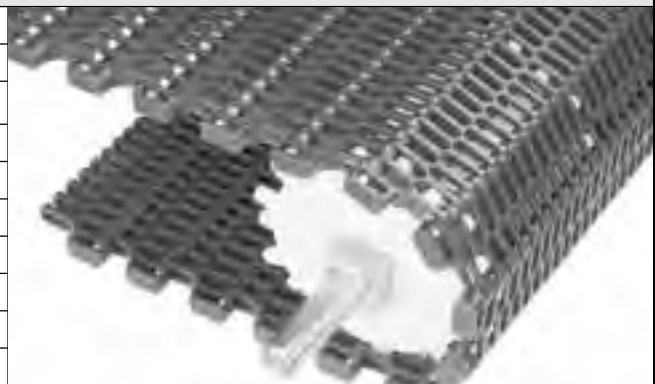


SPIRALOX® 1.6 Radius

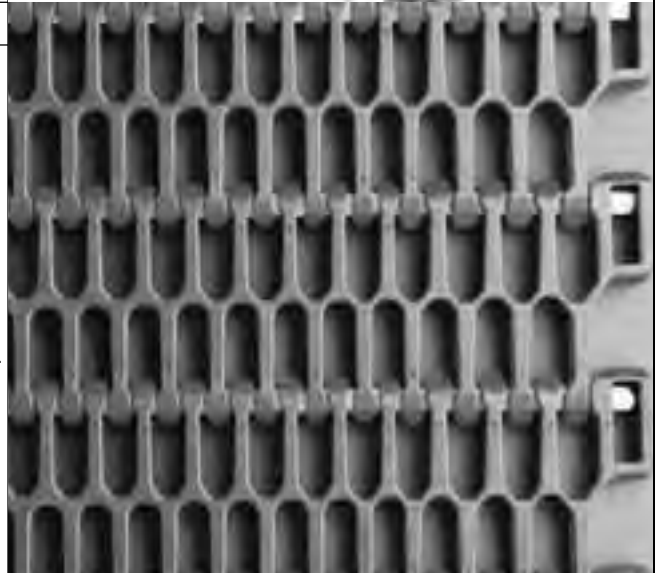
	in.	mm
Pitch	2.00	50.8
Minimum Width ^a	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 × 0.64	9.52 × 16.5
Open Area (fully extended)	51%	
Min. Open Area (1.6 TR)	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	



Product Notes

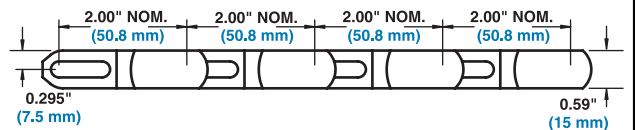
- Always check with Customer Service for precise belt width measurement and stock status before designing a conveyor or ordering a belt.
- Designed for low-tension, capstan drive spiral applications with a minimum turning radius of 1.6 times the belt width (measured from inside edge).
- The Intralox Spiral Program will help predict the strength requirements of most low-tension, capstan drive spiral applications, insuring that the belt is strong enough for the application. Contact Technical Support Group for more information.
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt, making the belt easy to clean.
- Contact Customer Service for preferred run direction on spiral applications.

WARNING: Personnel must not place their fingers in or on this belt. Fingers can get trapped in the openings of this belt, resulting in personal injury. This belt also has pinch points which result from the spreading and collapsing of the belt as it flexes to follow the conveyor path. These pinch points can trap fingers, hair or clothing, and can cause personal injury. Personnel should also be instructed not to wear loose fitting clothing, loose fitting gloves or hand/finger jewelry when working near this belt. Call Customer Service for tags, flyers and stickers containing this warning.



Additional Information

- See "Belt selection process" (page 5)
- See "Standard belt materials" (page 18)
- See "Special application belt materials" (page 18)
- See "Friction factors" (page 31)



a. Contact Intralox Customer Service for more information regarding belt widths under 24 in. (610 mm).

SECTION 2

2700

Belt Data

Belt Material	Standard Rod Material Ø 0.24 in. (6.1 mm)	BS	Straight Belt Strength	Curved Belt Strength		Temperature Range (continuous)		W	Belt Weight	Agency Acceptability ^a 1=White, 2=Blue, 3=Natural, 4=Grey		
				lb	kg	°F	°C			lb/ft ²	kg/m ²	FDA (USA)
Acetal	Acetal	2000	2976	375	170	-50 to 200	-46 to 93	1.74	8.50	•	3	•
FDA FR Nylon	Nylon	1500	2232	300	136	-50 to 240	-46 to 116	1.41	6.88	•		•

- a. Prior to Intralox's development of Series 2700, USDA-FSIS Meat and Poultry discontinued publishing a list of acceptable new products designed for food contact. As of the printing of the manual, third party approvals are being investigated, but are not yet sanctioned by the USDA-FSIS.
- b. Japan Ministry of Health, Labour, and Welfare
- c. European Migration Certificate providing approval for food contact according to EU Directive 2002/72/EC and all its amendments to date.

SPIRALOX® 2.2 Radius			
	in.	mm	
Pitch	2.00	50.8	
Minimum Width ^a	24	610	
Maximum Width	60	1524	
Width Increments	0.50	12.7	
Opening Size (approx.)	0.38 x 0.64	9.52 x 16.5	
Open Area (fully extended)	48%		
Min. Open Area (2.2 TR)	23%		
Hinge Style	Open		
Drive Method	Hinge-Driven		
Product Notes			
<ul style="list-style-type: none"> • Always check with Customer Service for precise belt width measurement and stock status before designing a conveyor or ordering a belt. • Designed for low-tension, capstan drive spiral applications with a minimum turning radius of 2.2 times the belt width (measured from inside edge). • The Intralox Spiral Program will help predict the strength requirements of most low-tension, capstan drive spiral applications, insuring that the belt is strong enough for the application. Contact Technical Support Group for more information. • Lightweight, relatively strong belt with smooth surface grid. • Belt openings pass straight through the belt, making the belt easy to clean. • Contact Customer Service for preferred run direction on spiral applications. <p>WARNING: Personnel must not place their fingers in or on this belt. Fingers can get trapped in the openings of this belt, resulting in personal injury. This belt also has pinch points which result from the spreading and collapsing of the belt as it flexes to follow the conveyor path. These pinch points can trap fingers, hair or clothing, and can cause personal injury. Personnel should also be instructed not to wear loose fitting clothing, loose fitting gloves or hand/finger jewelry when working near this belt. Call Customer Service for tags, flyers and stickers containing this warning.</p>			
Additional Information			
<ul style="list-style-type: none"> • See "Belt selection process" (page 5) • See "Standard belt materials" (page 18) • See "Special application belt materials" (page 18) • See "Friction factors" (page 31) 			

a. Contact Intralox Customer Service for more information regarding belt widths under 24 in. (610 mm).

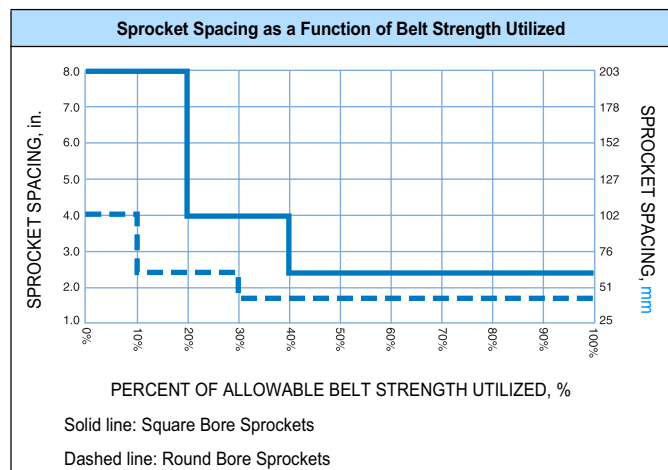
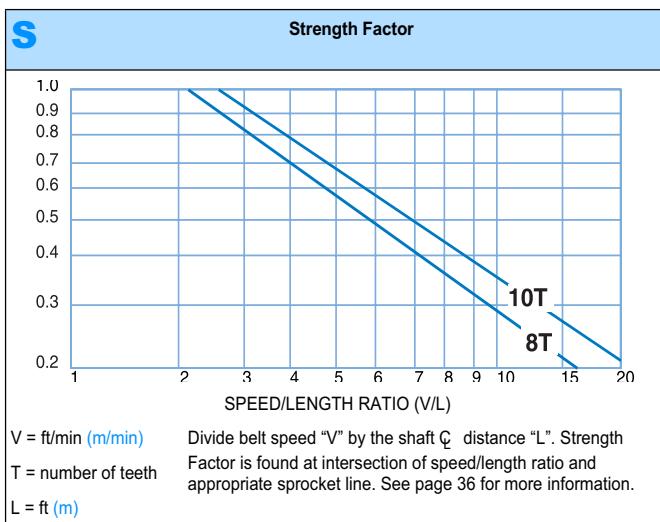
Belt Data														
Belt Material	Standard Rod Material Ø 0.24 in. (6.1 mm)	BS	Straight Belt Strength		Curved Belt Strength		Temperature Range (continuous)		W	Belt Weight		Agency Acceptability ^a 1=White, 2=Blue, 3=Natural, 4=Grey		
			lb/ft	kg/m	lb	kg	°F	°C		lb/ft ²	kg/m ²	FDA (USA)	J ^b	EU MC ^c
Acetal	Acetal		1700	2530	375	170	-50 to 200	-46 to 93	1.85	9.03	•	3	•	
Polypropylene	Acetal		1500	2232	300	136	34 to 200	1 to 93	1.26	6.15	•	3	•	

a. Prior to Intralox's development of Series 2700, USDA-FSIS Meat and Poultry discontinued publishing a list of acceptable new products designed for food contact. As of the printing of the manual, third party approvals are being investigated, but are not yet sanctioned by the USDA-FSIS.
 b. Japan Ministry of Health, Labour, and Welfare
 c. European Migration Certificate providing approval for food contact according to EU Directive 2002/72/EC and all its amendments to date.

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 Odd Number of Sprockets at Maximum 8 in. (203 mm) \varnothing Spacing		Maximum 25 in. (635 mm) \varnothing Spacing	Maximum 30 in. (762 mm) \varnothing Spacing	

- a. For low-tension capstan drive spirals contact Technical Support Group for suggested carryway support recommendations. Belt edges must be supported by support rollers on drive shafts. Contact Technical Support Group for more information.
- b. If your belt width exceeds a number listed in the table, please refer to the sprocket and support material minimums for the next larger width range listed. 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, consult Customer Service.**
- c. These are the minimum number of sprockets. Additional sprockets may be required for heavily loaded applications. See Retainer Rings/Center Sprocket Offset chart on page 304 for lock down location.
- d. Carryway Spacing dependant on a distributed 2 lb/ft² at 65 °F for Acetal belt with Acetal Rod with a 2" and 4" overhang.



Sprocket Data^a

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in.	Nom. Pitch Dia. mm	Nom. Outer Dia. in.	Nom. Outer Dia. mm	Nom. Hub Width in.	Nom. Hub Width mm	Available Bore Sizes			
							U.S. Sizes		Metric Sizes	
							Round in.	Square in.	Round mm	Square mm
							8 (7.61%)	5.2	132	5.4
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 Customer Service for lead times, preferred method of locking down sprockets, and for proper sprocket timing.

Overlapping Sideguards

Available Height		Available Materials
in.	mm	
0.50	12.7	Acetal, FDA FR Nylon
1.00	25.4	

Note: Sideguards maximize product carrying capacity: they fit into the very edge of the belt, with no indent.

Note: Sideguard assembly does not require “finger cuts” on the modules, so the belt’s beam strength is uncompromised.

Note: Turn ratios for 0.50 in (12.7 mm) Overlapping Sideguards in Acetal are 1.6 and 2.2. Turn ratios for 0.50 in (12.7 mm) Overlapping Sideguards in FDA FR Nylon is 2.2 only.

Note: The turn ratio for 1.00 in (25.4 mm) Overlapping Sideguard is 1.6 only.



Universal Sideguards

Available Height		Available Materials
in.	mm	
0.50	12.7	Acetal
1.00	25.4	
2.00 ^a	50.8 ^a	

Note: Maximizes product carrying capacity: they fit into the very edge of the belt, with no indent.

Note: Assembly does not require “finger cuts” on the modules, so the belt’s beam strength is uncompromised.

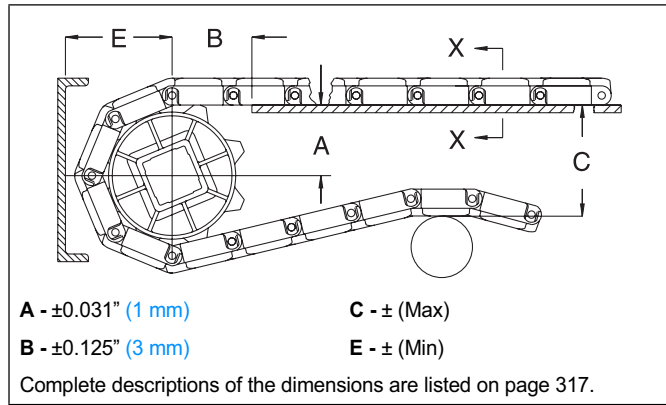


a. Only available in 1.6 TR

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” listed below should be 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.

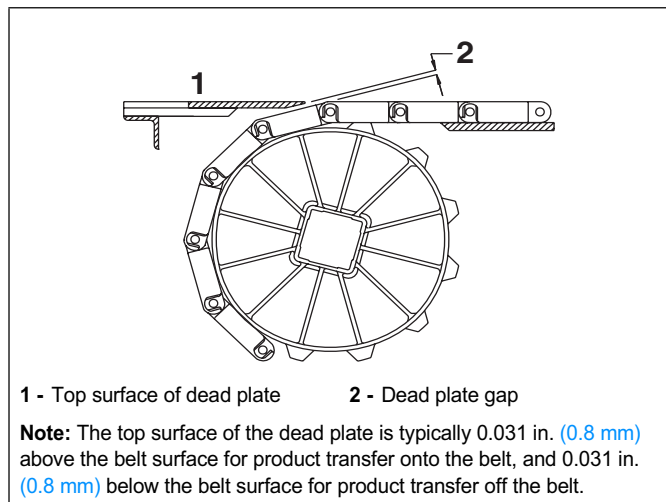


Sprocket Description					A		B		C		E	
Pitch Diameter		Nominal OD		No. Teeth	Range (Bottom to Top)		in.	mm	in.	mm	in.	mm
in.	mm	in.	mm		in.	mm						
SERIES 2700 1.6 RADIUS, 2.2 RADIUS												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.23	133	2.97	75
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.47	164	3.59	91

Dead Plate Gap

Where there is a transfer point from a belt without finger transfer plates to a dead plate, there should be a gap between the surfaces to allow for the chordal action of the belt. As the belt engages its sprockets, chordal action causes the modules to move past a *fixed* point (the tip of the dead plate) with *varying* clearances. The table below shows the minimum amount of gap which occurs at the “low point” of the modules if the tip of the dead plate just comes in contact with the “high point” as the modules pass.

In some installations it may be desirable to keep the tip of the dead plate in contact with the belt, rather than allow a gap to occur. This can be done by hinging the mounting bracket for the dead plate. This allows the dead plate to move as the modules pass, but results in a small oscillating motion which may present tippage problems for sensitive containers or products.



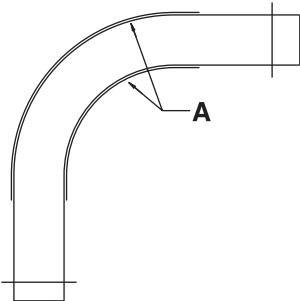
Sprocket Description				Gap	
Pitch Diameter		No. Teeth	in.	mm	
in.	mm				
5.2	132	8	0.200	5.1	
6.5	165	10	0.158	4.0	

HOLD DOWN RAILS AND WEARSTRIPS

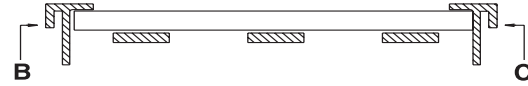
Intralox recommends using continuous hold down rails through an entire turn, starting at a distance of 1X the belt width before the turn and ending 1X the belt width after the

turn. This applies to both carryway and returnway. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory. See “*Custom wearstrips*” (page 310).

FLUSH EDGE WITH WEARSTRIP



A - HOLD DOWN RAIL PLACEMENT



B - OUTSIDE HOLD DOWN RAIL

C - INSIDE HOLD DOWN RAIL

Fig. 2-10 HOLD DOWN RAILS AND WEARSTRIPS FOR SERIES 2700 FLAT-TURNS

BELT SELECTION INSTRUCTIONS

ENGINEERING PROGRAM ANALYSIS FOR SERIES 2700

Intralox Customer Service Technical Support Group can calculate the estimated belt pull for radius applications using **Series 2700**. The following information is required (refer to “*Radius belt data sheet*” (page 361)):

- Any environmental conditions which may affect the friction coefficient (for dirty or abrasive conditions, use higher friction coefficients than normal)
- Belt width
- Length of each straight run
- Turning angle of each turn

- Turn direction of each turn
- Inside turning radius of each turn
- Carryway/hold down rail material
- Product loading lb/ft² (kg/m²)
- Product back-up conditions
- Belt speed
- Elevation changes on each section
- Operating temperatures.

For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service Technical Support Group. The Engineering Program should be run to insure that the belt is strong enough for the radius application in question.

SERIES 2700 DESIGN GUIDE SUMMARY

For more information, see the *Installation, Maintenance and Troubleshooting manual* available from Intralox.

A - The minimum turning radius for **Series 2700** is 2.2 times the belt width, measured from the inside edge for the standard edge or 1.7 times the belt width for the tight turning style.

B - The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections will lead to high wear on the edge guide rail and high pull stresses in the belt.

C - There is no minimum straight run required between turns that are in the same direction.

D - The minimum length for the final straight run (leading into the drive shaft) is 1.5 times the belt width. Shorter lengths may lead to sprocket wear or tracking problems. For narrow belts, a weighted take-up may be required since proper catenary cannot be achieved therefore, a 5 ft. (1.50 m) minimum final straight run is recommended. See "Special Take-Up Arrangements" (page 324).

E - 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 times the width), an idle roller may be used in place of sprockets.

F - IDLE SHAFT

G - 1ST TURN

H - BELT WIDTH

I - BELT TRAVEL

J - 2ND TURN

K - DRIVE MOTOR

L - DRIVE SHAFT

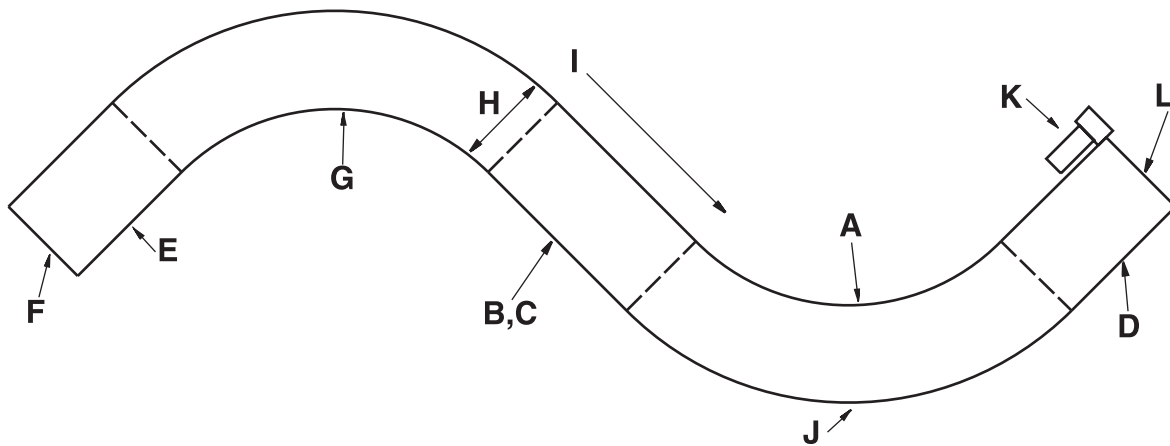


Fig. 2-11 TYPICAL 2-TURN RADIUS LAYOUT

