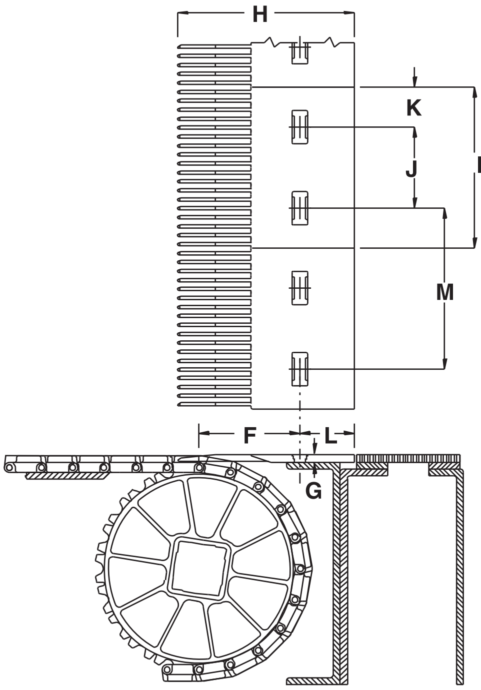


Figure 200: Finger transfer plates dimensional requirements

Dimensional Requirements for Finger Transfer Plate Installation												
							S900					
	S100, S2400		S400[a]		S1200[b]		6 in (152 mm)		4 in (102 mm) Retrofit		S1900	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
F	2.38	61	3.50	89	3.50	89	3.50	89	2.38	61	3.50	89
G	0.19	(5	0.31	8	0.31	8	0.25	6	0.19	5	0.31	8
H	5.83	148	7.25	184	7.25	184	6.50	165	5.83	148	6.11	155
I	3.96	101	5.91	150	5.91	150	5.92	150	3.94	100	5.91	150
J	2.50	64	3.00	76	3.00	76	3.00	76	2.18	55	3.00	76
K	0.74	19	1.45	37	1.45	37	1.45	37	0.90	23	1.45	37
L	2.00	51	2.00	51	2.00	51	2.00	51	2.00	51	5.50	140
M	Spacing											
Spacing at Ambient Temperature in (mm)	Poly-propylene	Acetal	Poly-propylene	Poly-ethylene	Poly-propylene composite		Poly-propylene	Acetal	Acetal		Enduralox Poly-propylene	
	3.979 (101.1)	3.976 (101.0)	5.952 (151.2)	5.933 (150.7)	6.000 (152.4)		5.981 (151.9)	5.975 (151.8)	3.976 (101.0)		6.000 (152.4)	

[a] Dimensions are for two-material, S400 standard finger transfer plates only. See S400 finger transfer plate dimensions for more information.
[b] Dimensions are for two-material, S1200 standard finger transfer plates only. See S1200 finger transfer plate dimensions for more information.

TEMPERATURE EFFECTS ON FINGER TRANSFER PLATES

As temperature varies, the belt width changes in proportion to the magnitude of the temperature change. To ensure proper finger transfer plate operation, perform the following check:

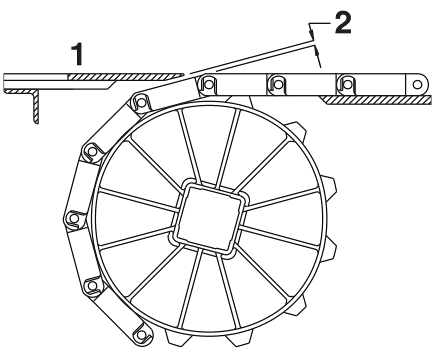
1. Determine the maximum expected change in temperature from ambient, in °F or °C.
2. Multiply the maximum temperature change by the belt width, in inches (millimeters).
3. If the calculated value is greater than the value provided in the following table, contact Intralox Customer Service before proceeding.

Maximum Belt Width × Temperature: in × °F (mm × °C)			
Belt Material	S100	S400	S900
Polypropylene	3750 (52,900)	15,000 (211,700)	7500 (105,800)
Polyethylene	2000 (28,200)	8000 (112,900)	4000 (56,400)
Acetal	5000 (70,600)	–	10,000 (141,000)

DEAD PLATE GAP

Where there is a transfer point from a belt without finger transfer plates onto a dead plate, there must be a gap between the surfaces. This gap allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. See the dead plate gap tables at the end of each series in Product Line for the gap distance. This distance is the amount of gap which occurs at the low point of the modules, if the dead plate tip just contacts the high point as the modules pass.

In some applications, it can be desirable to keep the tip of the dead plate in contact with the belt, rather than allow a gap to occur. Contact with the belt can be maintained by hinging the mounting bracket for the dead plate. This approach allows the dead plate to move as the modules pass, but results in a small oscillating motion which can present tipping problems for sensitive containers or products.



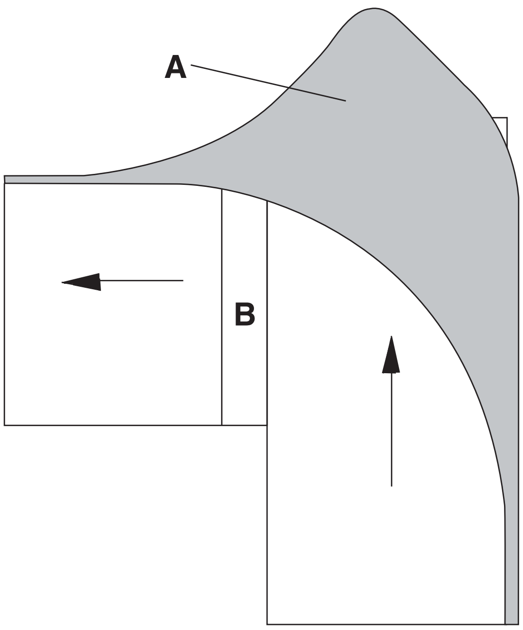
1 top surface of dead plate—typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt, and 0.031 in (0.8 mm) below the belt surface for product transfer off the belt

2 dead plate gap

Figure 201: Dead plate gap

90-DEGREE CONTAINER TRANSFERS

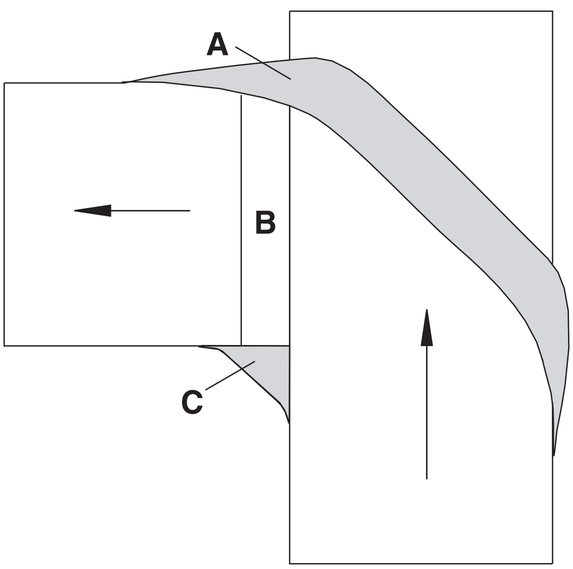
For 90-degree transfer of beverage containers from one conveyor to another, full-radius guide rails with dead plates are commonly used. The dead plates span the space between the delivery and the takeaway conveyors. Containers that move along a full-radius guide rail exert high pressure on the rail and on each other. This often results in container damage. See the following figure. Pressure forces peak to the end of the outer curve as the containers move onto the dead plate.



A high-pressure forces on guide rail from moving containers
B dead plate
Figure 202: Conventional full-radius guide rail contour with excessive container pressure force buildup

PARABOLIC GUIDE RAILS

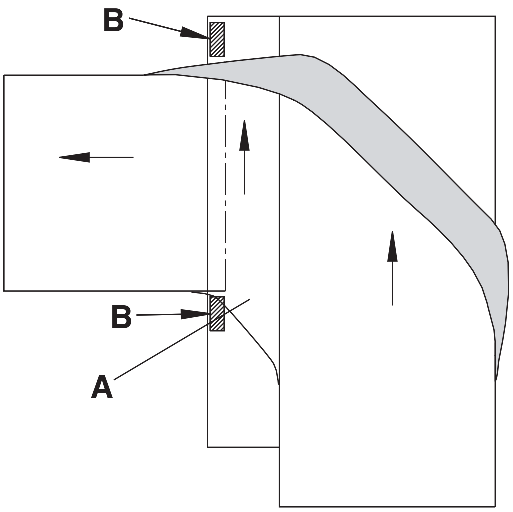
A beverage industry engineer designed the parabolic guide rail for better distribution of the container pressure forces along the outer guide rail. The following figure shows that the forces are more evenly distributed. This approach results in significantly less potential for container damage along the outer rail. However, an excessively large dead area, which strands containers, arises along the inner parabolic guide rail contour.



A more evenly distributed pressure forces from moving containers
B dead plate
C dead area
Figure 203: Parabolic guide rail contours

S900, S1100, AND S1400 ONEPIECE LIVE TRANSFER BELTS

A solution to the dead area problem incorporates a S900, S1100, or S1400 ONEPIECE Live Transfer belt, either driven by the delivery conveyor or independently driven. In the following figure, a 6.0 in (152 mm) transfer belt is shown running parallel to, and in the same direction as, the delivery conveyor. This approach eliminates the dead area along the inner parabolic guide rail, as well as the dead plate itself, enabling continuous container movement and eliminating stranded containers through the turn.



A 6.0 in (152 mm) ONEPIECE Live Transfer belt
B support

Figure 204: Parabolic guide rail contours with 6.0 in (152 mm) ONEPIECE Live Transfer belt

For more information on S900, S1100, and S1400 ONEPIECE Live Transfer belts, see Product Line.

For the maximum number of sprockets allowed on live transfer belts, contact Intralox Customer Service.

VACUUM TRANSFERS

S900 and S1100 Perforated Flat Top belts are often used to invert empty containers held against the belt by a vacuum created on the opposite side of the conveyor. As the containers are carried around large diameter drums to the returnway side of the conveyor, they are inverted, then discharged from the belt.

The differential pressure acting to hold the containers to the belt also acts to hold the belt to the carryway. Thus, an additional belt pull is introduced. On small belts with low differential pressures, this added pull can be low and insignificant. On large belts with high differential pressures, the additional pull can be quite high. Under average conditions, the specific added belt pull should not exceed 1.25 lb/ft^2 (0.24 kg/m^2) per inch (mm) water column, vacuum.

The designer can also be interested in the amount of airflow through the belt at various differential pressures. Airflow depends on the amount of open area, the differential pressure, the container spacing on the belt, and the air leakage around the perimeter of the belt. For airflow information on different belt series and styles, see Table 6: Airflow Rate Through Belt, per Square Foot of Belt Area.

SPECIAL DESIGN GUIDELINES

THERMAL EXPANSION AND CONTRACTION

With few exceptions, the dimensions of all substances increase as their temperature is increased and contract as their temperature is decreased. Since plastics expand and contract rather significantly, this factor must be considered in the conveyor design whenever operating temperatures differ from ambient temperature.

The designer must allow for changes in both belt length and width to accommodate expansion or contraction. An adequate unsupported span in the returnway must be provided to absorb the increase in belt length. There must be sufficient side clearance, particularly on wide belts, to prevent interference with the side structure. In low temperature applications, the frame must support the belt fully in its cold condition, yet not interfere at ambient temperatures.

Changes in the dimensions of a belt are determined in this manner:

Formula 15:

$$\Delta = L \text{ or } W \times (T_2 - T_1) \times e$$

Δ	change in dimension, in (mm)
L or W	total belt length or width at ambient temperature, ft. (m)
T_1	ambient temperature
T_2	operating temperature
e	coefficient of thermal expansion, in/ft/°F (mm/m/°C)

For example, the ambient temperature is 70°F (21°C). The operating temperature is 180°F (82°C). What is the greatest increase in belt length and width of a 60 ft (18.3 m) long by 10 ft (3 m) wide polypropylene belt while in operation?

Formula 16:

$$\Delta = L \times (T_2 - T_1) \times e$$

$$= 60 \times (180 - 70) \times 0.0010$$

$$= 6.6 \text{ in } (168 \text{ mm})$$

This belt increases in length by 6.6 in (168 mm)—not an insignificant amount. Its width expands by:

Formula 17:

$$\Delta = W \times (T_2 - T_1) \times e$$

$$= 10 \times (180 - 70) \times 0.0010$$

$$= 1.1 \text{ in } (28 \text{ mm})$$

Therefore, this belt would need a method by which approximately 5.5 in (140 mm) of increased belt length could be absorbed on the return side of the conveyor. The width of the conveyor frame must be approximately 1 in (25 mm) wider than its corresponding design under ambient conditions.

The following table provides coefficients of thermal expansion for belt and conveyor component materials.

Coefficients of Thermal Expansion		
Materials	**in/ft/°F**	**mm/m/°C**
Belts		
Acetal, HSEC acetal	0.00072	0.11
Composite polypropylene	0.0004	0.06
ChemBlox	0.00087	0.13
Detectable acetal	0.00072	0.11
Detectable MX	0.00072	0.11
Detectable nylon	0.00072	0.11
Detectable PP A22	0.0011	0.17
Easy Release PLUS	0.0004	0.06
Easy Release Traceable PP (greater than 100°F [38°C])	0.001	0.15
Easy Release Traceable PP (less than 100°F [38°C])	0.0008	0.12
Enduralox PP	0.0004	0.06
Flame retardant	0.0008	0.12

Coefficients of Thermal Expansion		
Materials	**in/ft/°F**	**mm/m/°C**
Belts		
Hi-Impact	0.0010	0.156
LMAR	0.00096	0.15
Low Wear Plus	0.001	0.15
Nylon (HR, HHR, AR)	0.0005	0.07
PK	0.00073	0.11
Polyethylene: S100 belts	0.0015	0.23
Polyethylene: S400 Raised Rib belts	0.0015	0.23
Polyethylene: all other belts	0.0011	0.17
Polypropylene (greater than 100°F [38°C])	0.0010	0.15
Polypropylene (less than 100°F [38°C])	0.0008	0.12
PVDF	0.00087	0.13
SELM	0.0005	0.07
UVFR	0.00087	0.13
UV resistant acetal	0.00072	0.11
UV resistant polypropylene (greater than 100°F [38°C])	0.001	0.15
UV resistant polypropylene (less than 100°F [38°C])	0.0008	0.12
X-ray detectable	0.00072	0.10
Wearstrips		
HDPE and UHMW-PE -100°F to 86°F (-73°C to 30°C)	0.0009	0.14
HDPE and UHMW-PE 86°F to 210°F (30°C to 99°C)	0.0012	0.18
Nylatron	0.0004	0.06
Teflon	0.0008	0.12
Metals		
Aluminum	0.00014	0.02
Steel (carbon and stainless)	0.00007	0.01

EXPANSION DUE TO WATER ABSORPTION

Nylon belts used in continuously wet, elevated temperature environments can absorb water and expand both in length and width. If an application requires a nylon belt in these conditions, contact Intralox Customer Service to determine the approximate expansion due to water absorption of the belt.

SLIP-STICK EFFECT

A condition known as slip-stick can cause surging on long conveyors. In this situation, the belt acts like a large spring or rubber band. The belt makes relatively short, pulsed movements throughout the length of the conveyor. In some cases, the idle end of the belt does not move until there is enough belt tension to overcome the friction forces between the belt and the carryway. Instead of accelerating smoothly, the belt surges ahead. The surging causes a brief drop in belt tension, allowing friction to slow the belt. In some instances, the belt stops for a moment until tension develops again, then the process repeats. The idle end of the conveyor surges despite the constant speed of rotation of the sprockets at the drive end.

Carryway friction, belt stiffness, belt weight, and belt length play a large role in determining the severity of surging in a conveyor. Belt stiffness is a reflection of how far a belt stretches under a given tension. A stiffer belt develops belt tension with less elongation. A lighter weight belt does not have as much friction force to overcome.

Other factors that can affect surging are chordal action, belt speed, drive system pulsation, return roller diameter, and return roller spacing. Chordal action and drive system pulsation can initiate surging but return roller diameter and spacing are more critical. Return rollers influence the way the belt oscillates in the returnway. Oscillation in the returnway can be transmitted to the carryway-side of the belt, causing surging. For more information on roller spacing and diameter, see Returnways and Take-Ups. For chordal action information, see Chordal Action and Sprocket Selection.

4 FORMULAS AND TABLES

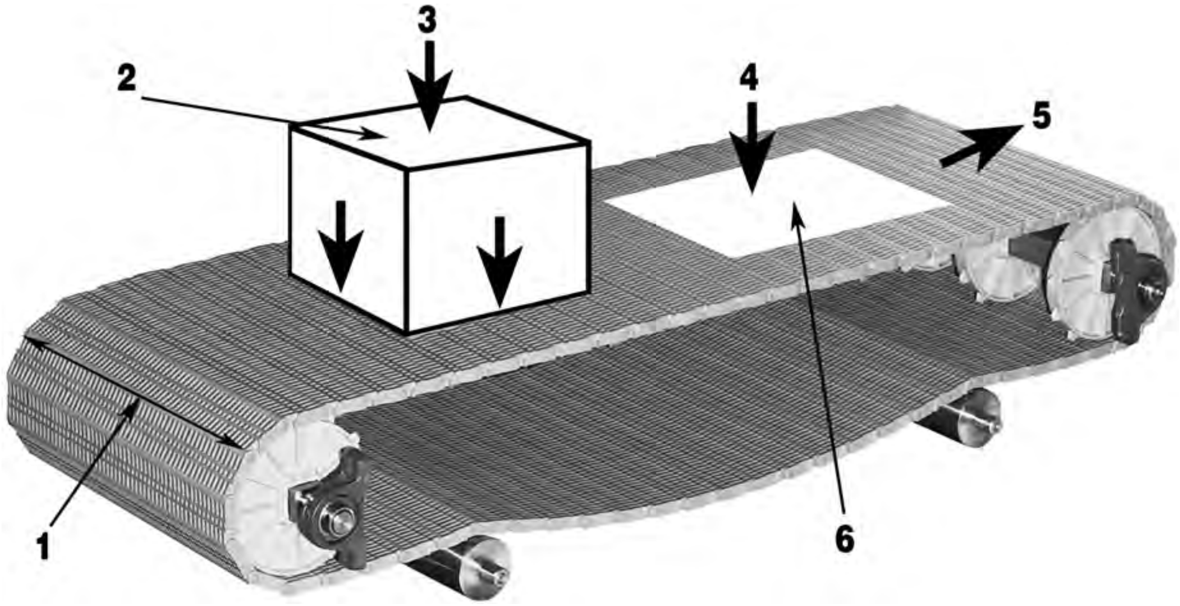
The following formulas and tables can be used to calculate the values required to select the proper belt for any application. These same calculations can be performed in CalcLab or by contacting Intralox Customer Service to request the assistance of Intralox technical experts.

This section also provides measurement conversion factors for all the units used in the formulas and tables. A Chemical Resistance Guide is provided to determine if the selected belt material is chemically compatible with the application.

SYMBOLS USED

Symbol	Description	Units	
		U.S.	Metric (SI)
°C	Degrees, celsius	–	°C
°F	Degrees, fahrenheit	°F	–
ABP	Adjusted belt pull	lb/ft of width	kg/m of width
ABS	Allowable belt strength at operating conditions	lb/ft of width	kg/m of width
ABSU	Allowable belt strength utilized	%	%
B	Width of belt	ft	m
BP	Belt pull at drive sprocket	lb/ft of width	kg/m of width
BS	Belt strength rated [70°F (21°C)]	lb/ft of width	kg/m of width
D	Deflection of shaft	in	mm
E	Modulus of elasticity (Young's modulus)	lb/in^2	kg/mm^2
F	Total friction factor	–	–
F_p	Friction coefficient, product to belt	–	–
F_w	Friction coefficient, wearstrip to belt	–	–
H	Elevation change of conveyor	ft	m
HP	Horsepower	hp	–
I	Moment of inertia	in^4	mm^4
L	Length of conveyor, shaft ℄ to shaft ℄	ft	m
L_s	Length of shaft, between bearings	in	mm
M	Product load on belt	lb/ft^2	kg/m^2
M_p	Backed-up product load	lb/ft^2	kg/m^2
n	Shaft speed of rotation	rpm	rpm
PD	Pitch diameter of sprockets	in	mm
P_w	Power, watts	–	Watts
Q	Weight of shaft	lb/ft	kg/m
S	Strength factor	–	–
SF	Service factor	–	–
T	Temperature factor	–	–
T_o	Torque on drive shaft	in-lb	kg-mm
V	Speed of belt travel	ft/min	m/min
w	Total load on shaft	lb	kg
W	Weight of belt	lb/ft^2	kg/m^2
Ø	Diameter	in	mm
℄	Centerline	–	–

FORMULAS



1 belt width
2 unit area, 1 ft^2 (1 m^2)
3 product load
4 belt weight
5 belt pull per 1 ft (1 m) of width
6 unit area, 1 ft^2 (1 m^2)

Figure 205: Primary loads on a conventional conveyor

CALCULATE BELT PULL OR TENSION LOAD

The tensile strength on operating conveyor belts is produced by the combination of loads imposed by frictional resistance and by moving the product to a different elevation, if applicable.

Friction forces are developed in two ways. First, the weights of the belt and the conveyed product bear on the carryway to create a resistance as the belt is driven. Second, if the product is held stationary while the belt continues to move under it, there is an added resistance between the belt and the product.

Each of these friction forces is proportional to a coefficient of friction. Coefficient of friction is dependent upon the materials in question, their surface qualities, the presence or absence of a lubricant, the cleanliness of the surfaces, and other factors. For typical values of coefficients of friction for common conveying applications using Intralox belts, see .

To calculate belt pull, first calculate the backed-up product load:

Formula 18:

$$M_p = M \times F_p \times \left(\frac{A}{100}\right)$$

where:
M_p = backed-up product load
M = product load
F_p = coefficient of friction between the product being moved and the belt
A = percentage of belt area backed-up

NOTE: If there is no product slippage on the belt and no backed-up product, ignore M_p, since it does not apply.

Notice that gives two listings of F_w for belts made of polypropylene: one for clean, smooth-running applications and another for abrasive applications. In this case, *abrasives* are defined as small amounts or low levels of fine grit, dirt, fiber, or glass particles present on the carryway. Many factors affect friction. Slight variations in conditions can produce wide deviations. Allow for these variations when using friction coefficients in design calculations.

After calculating M_p and finding the friction factor F_w, calculate the belt pull, using this formula:

Formula 19:

$$BP = [(M + 2W) \times F_w + M_p] \times L + (M \times H)$$

where:
BP = belt pull
M = product load
W = belt weight
F_w = coefficient of friction between belt and carryway wearstrips
M_p = backed-up product load
L = conveyor length, shaft centerline to shaft centerline
H = conveyor elevation change

This equation for belt pull reflects its two components:

Formula 20:

$$\text{Friction load} = [(M + 2W) \times F_w + M_p] \times L$$

where:
M = product load
W = belt weight
F_w = coefficient of friction between belt and carryway wearstrips
M_p = backed-up product load
L = conveyor length, shaft centerline to shaft centerline

Formula 21:

$$\text{Change in elevation} = (M \times H)$$

where:
M = product load
H = conveyor elevation change

ADJUST CALCULATED BELT PULL FOR ACTUAL SERVICE CONDITIONS

Service conditions can vary greatly. Adjust the belt pull for different conditions by applying an appropriate service factor. To determine service factors, see Table 1: Service Factors.

On bi-directional or pusher conveyors, where the return-side belt tension is high, consider both terminal shafts as drive shafts when determining adjusted belt pull.

Formula 22:

$$ABP = BP \times SF$$

where:
ABP = adjusted belt pull, lb/ft (kg/m) of belt width
BP = belt pull
SF = service factor

Formula 23:

$$\text{ABP for bi-directional and pusher conveyors} = BP \times SF \times 2.2$$

where:
ABP = adjusted belt pull, lb/ft (kg/m) of belt width
BP = belt pull
SF = service factor

CALCULATE ALLOWABLE BELT STRENGTH

Intralox belts have strength ratings, determined at ambient temperature and low speed. The strength of plastics generally decreases as the plastic temperature increases. The wear rate is directly proportional to speed but inversely proportional to conveyor length. Because of these factors, the rated belt strength (BS), must be adjusted according to one of the following formulas:

Formula 24:

$$ABS = BS \times T \times S$$

where:
ABS = allowable belt strength
BS = belt strength
T = temperature factor
S = strength factor

The rated belt strength, and strength factor for each belt, are provided in the Product Line section. If a belt rating is specified for the sprocket material being used and the rating is lower that the belt rating, use the lower rating. For temperature factors, see Table 2: Temperature Factors.

If a center drive is used, determine strength factor by using the following equation:

Formula 25:

$$ABS = BS \times T \times S'$$

where:
ABS = allowable belt strength
BS = belt strength
T = temperature factor
S' = for $S > 0.6$, $S' = 1-2\,(1-S)$. For $S < 0.6$, $S' = 0.2$

DETERMINE MAXIMUM SPACING OF DRIVE SHAFT SPROCKETS AND RECOMMENDED MINIMUM NUMBER OF SHAFT SPROCKETS

To determine the number of sprockets needed, first determine the belt pull in relation to the available strength of the belt. Using the adjusted belt pull and allowable belt strength calculate the allowable belt strength utilized (ABSU) using the following formula.

Formula 26:

$$ABSU = (ABP \div ABS) \times 100\%$$

where:
ABSU = allowable belt strength utilized
ABP = adjusted belt pull
ABS = allowable belt strength

See the *Sprocket Spacing as a Function of Belt Strength Utilized* graph for the appropriate series in the Product Line section. Use the ABSU to find the minimum sprocket spacing in inches (or meters). Determine the number of drive sprockets required for a conveyor by dividing belt width in inches (or meters) by sprocket spacing, then rounding up to the next whole number.

NOTE: Idle shaft sprockets on conventional conveyors are normally exposed to less tension than drive sprockets and, therefore, can operate with wider spacing. Do not exceed 6.0 in (152 mm) for all series except S200, where the maximum spacing can never exceed 7.5 in (190 mm). Specific recommendations for the minimum number of idle shaft sprockets can be found in the *Sprocket and Support Quantity Reference* for the selected series. See Product Line.

If the calculated ABSU is above 75%, contact Intralox Customer Service to run the *Intralox Engineering Program* and verify your results.

CONFIRM SHAFT STRENGTH

Two important functions of the drive shaft must be analyzed before its ability to operate properly can be determined. Those functions are its ability to absorb the bending force of belt pull with an acceptable shaft deflection, and its successful ability to transmit the necessary torque from the driver.

The initial step here is to make a preliminary selection of a shaft size which fits your sprocket of choice. The shaft bends or deflects under the combined loads of the adjusted belt pull (ABP) and its own weight. These forces are assumed to be co-planar and can be combined into a total shaft load (w), determined by:

Formula 27:

$$w = (ABP + Q) \times B$$

where:
w = total shaft load
ABP = adjusted belt pull
Q = shaft weight, lb/ft (kg/m), from Table 3: Shaft Data.
B = belt width, ft (m)

CALCULATE SHAFT DEFLECTION

For shafts supported by two bearings, the deflection (D), can be found from:

Formula 28:

$$D = \frac{5}{384} \times \frac{w \times L_S^3}{E \times I}$$

where:
D = shaft deflection
w = total shaft load
L_S = length of unsupported shaft between bearings, in (mm)
E = modulus of elasticity from Table 3: Shaft Data
I = moment of inertia from Table 3: Shaft Data.

MAXIMUM SHAFT DEFLECTION RECOMMENDATIONS

As drive shafts bend or deflect under heavy loads, the longitudinal distance between the drive shaft and the idler shaft is less at the belt centerline than at the edges. This difference causes an uneven distribution of tension in the belt, with the greatest being absorbed at the edges. Since the tension distribution is uneven, the load absorbed by the sprocket teeth is not equal. Intralox has determined that satisfactory performance can be obtained if shaft deflections do not exceed the following limits.

Conveyor Type	Maximum Shaft Deflection	
	in	mm
Conventional, uni-directional conveyors	0.10 in	(2.5 mm)
Bi-directional or pusher conveyors	0.22 in	(5.6 mm)

If the preliminary shaft selection results in excessive deflection, pick a larger shaft size, a stronger material, or use intermediate bearings to reduce shaft span.

CALCULATE SHAFT DEFLECTION WITH INTERMEDIATE BEARINGS

With a third bearing located in the center of the shaft, the deflection formula to be used is:

Formula 29:

$$D_3 = \frac{1}{185} \times \frac{\frac{w}{2} \times L_S^3}{E \times I}$$

$$= \frac{w \times L_S^3}{370 \times E \times I}$$

where:
D_3 = deflection on a shaft with three (3) bearings
L_S = length of shaft between bearings, in (mm)
E = modulus of elasticity from Table 3: Shaft Data
I = moment of inertia from Table 3: Shaft Data.
w = total shaft load

In this case, L_S is the span between the center bearing and an outer bearing.

In applications with very wide belts under heavy loads, it can be necessary to use more than one intermediate bearing to reduce deflections to an acceptable level. Since the formulas for deflections in these cases become complex and unwieldy, Intralox provides a safe, maximum span length for the total shaft load (w) in Table 7: Maximum Drive Shaft Span Length. When using these tables, remember to first calculate the total shaft load (w), using the formula provided in Confirm Shaft Strength.

In applications with bi-directional conveyors or pusher conveyors, also correct the adjusted belt pull (ABP) for the increased tension required. For the corrected ABP, see Determine Maximum Spacing of Drive Shaft Sprockets and Recommended Minimum Number of Shaft Sprockets.

CALCULATE TRANSMITTED DRIVE SHAFT TORQUE

To overcome the resistance of moving the belt and the product, the drive shaft must be strong enough to transmit the twisting or rotating forces imposed by the drive motor. The torsional action introduces shearing stresses on the shaft. The shearing stresses are usually most critical in the bearing journals next to the driver.

Rather than require shearing stress calculations, use Table 4: Maximum Recommended Torque on Drive Shaft to quickly determine the maximum recommended drive shaft torque for a given shaft journal diameter and shaft material. For example, assume your preliminary shaft selection is 2.5 in (63.5 mm) and made of carbon steel. Since the maximum journal diameter is 2.5 in (63.5 mm), the maximum recommended torque for this size is 22,500 in-lb (259,000 kg-mm).

The actual torque to be transmitted can be calculated from:

Formula 30:

$$T_O = ABP \times B \times \frac{PD}{2}$$

where:
T_O = transmitted drive shaft torque
ABP = adjusted belt pull
B = belt width
PD = sprocket pitch diameter, in (mm)

Compare the actual torque with the maximum recommended torque to determine if this journal size is adequate. If not, try the next larger shaft size or a stronger material. If these options are not possible, try a smaller sprocket size. Often, the actual torque is considerably lower than the maximum recommended. If so, reducing the journal diameter to an acceptable smaller size can reduce the cost of bearings required.

DETERMINE POWER NEEDED TO DRIVE BELT

The power required to overcome the resistance of moving the belt and product can be calculated from the following formulas:

Formula 31:

$$HP = \frac{ABP \times B \times V}{33{,}000}$$

where:
HP = belt power in horsepower
ABP = adjusted belt pull, lb/ft of belt width
B = belt width, ft
V = belt speed, ft/min

Another version using different factors is:

Formula 32:

$$HP = \frac{T_O \times V}{16{,}500 \times PD}$$

where:
HP = belt power in horsepower
T_o = torque, in-lb
V = belt speed, ft/min
PD = sprocket pitch diameter, in

Formula 33:

$$P_W = \frac{ABP \times B \times V}{6.12}$$

where:
P_W = power in watts
ABP = adjusted belt pull, kg/m of belt width
B = belt width, m
V = belt speed, m/min

And another version using metric units is:

Formula 34:

$$P_W = \frac{T_O \times V}{3.06 \times PD}$$

where:
P_W = power in watts
T_o = torque, kg-mm
V = belt speed, m/min
PD = sprocket pitch diameter, mm

If torque is known in Newton-millimeters, the equation for power is:

Formula 35:

$$HP = \frac{T_O \times V}{30 \times PD}$$

where:
P_W = power in watts
T_o = torque, N-mm
V = belt speed, m/min
PD = sprocket pitch diameter, mm

DETERMINE DRIVE MOTOR POWER REQUIREMENTS

The power calculated to drive the belt does not include the power to overcome the friction in gears, bearings, chains, and other mechanical parts of the system. See the Design Guidelines section for a list of component efficiency losses in common use, then increase the belt drive power accordingly.

CONSIDER THERMAL EXPANSION OR CONTRACTION OF MATERIALS

When materials are exposed to increases or decreases in temperature, the material dimensions increase or decrease. Belts that are installed at one temperature but operate at another, or that pass through different temperatures in the operating circuit, expand or contract accordingly. Since plastics have relatively high rates of expansion and contraction, it is necessary to consider this characteristic if significant temperature changes are expected.

Use the following formula to determine changes in the length, width, or thickness of a material.

Formula 36:

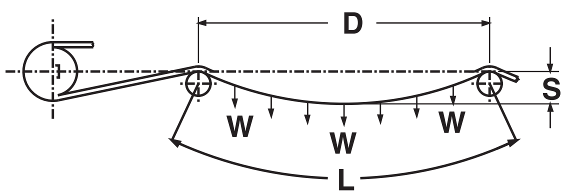
$$\Delta = L_1 \times (T_2 - T_1) \times e$$

where:
Δ = change in dimension, in (mm)
L_1 = dimension at initial temperature, ft (m)
T_2 = operating temperature, °F (°C)
T_1 = initial temperature, °F (°C)
e = coefficient of thermal expansion, in/ft/°F (mm/m/°C). For coefficients of thermal expansion of various materials, see Thermal Expansion and Contraction.

DETERMINE EXCESS BELT REQUIRED FOR CATENARY SAG

A belt hanging between two supports under the influence of gravity forms a curved shape called a *catenary*. The specific dimensions of this curve depend upon the distance between supports, the length of hanging belt, and the belt weight. Usually, the actual shape of this curve is not important, but the conveyor designer is interested in two things: the excess belt required and the tension created by the sagging belt. For more information about catenary sag, see Returnways and Take-Ups.

NOTE: Radius belt formulas are provided in *Flat-Turn Program for Radius Applications*. Contact Intralox Customer Service for more information.



D distance between returnway supports
W belt weight
L length of hanging belt
S sag

Figure 206: Catenary sag

The excess belt (X), or the difference between L and D in the preceding figure is found from:

Formula 37:

$$X = \frac{2.66 \times S^2}{D}$$

where:
X = excess belt required, ft (m)
S = sag, ft (m)
D = distance between supports, ft (m)

The tension (T) created by a catenary section of belt is found from:

Formula 38:

$$T = \frac{d^2 \times W}{96 \times s}$$

where:
T = tension, lb/ft of belt width
d = distance between supports, in
W = belt weight, lb/ft²
s = sag, in

Formula 39:

$$T = \frac{d^2 \times W}{8000 \times s}$$

where:
T = tension, kg/m of belt width
s = sag, mm
d = distance between supports, mm
W = belt weight, kg/m²

SAMPLE PROBLEMS

STEEL CAN HANDLING EXAMPLE

CONDITIONS (IN METRIC UNITS)

A beverage handler proposes to use S400 Raised Rib polypropylene belts to carry steel cans, weighing 122 kg per square meter, on a conveyor that is 18.3 m long and 1.2 m wide. The belt will run wet on UHMW-PE wearstrips at 6 m/min. Frequent starts under load are expected and the steel cans will accumulate on the belt for 15.2 m. The operating temperature is 28°C. A 12-tooth, 198-mm pitch diameter sprocket is preferred. Carbon steel shafts are acceptable.

STEP 1: CALCULATE BACKED-UP PRODUCT LOAD

Since the steel cans are backed-up 15.2 m, the percentage of belt area backed-up is:

Formula 40:

$$A = \left(\frac{B}{L}\right)$$

$$= \left(\frac{15.2}{18.3}\right)$$

where:
A = percentage of belt area backed-up
B = product back-up length
L = conveyor length

Then the backed-up product load is:

Formula 41:

$$M_p = M \times F_p \times \left(\frac{A}{100}\right)$$
$$= 122 \times 0.26 \times \left(\frac{83.1}{100}\right)$$
$$= 26.4$$

where:
M_P = backed-up product load
M = product load, from conditions (122 kg/m²)
(F_p) = coefficient of friction between product and belt = 0.26, from
A = percentage of belt area backed-up

The backed-up product load is 26.4 kg/m^2.

The coefficient of friction (F_W) between the belt and the UHMW-PE wearstrips is determined from to be 0.11.

STEP 2: CALCULATE BELT PULL

Formula 42:

$$BP = [(M + 2W) \times F_W + M_P] \times L + (M \times H)$$
$$= [(122 + (2 \times 9.52)) \times 0.11 + 26.4] \times 18.3$$
$$= 767$$

BP belt pull
M product load (122 kg/m^2)
W belt weight (9.52 kg/m^2)
L conveyor length (18.3 m)
M_P backed-up product load (26.4 kg/m^2)
L conveyor length, shaft centerline to shaft centerline
H conveyor elevation change (0)

NOTE: Since there is no elevation change in the example conditions, disregard the factor M x H in the formula.

The belt pull is 767 kg/m of belt width.

STEP 3: CALCULATE ADJUSTED BELT PULL

Formula 43:

$$ABP = BP \times SF$$
$$= 767 \times 12$$
$$= 920$$

where:
ABP = adjusted belt pull, kg/m of belt width
BP = belt pull
SF = service factor, determined from Table 1: Service Factors to be 1.2.

The ABP is 920 kg/m of the belt width.

STEP 4: CALCULATE ALLOWABLE BELT STRENGTH

To determine strength factor (S) for the following formula, calculate the speed/length ratio of 6.0/18.3 or 0.33.

Formula 44:

$$\begin{aligned} ABS &= BS \times T \times S \\ &= 3570 \times 0.48 \times 1.0 \\ &= 1714 \end{aligned}$$

where:
ABS = allowable belt strength
BS = rated belt strength = 3570 kg/m, from S400 Raised Rib belt data table. See S400 Raised Rib
T = temperature factor = 0.48, from Table 2: Temperature Factors
S = strength factor = 1.0, from the S400 Strength Factor and Sprocket Spacing

ABS is 1714 kg/m of belt width. Since ABS is greater than ABP, this belt is strong enough for this application.

STEP 5: DETERMINE MAXIMUM DRIVE SHAFT SPROCKET SPACING

$$\begin{aligned} ABSU &= (ABP \div ABS) \times 100\% \\ &= (920 \div 3498) \times 100\% \\ &= 26\% \end{aligned}$$

where:
ABSU = allowable belt strength utilized
ABP = adjusted belt pull
ABS = allowable belt strength

From the Strength Factor and Sprocket Spacing graph, the maximum sprocket spacing is about 125 mm.

STEP 6: DETERMINE DRIVE SHAFT DEFLECTION

Since this belt is fairly wide, first try a 60-mm square shaft. Use the following formula to calculate the total shaft load:

Formula 45:

$$\begin{aligned} w &= (ABP + Q) \times B \\ &= (920 + 29.11) \times 1.2 \\ &= 1139 \end{aligned}$$

where:
w = total shaft load
ABP = adjusted belt pull
Q = shaft weight = 29.11 kg/m of length, from Table 3: Shaft Data
B = belt width, ft (m)

The total shaft load is 1139 kg.

For shaft deflection, assume two bearings are used to support the shaft. Therefore, the deflection is found from:

Formula 46:

$$D = \frac{5}{384} \times \frac{w \times L_S^3}{E \times I}$$

$$= \frac{5}{384} \times \frac{1139 \times 1320^3}{21{,}000 \times 1{,}080{,}000}$$

$$= 1.50$$

where:
D = Shaft deflection
w = total shaft load
L_S = length of unsupported shaft between bearings, in (mm) = 1320, since the belt is 1.2 m (1200 mm) wide
E = modulus of elasticity = 21,100 kg/mm^2, from Table 3: Shaft Data
I = moment of inertia = 1,080,000 mm^4 from Table 3: Shaft Data.

The shaft deflection is 1.50 mm. Since this deflection is less than the recommended limit of 2.5 mm, supporting the shaft with two bearings is acceptable.

STEP 7: CALCULATE DRIVE SHAFT TORQUE

Formula 47:

$$T_O = ABP \times B \times \frac{PD}{2}$$

$$= 920 \times 1.2 \times \frac{198}{2}$$

$$= 109{,}296$$

where:
T_O = transmitted drive shaft torque
ABP = adjusted belt pull
B = belt width
PD = sprocket pitch diameter, in (mm)

The drive shaft torque is 109,296 kg-mm. From the maximum recommended torque curve in Table 4: Maximum Recommended Torque on Drive Shaft, we see the maximum torque for a journal diameter of 60 mm is 180,000 kg-mm. Therefore, the minimum journal diameter in this case is about 55 mm.

STEP 8: CALCULATE BELT DRIVE POWER

Formula 48:

$$P_W = \frac{ABP \times B \times V}{6.12}$$

$$= \frac{920 \times 1.2 \times 6.0}{6.12}$$

$$= 1082$$

where:
P_W = power in watts
ABP = adjusted belt pull, kg/m of belt width
B = belt width, m
V = belt speed, m/min

The belt drive power is 1082 watts.

STEP 9: DETERMINE DRIVE MOTOR POWER

Assume an electric motor is used to drive this conveyor, through a triple reduction, spur gear reducer, chain, and sprockets. Ball bearings support the shafts. From the table of Power Requirements, the total of the efficiency losses in the machinery components are estimated to be 11%. The motor power is found from:

Formula 49:

$$\frac{1082}{100\text{-}11} \times 100$$

$$1216$$

The required drive motor power is 1216 watts. Therefore a 2-kW motor is a good choice.

FOOD HANDLING EXAMPLE

CONDITIONS (IN U.S. UNITS)

120,000 lb/hr of raw, washed vegetables (product load of 10 lb/sq ft) are to be lifted a vertical distance of 15 ft on an elevating conveyor 25 ft long and 2 ft wide. The environment is wet, the temperature is ambient, and belt speed is to be 75 ft/min. Wearstrip material is UHMW-PE and the pre-selected belt is a S800 Perforated Flat Top polypropylene with flights and sideguards. The flight spacing is 8 in. The belt will be started unloaded and run continuously. The preferred sprockets are 10 tooth, 6.5 in pitch diameter. Stainless steel (303/304) shafts are required.

STEP 1: DETERMINE THE BACKED-UP PRODUCT LOAD

Formula 50:

$$M_p = M \times F_p \times \left(\frac{A}{100}\right)$$

where:
M_p = backed-up product load
M = product load
F_p = coefficient of friction between the product and the belt = 0.11, from .
A = Percentage of belt area backed-up

Since there is no product backed-up in this example, disregard M_p.

STEP 2: CALCULATE BELT PULL

Formula 51:

$$BP = (M + 2W) \times F_W \times L + (M \times H)$$

$$= [10 + (2 \times 1.54)] \times 0.11 \times 25 + (10 \times 15)$$

$$= 186$$

BP belt pull
M product load
W belt weight
F_W coefficient of friction between belt and carryway wearstrips
L conveyor length, shaft centerline to shaft centerline
H conveyor elevation change

BP is 186 lb/ft of belt width.

STEP 3: CALCULATE ADJUSTED BELT PULL

Formula 52:

$$ABP = BP \times SF$$

$$= 186 \times 1.4$$

$$= 260$$

where:
ABP = adjusted belt pull, lb/ft (kg/m) of belt width
BP = belt pull
SF = service factor = 1.4, from Table 1: Service Factors, *Elevating conveyor*

ABP is 260 lb/ft of belt width.

STEP 4: CALCULATE ALLOWABLE BELT STRENGTH

Formula 53:

$$ABS = BS \times T \times S$$

$$= 1000 \times 0.98 \times 0.92$$

$$= 902$$

where:
BS = rated belt strength = 1000 lb/ft, from S800 Perforated Flat Top
T = temperature factor = 0.98, from Table 2: Temperature Factors
S = strength factor

ABS is 902 lb/ft of belt width. Since ABS is greater than ABP, a S800 Perforated Flat Top polypropylene belt is adequate for this application.

STEP 5: DETERMINE MAXIMUM DRIVE SHAFT SPROCKET SPACING

Formula 54:

$$ABSU = (ABP \div ABS) \times 100\%$$

$$= (260 \div 902) \times 100\%$$

$$= 29\%$$

where:
ABSU = allowable belt strength utilized
ABP = adjusted belt pull
ABS = allowable belt strength

ABSU is 29%. From the S800 Sprocket Spacing as a Function of Belt Strength Utilized graph, the maximum spacing of drive shaft sprockets is 6.0 in.

STEP 6: DETERMINE DRIVE SHAFT DEFLECTION

Pre-select a 1.5 in square stainless steel shaft. Therefore:

Formula 55:

$$w = (ABP + Q) \times B$$
$$= (260 + 7.65) \times 2$$
$$= 535$$

w total shaft load
ABP adjusted belt pull
Q shaft weight, lb/ft, from Table 3: Shaft Data.
B belt width, ft (m)

Total shaft load (w) is 535 lb.

Formula 56:

$$D = \frac{5}{384} \times \frac{w \times L_S^3}{E \times I}$$
$$= \frac{5}{384} \times \frac{535 \times 28^3}{28{,}000{,}000 \times 0.42}$$
$$= 0.013$$

D shaft deflection
W total shaft load
L_S length of unsupported shaft between bearings = 28 in
E modulus of elasticity = 28,000,000 lb/in^2 from Table 3: Shaft Data
I moment of inertia = 0.42 in^4 from Table 3: Shaft Data.

Therefore D is 0.013 in, which is less than the recommended limit of 0.10 in.

STEP 7: CALCULATE DRIVE SHAFT TORQUE

Formula 57:

$$T_O = ABP \times B \times \frac{PD}{2}$$
$$= 260 \times 2 \times \frac{6.5}{2}$$
$$= 1690$$

where:
T_O = transmitted drive shaft torque
ABP = adjusted belt pull
B = belt width
PD = sprocket pitch diameter, in (mm)

T_O is 1690 in-lb. From Table 4: Maximum Recommended Torque on Drive Shaft, a torque of 1690 in-lb requires a minimum journal diameter of about 0.85 in with 303/304 stainless steel. Therefore, a journal diameter of 1.0 in (25.4 mm) is recommended.

STEP 8: CALCULATE BELT DRIVE POWER

Formula 58:

Belt horsepower

$$HP = \frac{ABP \times B \times V}{33,000}$$

$$= \frac{260 \times 2 \times 75}{33,000}$$

$$= 1.18$$

where:
HP = belt power in horsepower
ABP = adjusted belt pull, lb/ft of belt width
B = belt width, ft
V = belt speed, ft/min

The belt horsepower is 1.18 HP.

STEP 9: DETERMINE DRIVE MOTOR POWER

Assume it is determined from Power Requirements, that the total efficiency losses are expected to be 20%. The motor horsepower, then, is found from:

Formula 59:

$$\frac{1.18}{100\text{-}20} \times 100$$

1.48

The required drive motor power is 1.48 HP. In this case, a 1.5-HP motor is a suitable choice.

BI-DIRECTIONAL CONVEYOR EXAMPLE

CONDITIONS (IN METRIC UNITS)

A canning plant accumulator table, measuring 6 m in length and 2.4 m wide, is to handle cans weighing 50 kg/m^2. Belt speed will be 3.0 m/min. Frequent loaded starts are expected. The belt will operate at 21°C. The wearstrips are to be stainless steel. The belt will run dry. S900 Raised Rib in acetal is the preferred belt, using 18 tooth, 156-mm pitch diameter sprockets on 60-mm square shafts of 304 stainless steel.

STEP 1: DETERMINE THE BACKED-UP PRODUCT LOAD

Formula 60:

$$M_p = M \times F_p \times \left(\frac{A}{100}\right)$$

where:
M_P) = backed-up product load
M = product load
F_P = coefficient of friction between the product and the belt
A = Percentage of belt area backed-up

Since there is no product backed-up in this example, ignore M_P.

STEP 2: CALCULATE BELT PULL

Formula 61:

$$BP = (M + 2W) \times F_W \times L + (M \times H)$$

$$= [50 + (2 \times 8.19)] \times 0.19 \times 6$$

$$= 76$$

where:
BP = belt pull
M = product load = 50 kg/m^2
W = belt weight = 8.19 kg/m^2
F_W = coefficient of friction between belt and carryway wearstrips = 0.19
L = conveyor length, shaft centerline to shaft centerline = 6 m
H = conveyor elevation change = 0

BP is 76 kg/m of belt width.

STEP 3: ADJUST CALCULATED BELT PULL FOR ACTUAL SERVICE CONDITIONS

Formula 62:

$$ABP = BP \times SF \times 2.2$$

$$= 76 \times 1.2 \times 2.2$$

$$= 201$$

where:
ABP = adjusted belt pull for bi-directional and pusher conveyors
BP = belt pull = 76
SF = service factor = 1.2, from Table 1: Service Factors

ABP is 201 kg/m of belt width.

STEP 4: CALCULATE ALLOWABLE BELT STRENGTH

Formula 63:

$$ABS = BS \times T \times S$$

$$= 2200 \times 0.98 \times 1.0$$

$$= 2156$$

where:
ABS = allowable belt strength
BS = rated belt strength = 2200, from S900 Raised Rib
T = temperature factor = 0.98, from Table 2: Temperature Factors
S = strength factor = 1.0

ABS is 2156 kg/m of belt width. Since ABS is greater than ABP, S900 Raised Rib in acetal is a suitable choice.

STEP 5: DETERMINE MAXIMUM SPACING OF DRIVE SHAFT SPROCKETS

Since both the carryway and returnway sides are under tension, the idle shafts must be treated as drive shafts for sprocket spacing and deflection calculations.

Formula 64:

$$ABSU = (ABP \div ABS) \times 100\%$$

$$= (201 \div 2156) \times 100\%$$

$$= 9\%$$

where:
ABSU = allowable belt strength utilized
ABP = adjusted belt pull
ABS = allowable belt strength

From the S800 Sprocket Spacing as a Function of Belt Strength Utilized graph, the maximum sprocket spacing is 95 mm.

STEP 6: CONFIRM DRIVE SHAFT STRENGTH

The total shaft load is:

Formula 65:

$$w = (ABP + Q) \times B$$

$$= (182 + 29.11) \times 2.4$$

$$= 507$$

w	total shaft load
ABP	adjusted belt pull
Q	shaft weight, from Table 3: Shaft Data.
B	belt width

The total shaft load is 507 kg. A check of Table 7: Maximum Drive Shaft Span Length reveals that the shaft load of 507 kg applied to a 60-mm square stainless steel shaft. This allows a maximum span of about 2600 mm. Since this conveyor is 2.4 m or 2400 mm wide, intermediate bearings are not required.

Calculate drive shaft torque:

Formula 66:

$$T_O = ABP \times B \times \frac{PD}{2}$$

$$= 201 \times 2.4 \times \frac{156}{2}$$

$$= 37{,}627$$

where:
T_O = Drive shaft torque
ABP = 201 kg/m of width
B = 2.4 m of width
PD = 156 mm

(T_O) is 37,627 kg-mm. From the maximum recommended torque chart, the minimum journal diameter for a torque of 37,627 kg-mm would be about 27 mm. Since a 60-mm shaft is needed, due to deflection, the journal diameter can be as large as 55 mm, for example.

STEP 7: CALCULATE POWER REQUIRED TO DRIVE BELT

Formula 67:

$$P_W = \frac{ABP \times B \times V}{6.12}$$

$$= \frac{201 \times 2.4 \times 3.0}{6.12}$$

$$= 236$$

where:

P_W = power in watts

ABP = adjusted belt pull = 201 kg/m of width (determined in step 3)

B = conveyor width = 2.4-kg/m width (provided in example problem conditions)

V = belt speed = 3.0 m/min (provided in example problem conditions)

The belt power is 236 watts.

STEP 8: DETERMINE DRIVE MOTOR POWER

For information about efficiency losses in mechanical components, see Power Requirements. Assume the total of the efficiency losses for this conveyor are determined to be about 25%. Therefore, motor power is:

Formula 68:

$$\frac{236}{100 - 25} \times 100$$

$$315$$

The drive motor power is 315 watts. Therefore, a 1/3 kW motor is a good selection.

TABLES

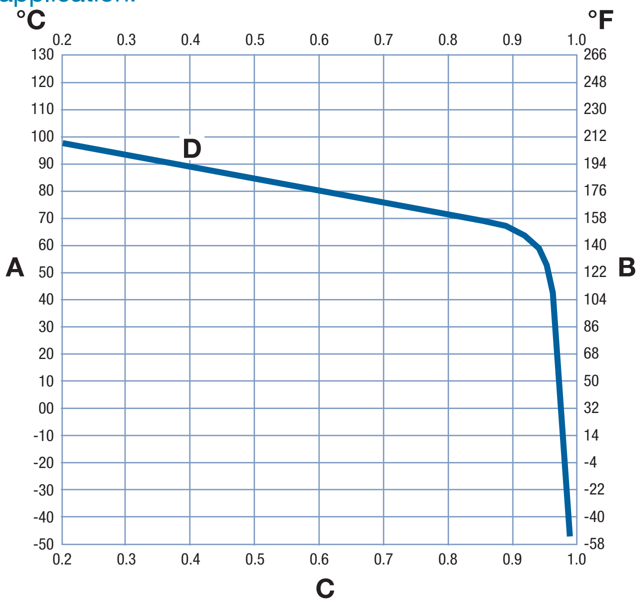
TABLE 1: SERVICE FACTORS

Operating Conditions	Add
Starts under no load, with load applied gradually	1.0
Frequent starts under load (more than once per hour)	0.2
Operation at speeds greater than 100 fpm (30 m/min)	0.2
Elevating conveyor	0.4
Pusher conveyor	0.2
Service factor (SF)	total

NOTE: At speeds greater than 50 fpm (15 m/min) on conveyors that are started with product accumulation, consider soft-start motors.

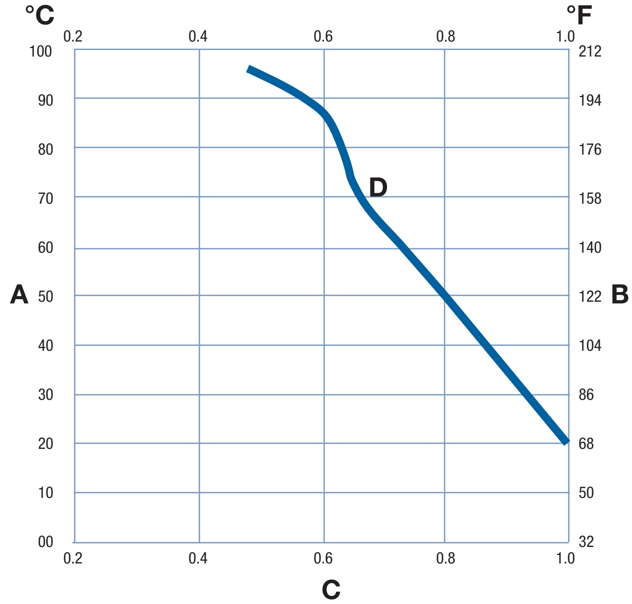
TABLE 2: TEMPERATURE FACTORS

NOTE: These graphs can be used to manually calculate a conveyor belt analysis. The *Intralox Engineering Program* calculates the temperature factor automatically, based on the operating temperature of the application.



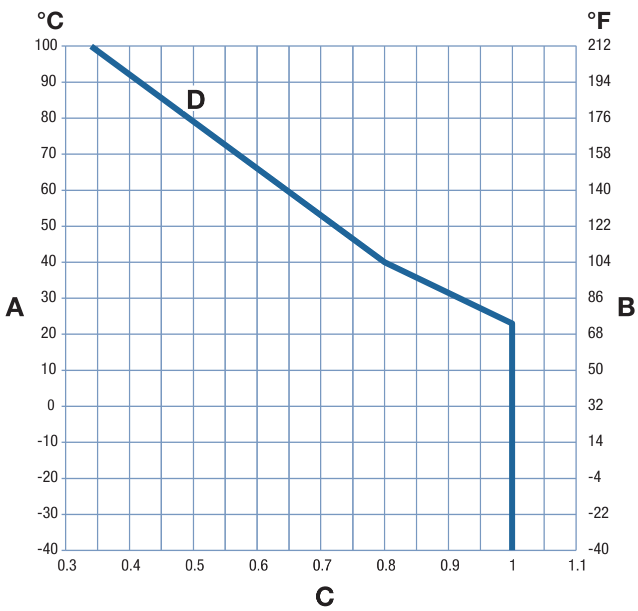
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D Acetal and HSEC acetal temperature factor—Intermittent exposure above 200°F (93°C).

Figure 207: Acetal and HSEC acetal temperature factor



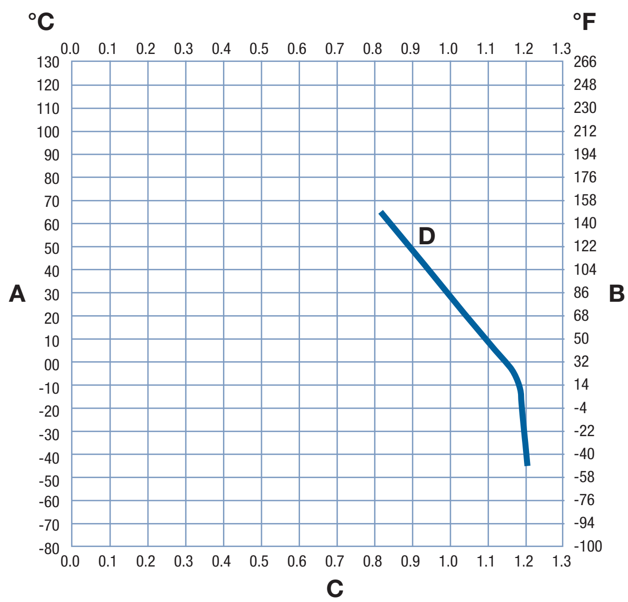
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D ChemBlox

Figure 208: ChemBlox temperature factor



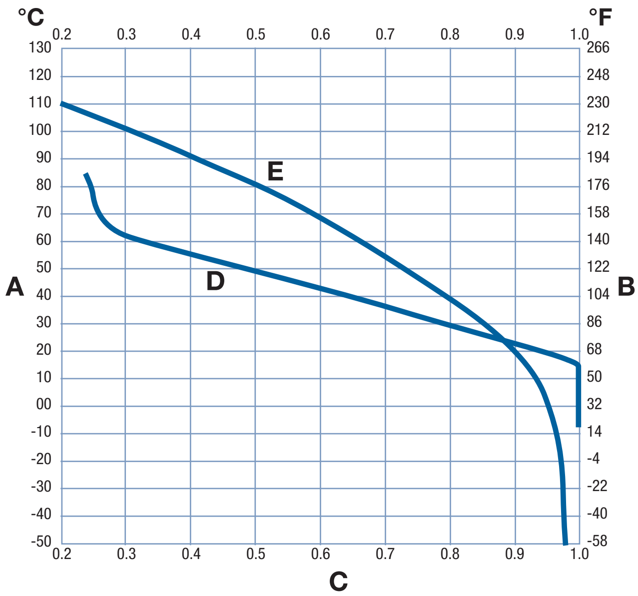
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D detectable MX

Figure 209: Detectable MX temperature factor



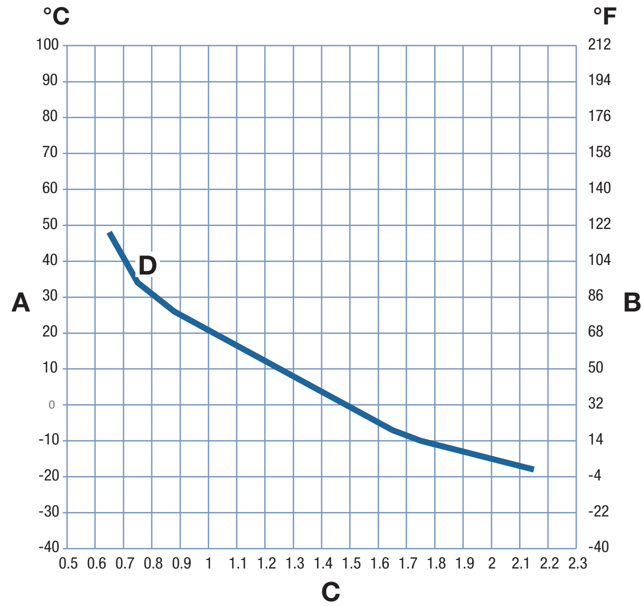
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D Detectable polypropylene

Figure 210: Detectable polypropylene composite temperature factor



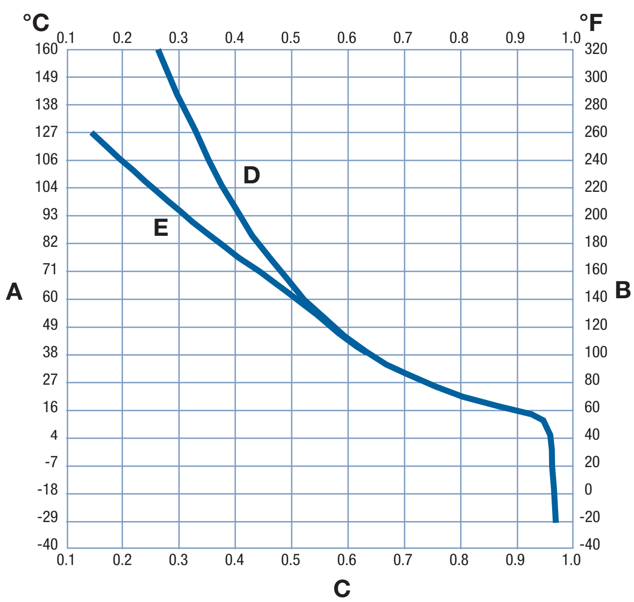
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D flame retardant
E nylon, SELM, LMAR

Figure 211: FR TPES, nylon, SELM, LMAR temperature factors



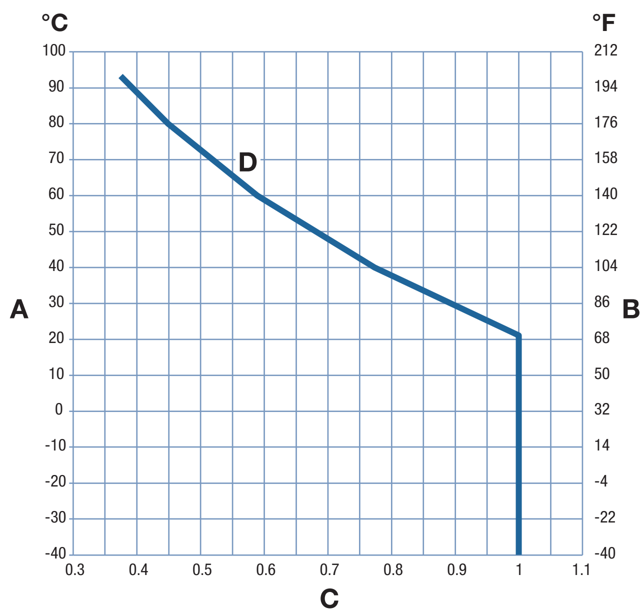
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D Hi-impact

Figure 212: Hi-Impact temperature factor



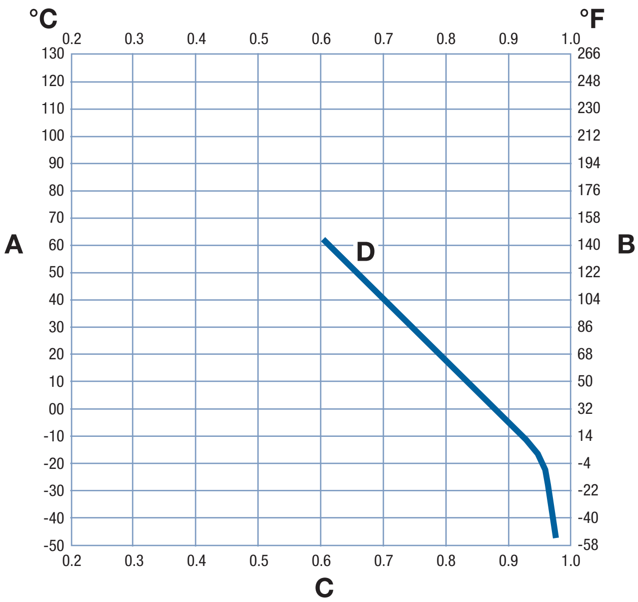
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D HHR nylon
E HR nylon

Figure 213: HR nylon and HHR nylon temperature factors

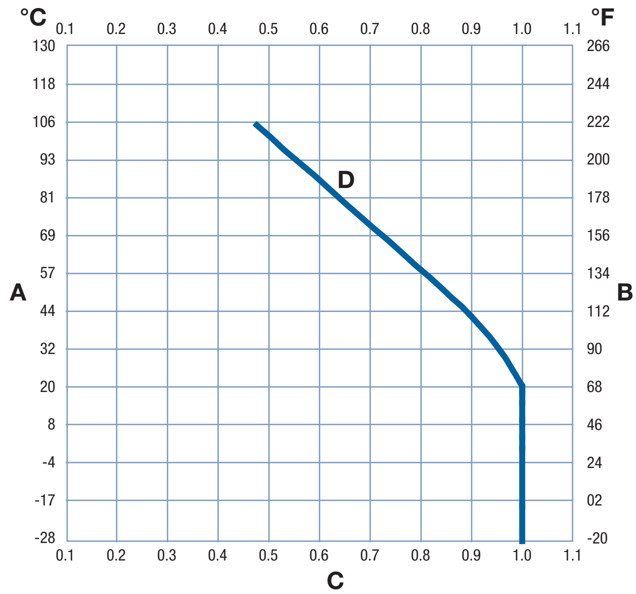


A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D PK

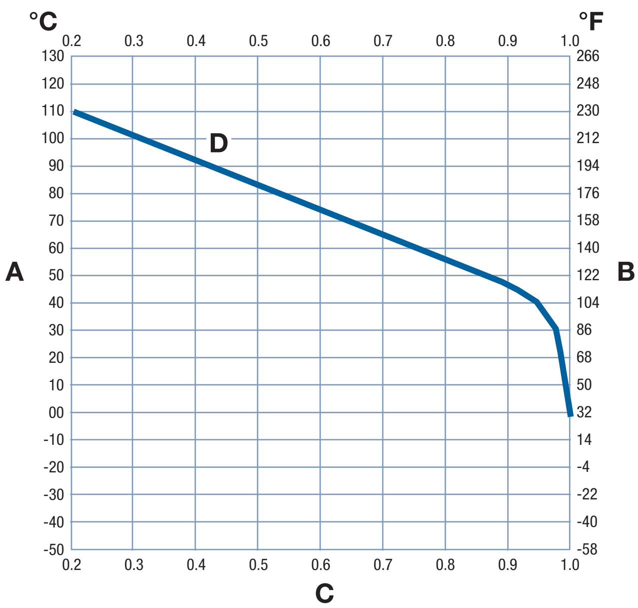
Figure 214: PK temperature factor



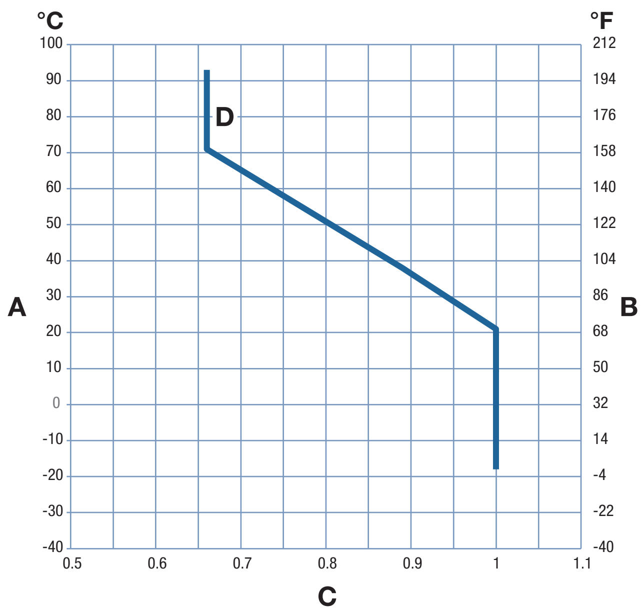
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D polyethylene temperature factor
Figure 215: Polyethylene temperature factor



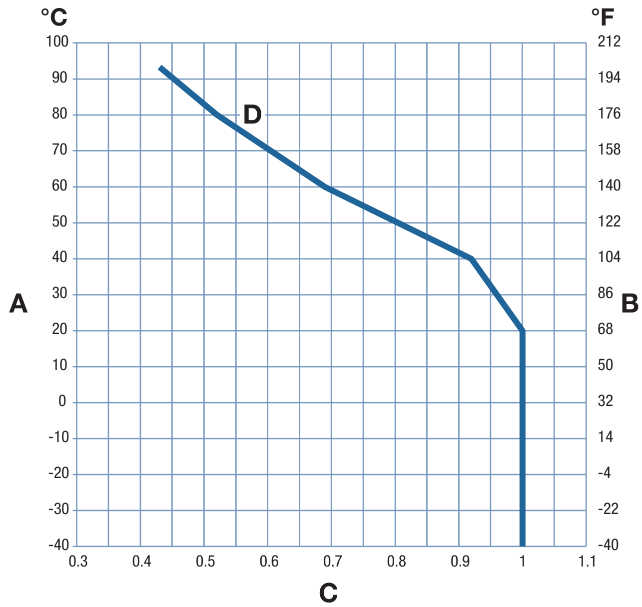
A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D polypropylene composite—Intermittent exposure above 220°F (104°C). Avoid high impact below 45°F (7°C).
Figure 216: Polypropylene composite temperature factor



A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D polypropylene temperature factor (T)—intermittent exposure above 220°F (104°C). Avoid high impact below 45°F (7°C).
Figure 217: Polypropylene temperature factor



A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D PVDF
Figure 218: PVDF temperature factor



A belt temperature at drive end of conveyor, °C
B belt temperature at drive end of conveyor, °F
C temperature factor
D X-ray detectable PK

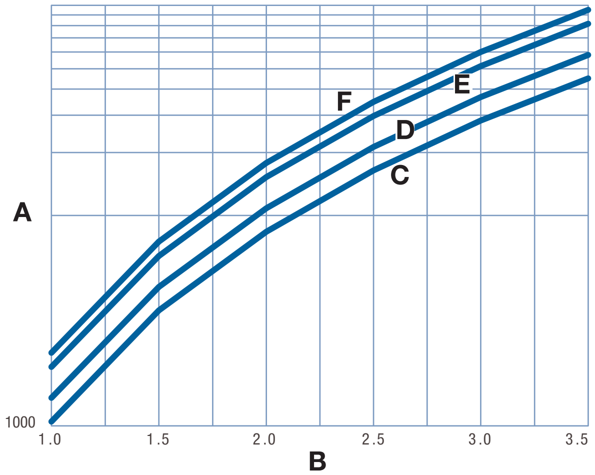
Figure 219: X-ray detectable PK temperature factor

TABLE 3: SHAFT DATA

Shaft Size	Shaft Weight (Q), lb/ft (kg/m)		Moment of Inertia (I), in^4 (mm^4)
	Carbon Steel	Stainless Steel	
5/8 in square	1.33[a]	1.33[a]	0.013
1 in square	3.40[a]	3.40[a]	0.083
1.5 in square	7.65[a]	7.65[a]	0.42
2.5 in square	21.25[a]	21.25[a]	3.25
3.5 in square	41.60[a]	41.60	12.50
25 mm square	(4.920)[b]	(4.920)[b]	(32,550)
40 mm square	(12.55)[b]	(12.55)[b]	(213,300)
60 mm square	(29.11)[b]	(29.11)[b]	(1,080,000)
65 mm square	(34.16)[b]	(34.16)[b]	(1,487,600)
Modulus of elasticity (E) lb/In^2 (kg/mm^2)	30,000,000 (21,100)	28,000,000 (19,700)	

[a] Intralox USA can supply square shafts machined to specifications in these sizes in carbon steel (C-1018), stainless steel (303/304 and 316), and aluminum (6061-T6).
[b] Intralox Europe offers square shafting in these sizes in carbon steel (KG-37) and stainless steel (304).

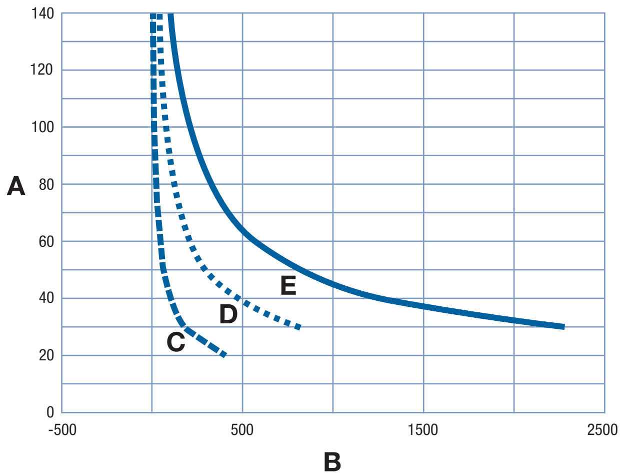
TABLE 4: MAXIMUM RECOMMENDED TORQUE ON DRIVE SHAFT



A torque, in-lb
B shaft journal diameter, in
C 303/304/316 stainless steel
D 1018 carbon steel (cold-rolled)
E 2205 duplex stainless steel (cold-rolled)
F 4140 alloy steel (cold-rolled)

Figure 220: Maximum recommended torque on drive shaft

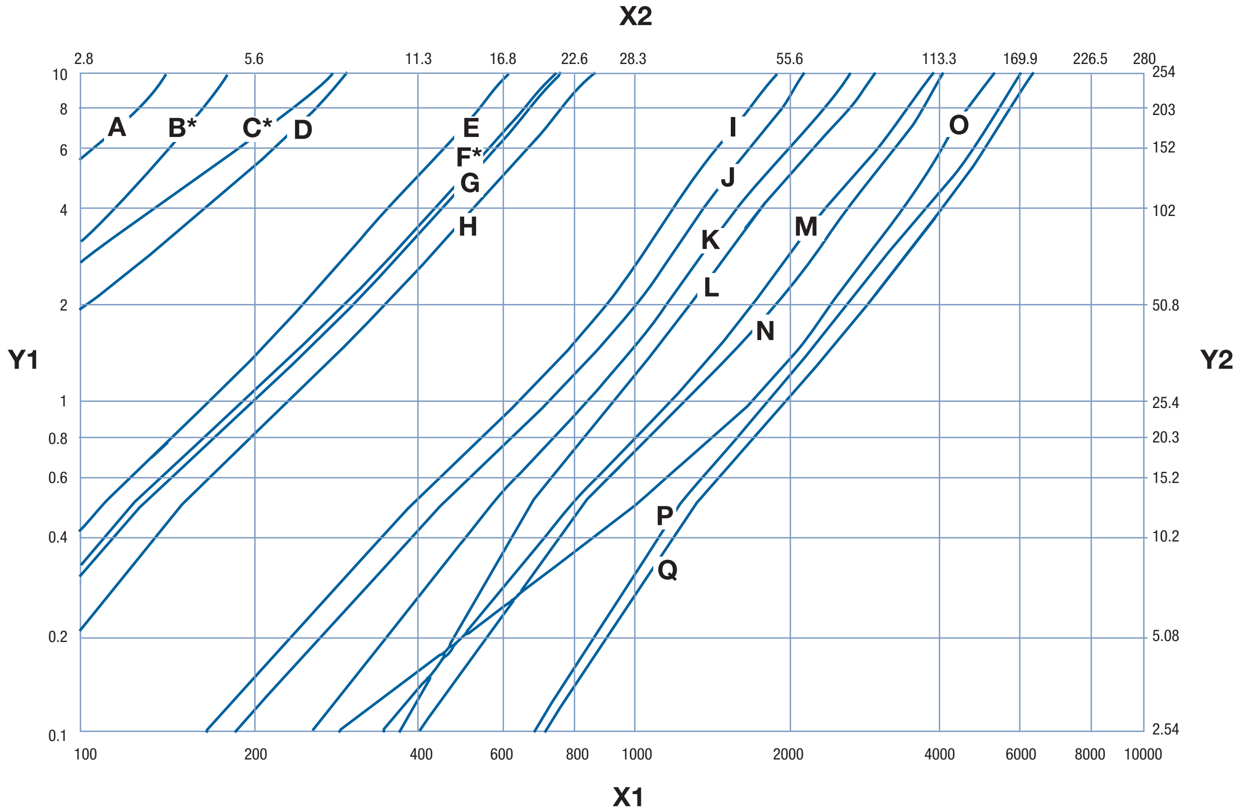
TABLE 5: BELT PULL LIMITS VS. SHAFT SPAN FOR RETAINER RING GROOVES



A shaft span between bearings, in
B maximum recommended belt pull, lb/ft
C 1.5 in square shafts
D 2.5 in square shafts
E 3.5 in square shafts

Figure 221: Belt pull limits vs. shaft span for retainer ring grooves

TABLE 6: AIRFLOW RATE THROUGH BELT, PER SQUARE FOOT OF BELT AREA



Y1 Pressure drop, inches of water
Y2 Pressure drop, millimeters of water
X1 Airflow Rate, feet^3/minute
X2 Airflow rate, meters^3/minute
A S400 Flat Top
B* S1100 Edge Loss (See S1100 Flat Top and Perforated Flat Top Edge Loss.)
C* S1100 Flat Top (See S1100 Flat Top and Perforated Flat Top Edge Loss.)
D S900 Flat Top
E S900 Perforated Flat Top 1/8 in
F* S1100 Perforated Flat Top Ø 5/32 in (See S1100 Flat Top and Perforated Flat Top Edge Loss.)
G S900 Perforated Flat Top Ø 5/32 in
H S900 Perforated Flat Top Ø 3/16 in
I S400 Flush Grid
J S800 PFT, S800 PFT Ø 5/32 in, S2000
K S100 Flush Grid
L S100 and S400 Raised Rib
M S200 Flush Grid, S200 Open Hinge
N S1100 Flush Grid
O S900 Flush Grid and Raised Rib
P S200 Open Hinge
Q S2200

Figure 222: Airflow rate through belt, per square foot of belt area

TABLE 7: MAXIMUM DRIVE SHAFT SPAN LENGTH

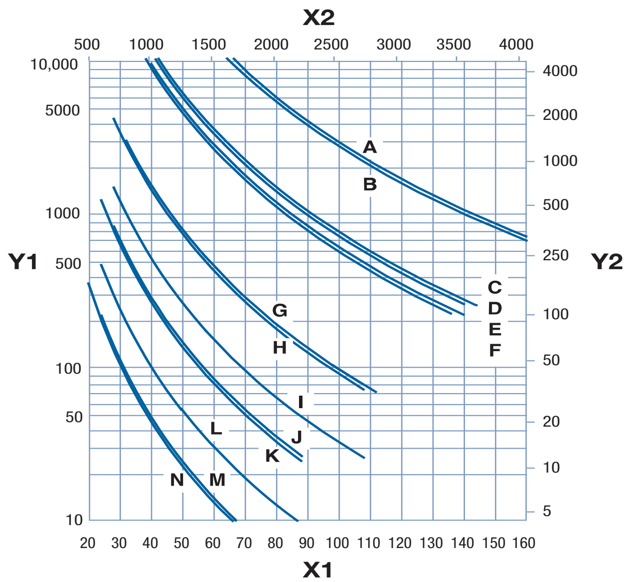


Figure 223: Conventional conveyors with only two (2) bearings; maximum allowed deflection: 0.10 in (2.5 mm)

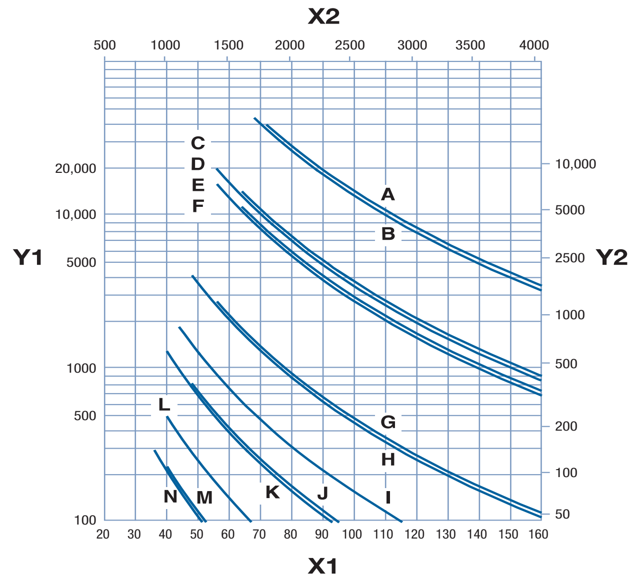


Figure 224: Conventional conveyors with three (3) or more equally spaced bearings; maximum allowed deflection: 0.10 in (2.5 mm)

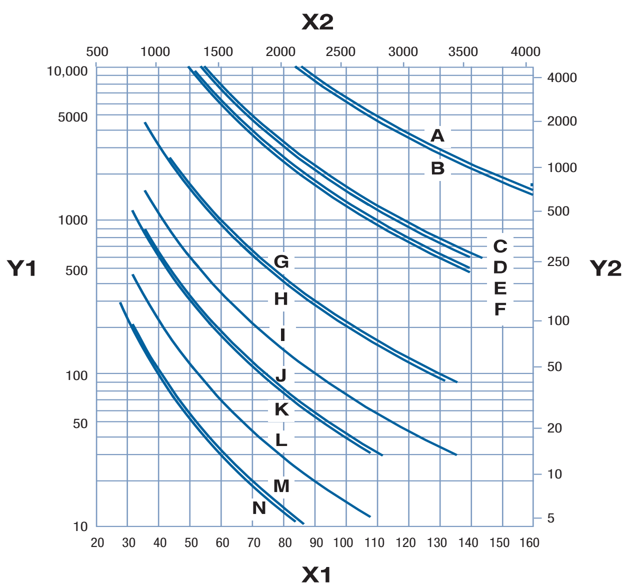


Figure 225: Bi-directional and pusher conveyors with only two (2) bearings; maximum allowed deflection: 0.22 in (5.6 mm)

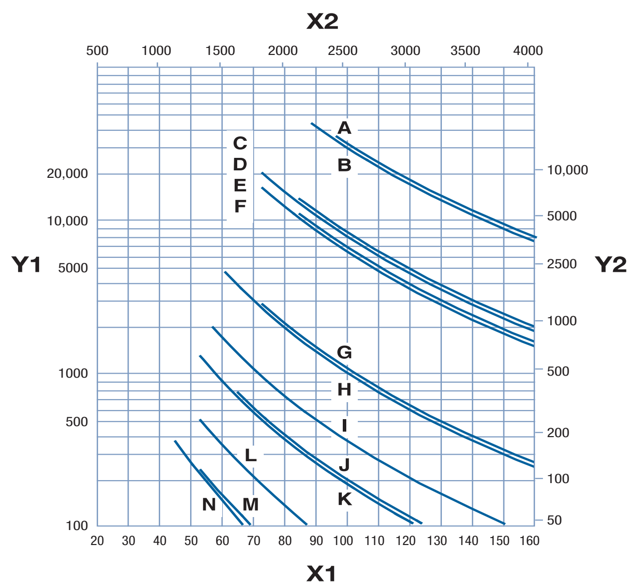


Figure 226: Bi-directional and pusher conveyors with three (3) or more equally spaced bearings; maximum allowed deflection: 0.22 in (5.6 mm)

Y1 total shaft load, lb
Y2 total shaft load, kg
X1 max. shaft span length, in
X2 max. shaft span length, mm

A 3.5 in and 90-mm square carbon steel
B 3.5 in and 90-mm square stainless steel
C 2.5 in and 65-mm square carbon steel
D 2.5 in and 65-mm square stainless steel
E 60-mm square carbon steel
F F 60-mm square stainless steel
G 1.5 in and 40-mm square carbon steel

H 1.5 in and 40-mm square stainless steel
I I 1.5 in square aluminum
J 1.0 in and 25.4-mm square carbon steel
K 1.0 in and 25.4-mm square stainless steel
L 1.0 in square aluminum
M 5/8 in square carbon steel
N 5/8 in square stainless steel

MEASUREMENT CONVERSION FACTORS

U.S. Unit	Multiply By →	Metric (SI) Unit	Multiply By →	U.S. Unit
Length				
Inch (in)	25.40	Millimeter (mm)	0.03937	Inch (in)
Inch (in)	0.0254	Meter (m)	39.37	Inch (in)
Foot (ft)	304.8	Millimeter (mm)	0.0033	Foot (ft)
Foot (ft)	0.3048	Meter (m)	3.281	Foot (ft)
Area				
Inch² (in²)	645.2	Millimeter² (mm²)	0.00155	Inch² (in²)
Inch² (in²)	0.000645	Meter² (m²)	1550.0	Inch² (in²)
Foot² (ft²)	92,903	Millimeter² (mm²)	0.00001	Foot² (ft²)
Foot² (ft²)	0.0929	Meter² (m²)	10.764	Foot² (ft²)
Volume				
Foot³ (ft³)	0.0283	Meter³ (m³)	35.31	Foot³ (ft³)
Foot³ (ft³)	28.32	Liter (l)	0.0353	Foot³ (ft³)
Velocity and Speed				
Foot/second (ft/s)	18.29	Meter/min (m/min)	0.0547	Foot/second (ft/s)
Foot/minute (ft/min)	0.3048	Meter/min (m/min)	3.281	Foot/minute (ft/min)
Mass and Density				
Pound-avdp. (lb)	0.4536	Kilogram (kg)	2.205	Pound-avdp. (lb)
Pound/foot³ (lb/ft³)	16.02	Kilogram/meter3 (kg/m3)	0.0624	Pound/foot³ (lb/ft³)
Force and Force/Length				
Pound-force (lb)	0.4536	Kilogram-force (kg)	2.205	Pound-force (lb)
Pound-force (lb)	4.448	Newton (N)	0.225	Pound-force (lb)
Kilogram-force (kg)	9.807	Newton (N)	0.102	Kilogram-force (kg)
Pound/foot (lb/ft)	1.488	Kilogram/meter (kg/m)	0.672	Pound/foot (lb/ft)
Pound/foot (lb/ft)	14.59	Newton/meter (N/m)	0.0685	Pound/foot (lb/ft)
Kilogram/meter (kg/m)	9.807	Newton/meter (N/m)	0.102	Kilogram/meter (kg/m)
Torque				
Inch-pound (in-lb)	11.52	Kilogram-millimeter (kg-mm)	0.0868	Inch-pound (in-lb)
inch-pound (in-lb)	0.113	Newton-meter (N-m)	8.85	Inch-pound (in-lb)
Kilogram-millimeter (kg-mm)	9.81	Newton/millimeter (N-mm)	0.102	Kilogram-millimeter (kg-mm)
Moment of Inertia				
Inch⁴ (in⁴)	416,231	Millimeter⁴ (mm⁴)	0.0000024	Inch⁴ (in⁴)
Inch⁴ (in⁴)	41.62	Centimeter⁴ (cm⁴)	0.024	Inch⁴ (in⁴)
Pressure and Stress				
Pound/inch² (lb/in²)	0.0007	Kilogram/millimeter² (kg/mm²)	1422	Pound/inch² (lb/in²)
Pound/inch² (lb/in²)	0.0703	Kilogram/centimeter² (kg/cm²)	14.22	Pound/inch² (lb/in²)
Pound/inch² (lb/in²)	0.00689	Newton/millimeter² (N/mm²)	145.0	Pound/inch² (lb/in²)
pound/inch² (lb/in²)	0.689	Newton/centimeter² (N/cm²)	1.450	Pound/inch² (lb/in²)
Pound/foot² (lb/ft²)	4.882	Kilogram/meter² (kg/m²)	0.205	Pound/foot² (lb/ft²)
Pound/foot² (lb/ft²)	47.88	Newton/meter² (N/m²)	0.0209	Pound/foot² (lb/ft²)
Power				
Horsepower (hp)	745.7	Watt	0.00134	Horsepower (hp)
Foot-pound/minute (ft-lb/min)	0.0226	Watt	44.25	Foot-pound/minute (ft-lb/min)

Temperature

To Convert From	To	Use Formula
Temperature Fahrenheit, °F	Temperature Celsius, °C	°C = (°F - 32) ÷ 1.8
Temperature Celsius, °C	Temperature Fahrenheit, °F	°F = (1.8 × °C) + 32

CHEMICAL RESISTANCE GUIDE

The following chemical resistance data is based on information from polymer manufacturers and Intralox field experience. The data is indicative only for the conditions under which it was collected and is a recommendation only, not a guarantee. This data pertains to chemical resistance only, and the temperatures listed are generally the chemical application temperatures. Other design and personal safety concerns were not considered in making recommendations. Always test materials and products under exact intended service conditions to determine their suitability for a particular purpose.

Chemicals listed without a concentration are for the undiluted chemical. Chemicals listed with a concentration are in solution with water. Descriptions in parentheses are the active ingredient. In general, as the chemical application temperature, chemical concentration, and exposure time rise, the chemical resistance of a material decreases. For more information about chemicals and materials of construction contact Intralox Customer Service.

Thermoplastics elastomers (TPE) are a growing class of polymers that offer a unique combination of plastic and elastomeric properties. The most obvious of these properties is the ability to be injection molded onto a substrate for achieving a performance criteria. The fact that a rubber (elastomeric) component is present means that exposure to various chemicals in the application must be considered. Sources of chemicals include the product to be conveyed, materials used to clean and maintain the equipment and belt, and any other potential sources in the area. Intralox suggests doing appropriate testing and consulting with our staff of experts early on to establish fitness for use in a particular application. In general, TPEs are compatible with both weak acids, most alkalis, and alcohols. Contact with strong acids poses a problem. Due to a rubber component, oils and fats will have a swelling effect over time. Organic solvents and various hydrocarbons are also expected to cause problems. Generally speaking, fuels of any type will cause problems over time. In food handling applications, ensure that the ingredients present in the food are considered. Also, in food handling, the higher the applied chemical temperature, chemical concentration, and exposure time, the more rapid the reaction between the chemical and the TPE will be.

	Standard Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
Chemical Name	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Acetic acid–5%	R	R	R	R	R	—	R	R	R	—	LR	—	LR	NR	R	—	R	—
Acetic acid–10%	R	R	R	R	R	—	—	—	R	—	LR	NR	—	—	R	—	—	—
Acetic acid–50%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	—	—	—	—
Acetone	R	R	R	R	R	R	LR	LR	R	R	R	—	R	R	NR	NR	NR	NR
Alcohol, all types	R	R	R	R	—	—	—	—	—	—	R	R	R	R	R	R	NR	—
Alum, all types	R	R	R	R	—	—	—	—	—	—	LR	—	—	—	—	—	—	—
Almond oil	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aluminum alum	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aluminum compounds	R	R	R	R	—	—	—	—	—	—	LR	R	R	R	R	R	LR	—
Aluminum chloride	R	R	R	R	LR	NR	—	—	LR	NR	R	—	—	—	R	—	R	R
Aluminum fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aluminum hydroxide	R	R	R	R	R	R	—	—	R	R	R	—	—	—	R	—	R	—
Aluminum nitrate	R	R	—	—	LR	NR	—	—	LR	NR	LR	LR	—	—	R	—	R	—
Aluminum phosphate	R	R	R	R	—	—	—	—	—	—	LR	LR	—	—	—	—	—	—
Aluminum sulfate	R	R	R	R	LR	NR	—	—	LR	NR	LR	LR	R	R	R	—	R	—
Ammonia	R	R	R	R	R	R	—	—	R	R	LR	LR	R	R	R	NR	R	—
Ammonium compounds	R	R	R	R	—	—	—	—	R	—	LR	R	R	R	R	R	LR	—

	Standard Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
Chemical Name	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Ammonium acetate	R	—	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Ammonium carbonate	R	R	R	R	R	R	—	—	R	R	—	—	R	R	—	—	R	—
Ammonium chloride	R	R	R	R	R	LR	R	R	R	LR	R	LR	R	R	R	—	R	—
Ammonium fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ammonium hydroxide	R	R	—	—	R	R	R	LR	R	R	—	—	—	—	LR	NR	LR	—
Ammonium nitrate	R	R	R	R	R	LR	—	—	R	LR	R	LR	R	R	R	—	R	—
Ammonium phosphate	R	R	R	R	R	—	—	—	R	—	R	LR	R	R	—	—	—	—
Ammonium salts	—	—	R	—	R	—	—	—	R	—	R	LR	—	—	—	—	—	—
Ammonium sulfate	R	R	R	R	R	LR	R	—	R	LR	R	LR	R	R	R	—	R	—
Amyl acetate	NR	NR	R	R	R	—	—	—	R	—	R	NR	NR	NR	R	NR	NR	NR
Amyl chloride	NR	NR	LR	NR	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Aniline	R	LR	R	R	—	LR	NR	NR	—	LR	LR	—	—	—	LR	—	NR	NR
Antifreeze	R	R	R	T	—	—	R	R	—	—	—	—	R	R	R	R	—	—
Aqua regia	LR	NR	NR	NR	LR	—	—	—	LR	—	NR	NR	NR	NR	NR	NR	NR	NR
Apple juice	R	R	—	—	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Arsenic acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Asphalt	—	—	R	LR	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Barium compounds	R	R	R	R	—	—	—	—	—	—	R	R	R	R	R	R	—	—
Barium carbonate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Barium chloride	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	R	—	—	—
Barium hydroxide	R	R	R	R	—	—	R	—	—	—	—	—	—	—	—	—	R	—
Barium soap grease	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Barium sulfate	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	R	—	—	—
Battery acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Beer	R	R	R	R	—	—	R	R	—	—	—	—	R	R	—	—	R	—
Benzene	LR	NR	LR	NR	R	R	—	—	R	R	R	R	R	R	R	NR	NR	NR
Benzenesulfonic acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Benzoic acid	R	R	R	R	LR	—	—	—	LR	—	LR	LR	—	—	R	—	NR	NR
Benzyl alcohol	—	—	R	R	R	—	—	—	R	—	LR	LR	—	—	—	—	NR	NR
Bone oil	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Borax	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Boric acid	R	R	R	R	LR	—	—	—	LR	—	LR	—	R	R	R	—	R	—
Brake fluid	R	R	R	R	R	R	R	R	R	R	R	—	R	R	R	LR	LR	—
Brine acid	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brine saturated	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brine water	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bromic acid	NR	NR	NR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bromine, liquid or fumes	NR	NR	NR	NR	—	—	—	—	—	—	NR	NR	NR	NR	NR	NR	—	—
Bromine water	NR	NR	R	—	LR	—	—	—	LR	—	NR	NR	NR	NR	NR	NR	—	—
Butter	R	R	R	R	R	—	—	—	R	—	LR	—	R	R	R	—	—	—

	Standard Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
Chemical Name	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Butyl acetate	NR	NR	R	LR	—	—	R	R	—	—	R	—	R	R	R	R	NR	NR
Butyl acrylate	NR	NR	R	LR	—	—	—	—	—	—	R	—	—	—	LR	LR	—	—
Butyl glycol	—	—	R	R	R	LR	—	—	R	LR	R	—	—	—	R	R	—	—
Butyric acid	R	R	R	LR	—	—	—	—	—	—	LR	—	—	—	R	—	NR	NR
Calcium compounds	R	R	R	R	—	—	—	—	—	—	LR	—	—	—	R	R	R	—
Calcium carbonate	R	R	R	R	R	—	—	—	R	—	—	—	—	—	—	—	R	—
Calcium chloride	R	R	R	R	R	—	R	LR	R	—	R	LR	R	LR	R	—	R	—
Calcium hydroxide	R	R	R	R	R	—	R	—	R	—	R	—	—	—	R	—	NR	NR
Calcium hypochlorite	R	R	R	R	NR	—	—	—	NR	—	NR	NR	—	—	LR	—	R	—
Calcium nitrate	R	R	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Calcium phosphate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium soap grease	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium sulfate	R	R	R	R	R	—	—	—	R	—	—	—	—	—	—	—	R	—
Calgonite–0.3%	R	R	—	—	R	R	—	—	R	R	—	—	—	—	—	—	R	—
Carbon dioxide	R	R	R	R	R	R	—	—	R	R	—	—	—	—	R	R	R	—
Carbon disulfide	LR	NR	LR	NR	R	—	—	—	R	—	R	NR	R	—	R	—	NR	NR
Carbon tetrachloride	LR	NR	NR	NR	R	LR	R	R	R	LR	R	R	R	R	R	LR	LR	—
Castor oil	R	R	R	R	R	—	—	—	R	—	—	—	—	—	—	—	R	—
Cellosolve™	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Chloroacetic acid 0–10%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorine, gas	NR	NR	—	—	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	LR	—
Chlorine, liquid	NR	NR	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorine water–0.4% Cl	R	LR	R	LR	NR	NR	—	—	NR	NR	—	NR	NR	NR	—	—	NR	—
Chlorobenzene	NR	NR	LR	NR	R	R	—	—	R	R	R	R	LR	LR	NR	NR	NR	NR
Chloroform	NR	NR	NR	NR	LR	NR	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorosulfonic acid	NR	NR	NR	NR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chromic acid–10%	R	R	LR	LR	NR	NR	—	—	NR	NR	NR	NR	NR	—	LR	—	NR	NR
Citric acid	R	R	R	R	—	—	—	—	—	—	—	R	R	—	R	R	R	—
Citric acid–10%	R	LR	R	R	LR	NR	—	—	LR	NR	LR	—	R	—	R	LR	R	—
Citrus juices	R	R	R	R	R	—	—	—	R	—	—	—	—	—	R	—	—	—
Clorox®	R	R	—	—	—	—	—	—	—	—	—	NR	NR	NR	—	—	NR	—
Coconut oil	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	R	—
Coffee	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Copper compounds	R	R	R	R	—	—	—	—	—	—	LR	—	LR	—	R	R	R	—
Copper chloride	R	R	R	R	R	—	R	—	R	—	LR	—	—	—	R	—	R	—
Copper fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Copper nitrate	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	R	—	R	—
Copper salts	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	R	—	R	—
Copper sulfate	R	R	R	R	R	R	—	—	R	R	LR	—	R	—	R	—	R	—
Corn oil	R	R	R	LR	—	—	—	—	—	—	—	—	R	—	R	—	—	—

	Standard Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
Chemical Name	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Cottonseed oil	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—	R	—
Cresol	R	R	R	LR	—	—	—	—	—	—	NR	NR	NR	NR	—	—	NR	NR
Crude oil	—	—	R	LR	R	—	—	—	R	—	—	—	—	—	R	NR	—	—
Cyclohexane	R	NR	R	R	R	—	—	—	R	—	R	—	R	—	R	—	R	—
Cyclohexanol	R	LR	R	R	R	—	—	—	R	—	R	—	—	—	R	—	—	—
Cyclohexanone	R	NR	R	LR	R	—	—	—	R	—	R	—	—	—	R	—	N	—
Detergents	R	R	R	R	R	R	R	—	R	R	—	—	—	—	R	R	—	—
Dextrin	R	R	R	R	R	—	—	—	R	—	—	—	—	—	—	—	—	—
Dibutyl phthalate	R	LR	R	LR	—	—	—	—	—	—	R	R	—	—	R	LR	NR	NR
Diesel fuel	R	LR	R	LR	R	R	—	—	R	R	R	R	R	R	LR	NR	R	—
Diethyl ether	R	NR	LR	LR	R	R	—	—	R	R	R	—	R	—	R	—	NR	NR
Diethylamine	R	R	R	R	—	—	—	—	—	—	R	—	—	—	—	—	R	—
Diethylene	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diglycolic acid–30%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diisooctyl phthalate	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dimethyl phthalate	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dimethylamine	R	R	—	—	—	—	—	—	—	—	R	—	—	—	—	—	—	—
Dioctyl phthalate	R	LR	—	—	—	—	—	—	—	—	R	—	—	—	—	—	—	—
Ethyl acetate	R	LR	R	LR	R	NR	R	LR	R	NR	R	—	—	—	LR	LR	NR	NR
Ethyl alcohol (ethanol)	R	R	R	R	R	R	R	LR	R	R	R	—	R	—	—	—	LR	LR
Ethyl ether	LR	LR	LR	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethylamine	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethylene chloride	NR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethylene glycol	R	R	R	R	R	LR	R	LR	R	LR	R	LR	—	—	R	—	LR	—
Ferric or ferrous compounds	R	R	R	R	—	—	—	—	—	—	LR	—	—	—	—	—	LR	—
Ferric chloride	R	R	R	R	R	R	—	—	LR	—	LR	—	LR	—	—	—	R	—
Ferrous chloride	R	R	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Ferric nitrate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Ferrous nitrate	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferric or ferrous sulfate	R	R	R	R	—	—	R	R	—	—	—	—	—	—	—	—	R	—
Fertilizers	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—	—	—
Formaldehyde–30%	R	R	R	R	R	R	—	—	R	R	R	—	R	NR	R	—	NR	NR
Formic acid–10%	R	—	R	R	LR	LR	LR	—	LR	LR	NR	NR	LR	NR	R	LR	NR	NR
Formic acid–85%	R	LR	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	LR	NR	NR	NR
Freon	R	LR	R	R	R	R	—	—	R	R	R	—	—	—	R	R	—	—
Fuel oils	R	LR	R	LR	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Furfural	—	NR	R	R	R	—	—	—	R	—	R	—	—	—	R	—	—	—
Gasoline	R	NR	R	LR	R	R	R	R	R	R	R	—	R	R	R	LR	LR	—
Glucose	R	R	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Glycerin	R	R	R	R	R	R	—	—	R	R	R	LR	R	R	R	LR	R	—
Glycerol	R	R	—	—	R	LR	—	—	R	LR	—	—	R	R	—	—	—	—
n-Heptane	LR	NR	R	LR	R	—	R	LR	R	—	R	—	R	R	R	R	R	—
Hexane	R	NR	R	LR	R	R	R	R	R	R	R	—	R	R	R	R	R	—

	Standard Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
Chemical Name	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Hydrobromic acid–10%	R	R	R	R	LR	—	—	—	LR	—	NR	NR	—	—	LR	—	NR	NR
Hydrochloric acid	R	R	R	R	NR	NR	R	R	NR	NR	NR	NR	NR	NR	LR	LR	NR	—
Hydrochloric acid–2%	—	—	R	R	LR	NR	R	R	LR	NR	NR	NR	NR	NR	R	—	R	—
Hydrochloric acid–10%	R	R	R	R	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR	R	—	—	—
Hydrochloric acid–38%	R	LR	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	—	—	—	—
Hydrofluoric acid–10%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	LR	NR	NR	NR
Hydrofluoric acid–35%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	NR	NR	NR	NR
Hydrofluoric acid–50%	R	LR	R	LR	NR	NR	—	—	NR	NR	NR	NR	—	—	NR	NR	NR	NR
Hydrogen peroxide–3%	R	R	R	R	R	R	R	LR	R	R	NR	NR	R	R	R	LR	R	—
Hydrogen peroxide–30%	R	LR	LR	NR	NR	NR	LR	LR	NR	NR	NR	NR	LR	NR	R	LR	LR	—
Hydrogen peroxide–90%	LR	LR	LR	NR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	—	—	NR	NR
Hydrogen sulfide	R	R	R	R	LR	—	—	—	LR	—	LR	—	R	R	R	—	R	—
Hydroiodic acid	NR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NR	—
Igepal	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—	—	—
Iodine	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	—	—	R	—
Isobutyl alcohol	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Isopropyl alcohol	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	—	R	—
Isooctane	NR	NR	R	—	—	—	—	—	—	—	R	R	R	R	—	—	NR	—
Jet fuel	LR	NR	—	—	R	R	—	—	R	R	—	—	—	—	R	—	R	—
Kerosene	R	NR	R	LR	R	R	—	—	R	R	—	—	—	—	R	R	R	—
Lactic acid–10%	—	—	R	R	R	LR	R	R	R	LR	R	NR	R	R	R	—	LR	—
Lactic acid–80%	R	R	R	R	R	NR	—	—	R	NR	NR	NR	NR	NR	—	—	NR	—
Lactose	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lanolin	R	LR	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Lard	—	—	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Lauric acid	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead acetate	R	R	R	R	—	—	—	—	—	—	R	—	—	—	R	—	R	—
Lemon oil	LR	NR	R	R	—	—	—	—	—	—	—	—	R	—	—	—	R	—
Ligroin	LR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lime sulfur	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Linseed oil	R	R	R	R	R	R	—	—	R	R	R	—	R	R	—	—	R	—
Lubricating oil	R	LR	R	LR	R	—	—	—	R	—	R	LR	R	R	R	R	R	—
Magnesium compounds	R	R	R	R	—	—	—	—	—	—	LR	—	R	—	—	—	NR	—
Magnesium carbonate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Magnesium chloride	R	R	R	R	R	—	LR	—	R	—	R	—	R	—	R	—	R	—
Magnesium hydroxide	R	R	R	R	R	—	—	—	R	—	LR	—	—	—	—	—	R	—
Magnesium nitrate	R	R	R	R	R	—	—	—	R	—	R	—	—	—	R	—	R	—

Chemical Name	Standard Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Magnesium sulfate	R	R	R	R	R	—	—	—	R	—	R	—	—	—	R	—	R	—
Malic acid	R	LR	R	R	NR	NR	—	—	NR	NR	—	—	NR	NR	R	—	R	—
Maple syrup	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manganese sulfate	R	L	R	R	—	R	—	—	—	R	R	—	R	—	R	—	—	—
Margarine	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Meat juices or sauces	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mercuric compounds	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	—
Mercuric chloride	R	R	R	R	—	—	—	—	—	—	NR	NR	R	—	—	—	R	—
Mercury	R	R	R	R	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Methyl alcohol	R	R	R	R	R	R	LR	LR	R	R	LR	—	R	R	NR	NR	LR	—
Methyl cellosolve	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methyl chloride	NR	NR	LR	—	R	—	—	—	R	—	R	—	—	—	—	—	—	—
Methyl ethyl ketone	R	R	R	NR	LR	LR	LR	LR	LR	LR	R	—	R	R	NR	NR	LR	—
Methyl isobutyl ketone	R	R	R	NR	—	—	—	—	—	—	—	—	R	R	—	—	NR	NR
Methylene chloride	LR	NR	LR	LR	NR	NR	NR	NR	NR	NR	LR	—	NR	NR	NR	NR	NR	NR
Methylsulfuric acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Milk	R	R	R	R	R	—	—	—	R	—	LR	—	R	R	R	—	R	—
Mineral oil	R	LR	R	LR	R	R	—	—	R	R	—	—	R	R	R	R	R	—
Mineral spirits	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Molasses	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—	R	—
Motor oil	R	NR	R	LR	R	R	R	R	R	R	R	—	R	R	R	LR	R	—
Naphtha	R	LR	R	LR	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Nickel compounds	R	R	R	R	—	—	—	—	—	—	LR	—	LR	—	—	—	—	—
Nickel chloride	R	R	R	R	R	—	—	—	R	—	R	—	—	—	R	—	R	—
Nickel nitrate	R	R	R	R	—	—	—	—	—	—	R	—	R	R	R	—	R	—
Nickel sulfate	R	R	R	R	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Nitric acid–10%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	R	LR	NR	NR
Nitric acid–30%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	—
Nitric acid–50%	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Nitric acid–fuming	NR	NR	NR	NR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	—
Nitrobenzene	R	LR	NR	LR	LR	—	—	—	LR	—	LR	NR	LR	LR	R	—	NR	NR
Nitrous acid	LR	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nut oil	R	—	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nutmeg oil	NR	NR	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nitrous oxide	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Oleic acid	R	L	R	LR	R	—	—	—	R	—	R	R	R	NR	R	R	R	—
Olive oil	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Orange oil	R	—	—	—	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Oxalic acid–10%	R	R	R	R	NR	NR	—	—	NR	NR	LR	NR	R	LR	R	R	—	—
Oxalic acid–50%	R	R	R	R	NR	NR	—	—	NR	NR	—	—	—	—	R	—	—	—
Oxygen (atmospheric pressure)	R	R	R	R	R	—	—	—	R	—	R	R	R	R	R	—	R	—
Ozone	LR	NR	LR	NR	NR	NR	—	—	NR	NR	NR	NR	R	—	LR	NR	R	—

Chemical Name	Standard Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Palm nut oil	R	—	R	—	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Palmitic acid	R	R	R	R	—	—	—	—	—	—	R	—	—	—	R	R	R	—
Peanut oil	R	LR	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Peppermint oil	R	NR	R	R	—	—	—	—	—	—	—	—	R	—	—	—	—	—
Perchloric acid–20%	R	R	R	R	NR	NR	—	—	NR	NR	—	—	NR	NR	—	—	NR	NR
Perchloroethylene	NR	NR	NR	NR	—	—	—	—	—	—	LR	NR	LR	NR	—	—	—	—
Peroxyacetic acid	R	R	—	—	NR	NR	R	R	NR	NR	NR	NR	LR	NR	—	—	R	—
Phthalic acid–50%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phenol	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	—
Phenol–5%	R	R	R	LR	NR	NR	—	—	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR
Phosphoric acid–10%	R	R	R	R	NR	NR	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phosphoric Acid–30%	R	R	R	R	NR	NR	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phosphoric acid–50%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phosphoric acid–85%	R	R	R	LR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Photographic solutions	R	R	LR	LR	R	—	—	—	R	—	—	—	R	R	R	R	R	—
Pineapple juice	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plating solutions	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Potassium compounds	R	R	R	R	—	—	—	—	—	—	R	—	—	—	R	R	NR	—
Potassium carbonate	R	R	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Potassium chlorate	R	R	R	R	—	—	—	—	—	—	—	—	R	LR	—	—	—	—
Potassium chloride	R	R	R	R	R	R	—	—	R	R	R	R	R	R	R	LR	R	—
Potassium hydroxide	R	R	R	R	LR	—	R	—	LR	—	LR	—	R	R	R	R	R	—
Potassium iodine	R	—	R	R	—	—	—	—	—	—	—	—	R	R	—	—	R	—
Potassium iodide (3% iodine)	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	—
Potassium permanganate–1%	R	R	R	R	R	—	—	—	R	—	NR	NR	NR	NR	R	LR	NR	NR
Potassium sulfate	R	R	R	R	R	R	—	—	R	R	—	—	R	R	—	—	R	—
Silicone	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Silicone oil	R	R	R	R	R	R	—	—	R	R	R	R	R	R	R	R	R	—
Silver cyanide	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Silver nitrate	R	R	R	R	—	—	—	—	—	—	R	—	—	—	—	—	R	—
Sodium acetate	R	R	R	R	R	R	—	—	R	R	—	—	R	R	—	—	R	—
Sodium bicarbonate	R	R	R	R	R	R	—	—	R	R	—	—	R	R	R	LR	R	—
Sodium bisulfate	R	R	R	R	R	—	—	—	R	—	—	—	R	—	R	—	R	—
Sodium bisulfite	R	R	R	R	NR	NR	NR	—	NR	NR	—	—	R	LR	R	LR	—	—
Sodium borate	R	—	R	R	R	—	—	—	R	—	—	—	R	R	—	—	R	—
Sodium bromide	R	R	R	R	—	—	—	—	—	—	LR	—	—	—	—	—	—	—
Sodium carbonate	R	R	R	R	R	R	—	—	R	R	R	—	R	R	R	LR	R	—
Sodium chlorate	R	R	R	R	R	R	—	—	R	R	R	—	R	LR	—	—	R	—

Chemical Name	Standard Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Sodium chloride	R	R	R	R	—	—	R	—	—	—	R	—	R	LR	R	—	R	—
Sodium cyanide	R	R	R	R	R	—	—	—	R	—	R	—	—	—	—	—	NR	NR
Sodium fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Sodium hydroxide–10%	R	R	R	R	R	R	R	NR	R	R	LR	NR	R	R	R	—	R	—
Sodium hydroxide–50%	R	R	R	R	LR	—	LR[a]	NR	LR	—	NR	NR	R	R	—	—	NR	—
Sodium hypochlorite–5% Cl	R	LR	R	—	NR	NR	LR[a]	—	NR	NR	LR	NR	R	NR	LR	NR	R	—
Sodium hypochlorite–12.5% Cl	R	LR	LR	NR	NR	NR	—	—	NR	NR	NR	NR	—	NR	LR	NR	—	—
Sodium nitrate	R	R	R	R	R	R	—	—	R	R	R	—	R	R	R	—	R	—
Sodium phosphate	R	—	R	R	R	—	—	—	R	—	—	—	R	R	—	—	—	—
Stannic chloride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	LR	—
Stannous chloride	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	R	—
Starch	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Starch syrup	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stearic acid	R	—	R	LR	R	—	—	—	R	—	R	—	R	NR	R	—	R	—
Succinic acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sucrose	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sugar	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Sulfamic acid–20%	R	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfate liquors	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfur	R	R	R	R	R	—	—	—	R	—	R	—	R	—	—	—	—	—
Sulfur chloride	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Sulfur dioxide	R	R	R	R	NR	—	—	—	NR	—	R	LR	R	R	R	—	LR	—
Sulfuric acid–3%	R	R	R	R	LR	—	R	R	LR	—	NR	NR	NR	NR	R	R	R	—
Sulfuric acid–50%	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	NR	NR	R	—	—	—
Sulfuric acid–70%	R	LR	R	LR	NR	NR	—	—	NR	NR	NR	NR	NR	NR	—	—	—	—
Sulfuric acid–Fuming	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	LR	LR	—	—
Sulfurous acid	R	LR	R	R	—	—	—	—	—	—	LR	—	—	—	R	—	R	—
Tallow	R	R	R	R	R	—	—	—	R	—	—	—	—	—	R	—	—	—
Tannic acid–10%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Tartaric acid	R	R	R	R	R	—	—	—	R	—	R	LR	R	LR	R	—	R	—
Tetrahydrofuran	R	LR	NR	NR	LR	—	—	—	LR	—	R	—	R	NR	LR	NR	NR	NR
Toluene	R	NR	LR	NR	R	R	R	LR	R	R	R	R	R	R	R	R	NR	NR
Tomato juice	R	R	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Transformer oil	R	NR	R	LR	—	—	—	—	—	—	R	—	R	R	R	R	—	—
Tributyl phosphate	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Trichloroacetic acid	R	R	R	R	NR	NR	—	—	NR	NR	NR	NR	—	—	NR	NR	NR	NR
Trichloroethylene	R	NR	—	—	NR	NR	NR	NR	NR	NR	—	—	—	—	—	—	—	—
Tricresyl phosphate	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trisodium phosphate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Turpentine oil	R	NR	LR	NR	R	—	—	—	R	—	R	—	R	LR	R	—	—	—

Chemical Name	Standard Belt Materials						Special Application Belt Materials											
	Polypropylene		Polyethylene		Acetal		PK		EC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
	Material Suitability Codes: R = Resistant, NR = Not resistant, LR = Limited resistance, — = No information																	
Urea	R	R	R	R	R	—	—	—	R	—	R	—	R	R	R	—	R	—
Varnish	R	—	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaseline	R	R	LR	LR	R	—	R	R	R	—	R	—	R	R	R	—	—	—
Vegetable oil	—	—	R	LR	R	—	—	—	R	—	—	—	—	—	R	R	—	—
Vinegar	R	R	R	R	R	—	—	—	R	—	—	—	R	LR	—	—	R	—
Wine	R	R	R	—	R	—	R	R	R	—	—	—	R	R	R	—	—	—
Xylene	NR	NR	LR	NR	R	R	—	—	R	R	R	R	R	R	LR	NR	NR	NR
Zinc compounds	R	R	R	R	—	—	—	—	—	—	LR	—	LR	—	R	R	LR	—
Zinc carbonate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Zinc chloride	R	R	R	R	R	—	R	R	R	—	NR	NR	R	R	R	—	R	—
Zinc oxide	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Zinc sulfate	R	R	R	R	—	—	—	—	—	—	LR	—	R	R	R	—	R	—

[a] Limited resistance rating due to discoloration.

INDEX

E

F

G

H

I

K

L

M

N

O

P

R

S

T

U

V

W

X

Z

Intralox, L.L.C. USA, New Orleans, LA • +1-800-535-8848 • +1-504-733-0463
Intralox, L.L.C. Europe, Amsterdam, The Netherlands • +800-4687-2569 • +31-20-540-36-00
Intralox Shanghai LTD., Shanghai, China • 4008-423-469 • +86-21-5111-8400

For country- and industry-specific contact information, see [www.intralox.com.](http://www.intralox.com)