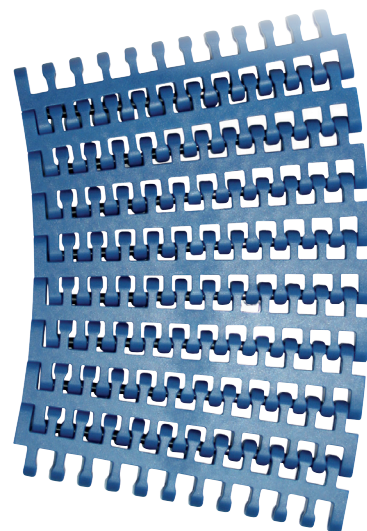




**SYSTEM
PLAST™**

Sideflexing belt, Series 2256



- 1" pitch, 3" width increments
- Optimum product support
- Small radius
- High strength
- Available in 4 different versions
- With wear resistant guiding
Tabs, positioners and slider shoe

Appendix to general Engineering Manual



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The proper selection and application of power transmission products and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, lubrication requirements, loading supports, and other factors can materially affect the application and operating results of the products and components and the customer should carefully review its requirements. Any technical advice or review furnished by Emerson Power Transmission Solutions and its divisions with respect to the use of products and components is given in good faith and without charge, and Emerson assumes no obligation or liability for the advice given, or results obtained, all such advice and review being given and accepted at customer's risk.

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2256 - Appendix to general Engineering Manual, Issue 3.0 • 10/2011 • English version

Printed in Italy

Engineering manual

This Engineering Manual has been developed to assist you with specific engineering information when a new conveyor is designed.

We cannot take responsibility for imperfections, damage or injuries due to wrong conveyor design, poor installation or improper use of our products made with or without reference to the information in this manual.

We appreciate your suggestions to improve this Engineering Manual.

For additional data and information about technical details of our products please refer to:



- **Conveyor Chains & Belts catalogue**



- **Conveyor Components catalogue**



- **Leveling pads catalogue**



- **Bearing supports catalogue**



- **Engineering Manual**



- **Calculation program**

Contact us

To contact your local Technical Support check our website www.systemplast.com
or send an email to: technicalsupport@systemplast.com

2256 SIDEFLEXING BELT

Pitch: 1" (25,4 mm)

Thickness: 0,5" (12,7 mm)

Back flex radius: 25 mm

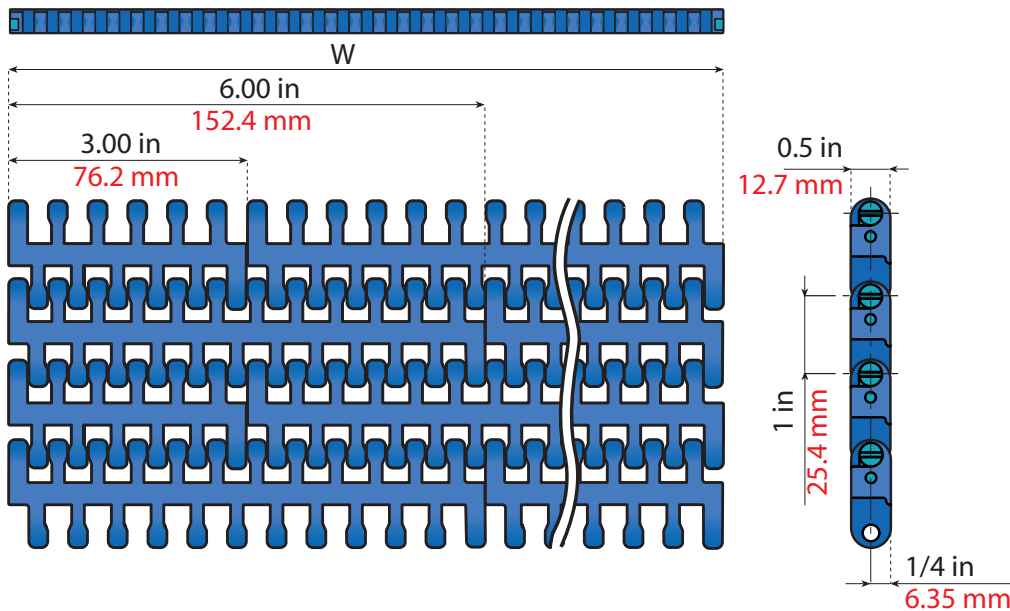
Modular width system: Imperial → Standard widths can be made in 3"(76,2 mm) steps.

Special cut-to-width dimensions can be made in ½" steps.

Standard materials: - modules: blue acetal

- TABs: water blu NG

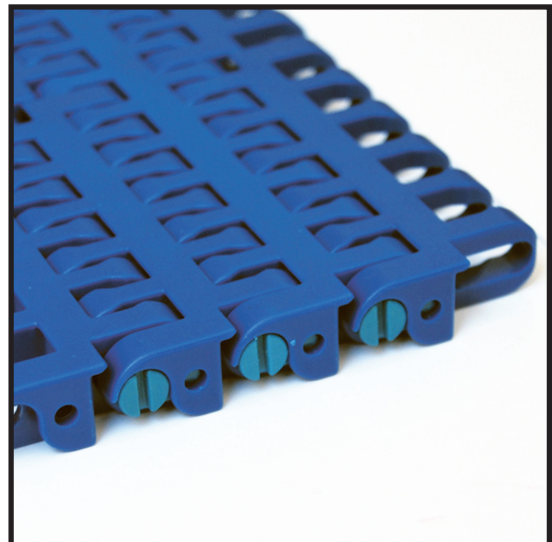
New **Generation** material is an extra performance PBT based material exclusively available from System Plast. It offers the lowest friction lowest noise and optimum wear resistance, good strength and optimum wear resistance especially under dry running circumstances.



The **maximum load capacity** is 30000 N/m belt width for straight sections and 1600 N in the curve. Consult Technical Support to check the load and PV limit.

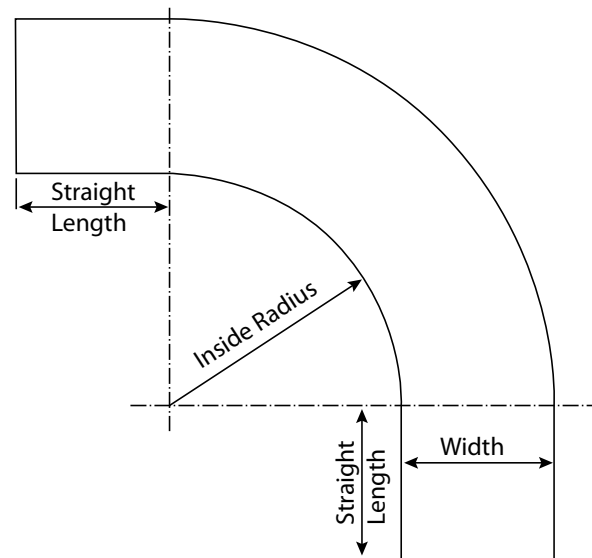
Features of the 2256 series belt:

- S- curve possible
- Bi-directional → can run both directions
- Small pitch → small transfer
- Rigid design
- Flexible design
- Special clip design → easier maintenance



The **width – inside radius ratio** starts with 1,90:

Width [inch]	Width [mm]	Minimum Radius [mm]	Ratio
3	76,2	145	1,90
6	152,4	290	1,90
9	228,6	435	1,90
12	304,8	580	1,90
15	381,0	725	1,90
18	457,2	890	1,95
21	533,4	1040	1,95
24	609,6	1250	2,05



The **minimum straight section before the curve** is: belt width with a minimum of 300 mm.

The **minimum straight section after the curve** is: belt width with a minimum of 500 mm.

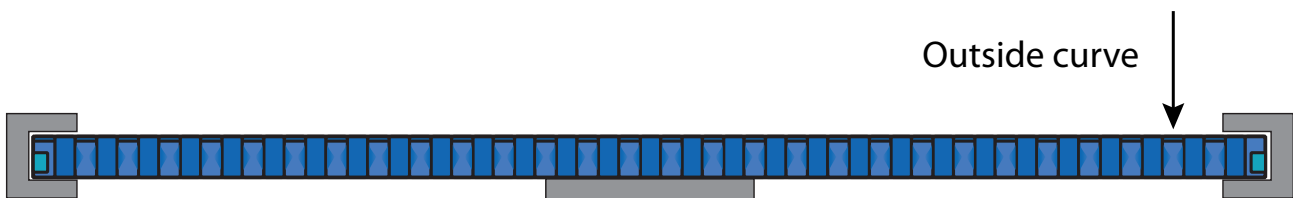
The **minimum straight section in between an S-curve** is: belt width with a minimum of 1,5 times the belt width with a minimum of 500 mm.

There are 4 possibilities to guide the belt through the curve:

No TABs:



The load on the inside of the curve is carried by the inside guide. The belt is being held down on the outside by a C-shaped guide. The outer edge of the belt is running through the guide in the curve and cannot be used to support product.

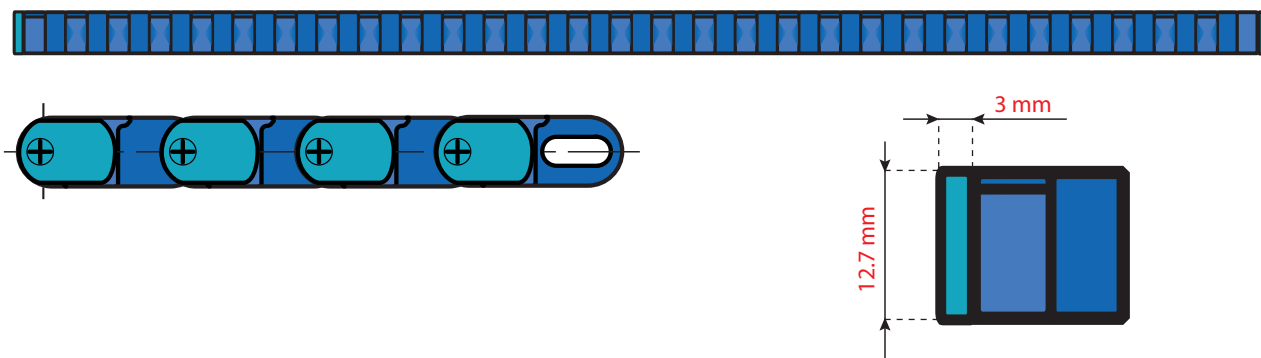


Alternatively on the straight sections:

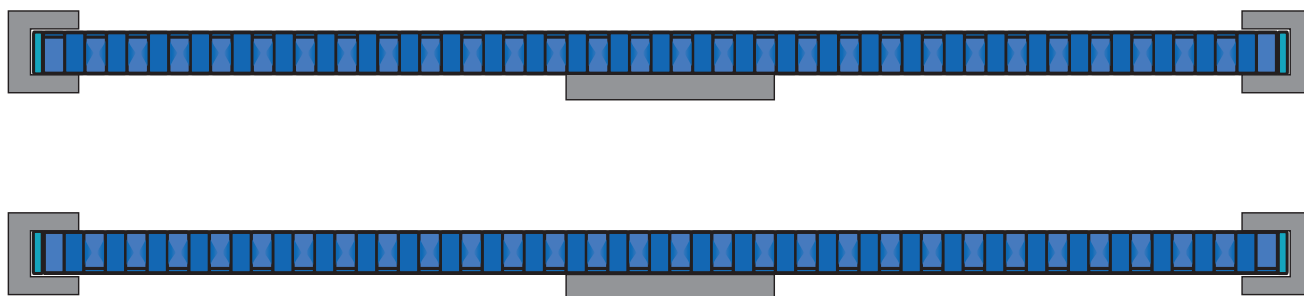


2256 SIDEFLEXING BELT

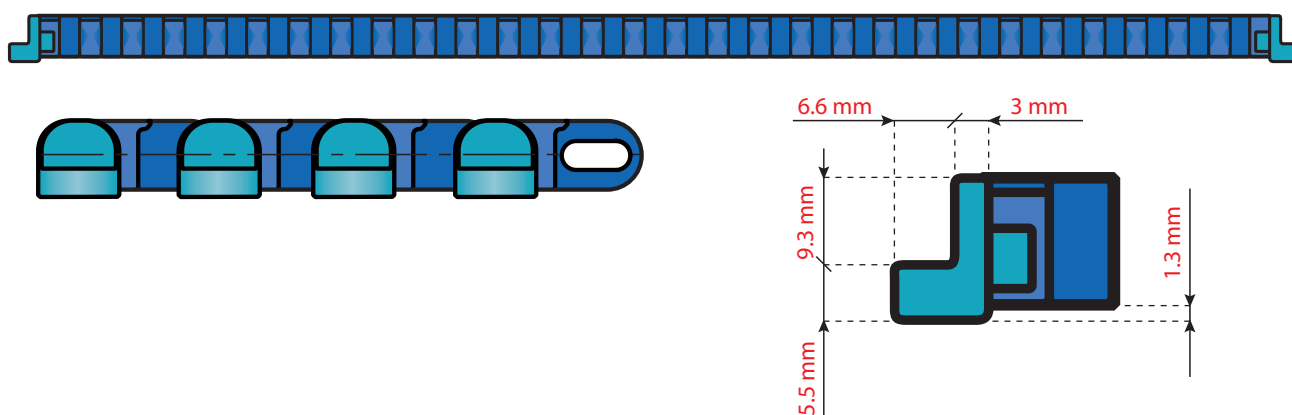
With slider shoe:



The load on the inside of the curve is carried by the TABs. On the outside the TABs are used to hold the belt down in the curve. The full belt width can be used to support the product. The product can also be wider than the belt (taken the product is stable enough).



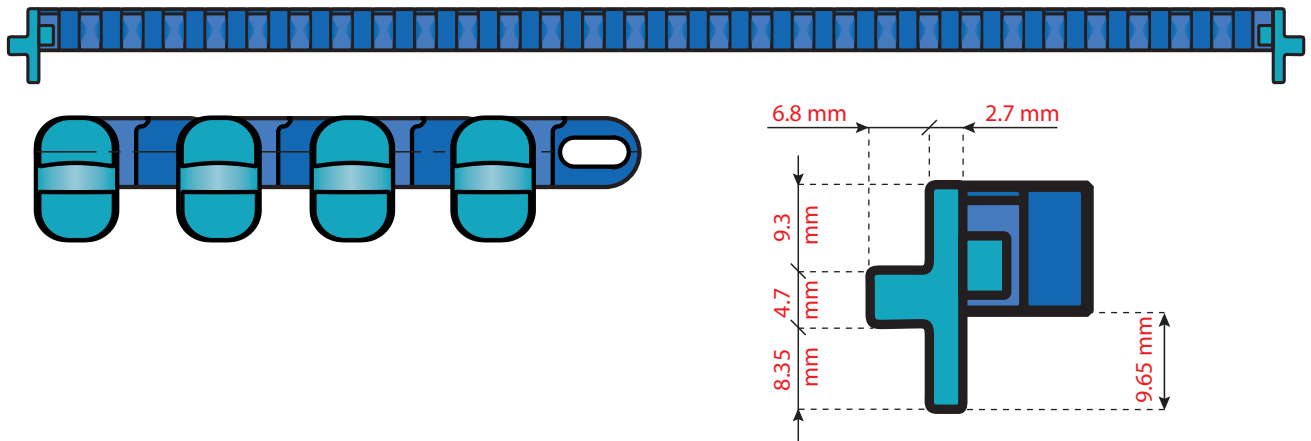
With TABs:



The load on the inside of the curve is carried by the TABs. On the outside the TABs are used to hold the belt down in the curve. The full belt width can be used to support the product. The product can also be wider than the belt (taken the product is stable enough).



With combined TAB - Positioner:



The load on the inside is carried by the TABs. On the outside the TABs are holding the belt down in the curve. The positioners underneath can be used to guide the belt from underneath.



Alternatively on the straight sections:



2256 SIDEFLEXING BELT

Free space between TABs and guide:

Generally we advise to have total 3 mm free space between TABs and guide

For example: 12" wide belt + 2x 3,5 mm for TABs = 311.8 mm total belt width. Space between guides should therefore be 315 mm.



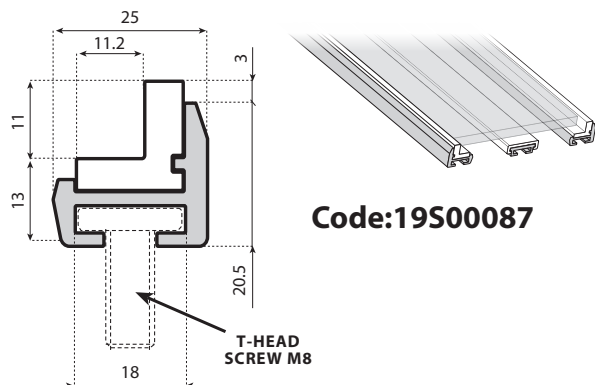
In any case it's **very important** to make sure that the transfers between straight and curve and between the individual wear strip sections are smooth and **without collision points**.

And make sure the belt is running free throughout the conveyor.

In case of temperature differences, the thermal expansion of the belt should be taken into account!

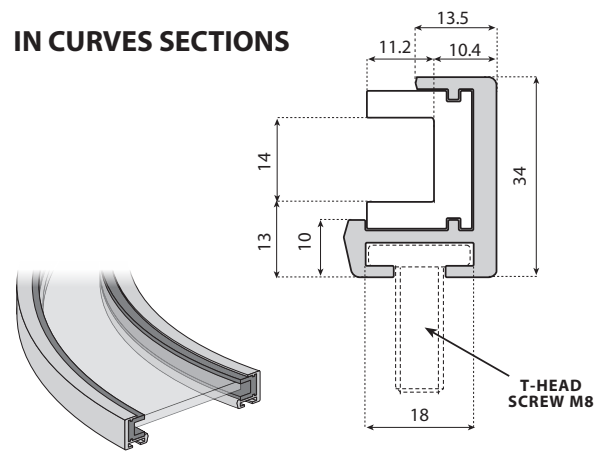
Possible standard profiles:

IN STRAIGHT SECTIONS

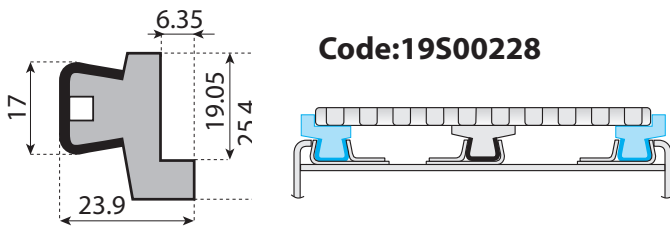


Code:19S00087

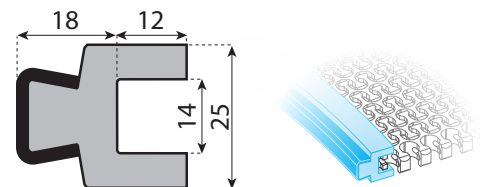
IN CURVES SECTIONS



Code:19S00035



Code:19S00228



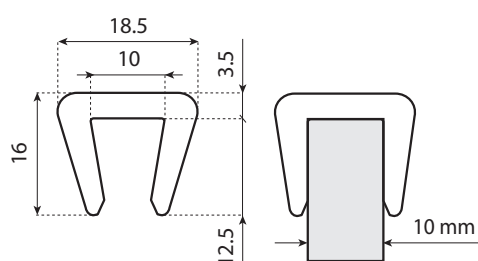
Code:19S00182NS



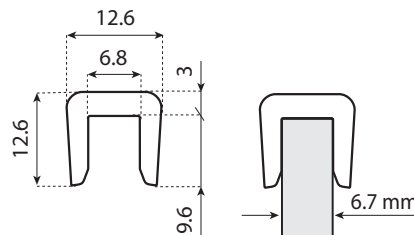
We recommend to use **Nolu-S** as material for the guides in the curve.

The belt can be supported for example by following profiles:

Bar cap profiles:



Code:19S00081-75M



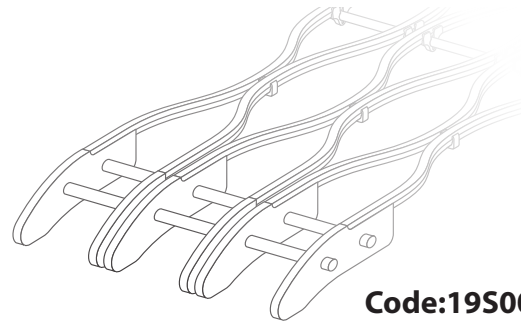
Code:19S00052-30M

Code:19S00052-150M

Serpentine system:



Code:19067

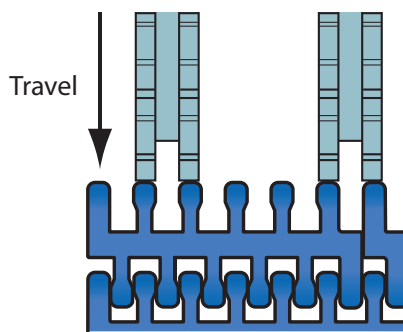


Code:1950002
or 1950001

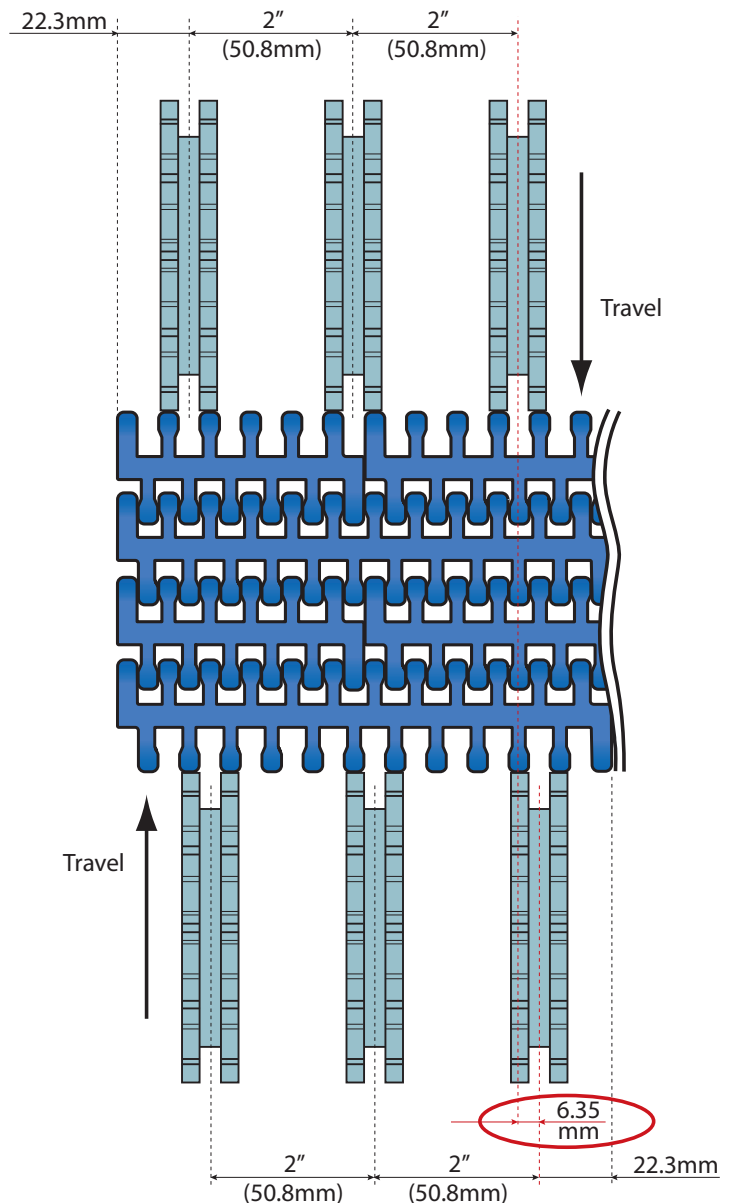
Sprocket position:



The 2256 series belt does not have pockets to position the sprockets. This makes the positioning of the sprockets very flexible. Important is that the teeth of the sprocket push against the spherical side of the hinge eye.



That means that in one travel direction the sprockets are 0,25" (6,35mm) besides the point where they should be for the other travel direction. See below in red circle.

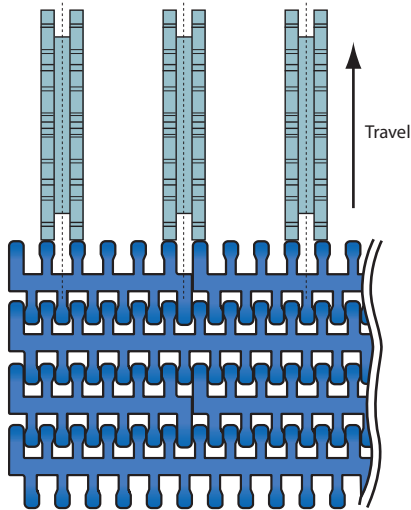


Width [inch]	Minimum #sprockets	Maximum #sprockets
3	1	2
6	2	6
9	6	9
12	8	12
15	10	15
18	12	18
21	14	21
24	16	24

2256 SIDEFLEXING BELT

When the same belt needs to run bi-directional, special sprockets are needed. Please contact Application Engineering for that.

On the idler side the sprockets have the opposite position, since the belt pushes against the teeth of the idler.



Please refer to the Powerflex series sideflexing belt chapter for more general recommendations.

Return section:

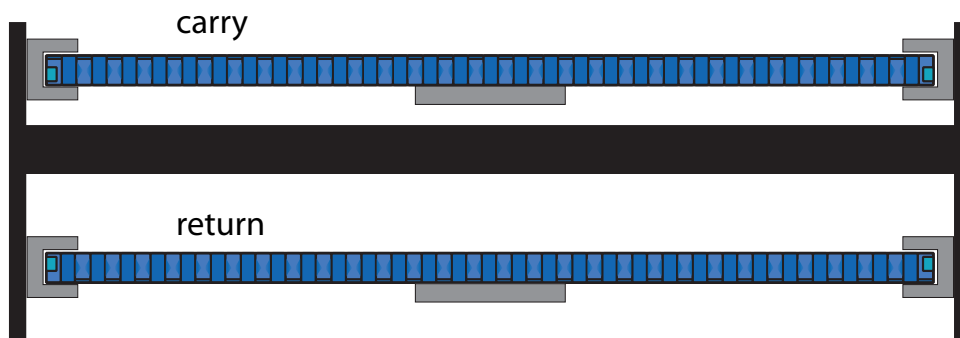
For straight sections we refer to the corresponding section in the engineering manual about possible return constructions.



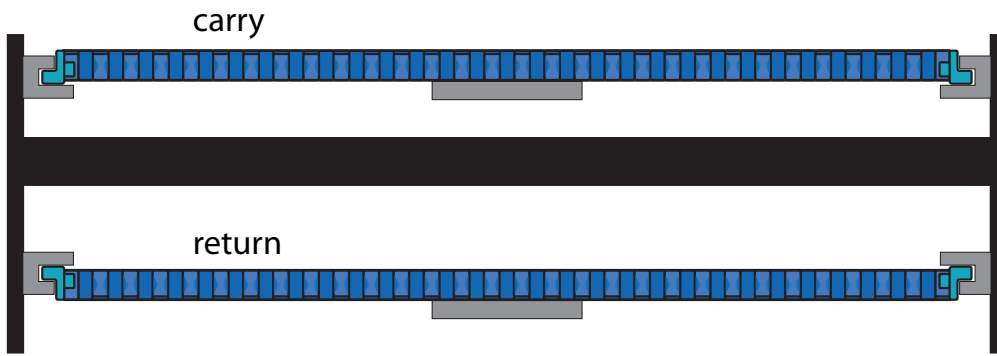
Important for the whole conveyor, but certainly also for the return section is that the curve is accurately build. The curve should be a true curve and not a polygon. The vertical position of the belt support should match accurately with the position of the TAB guide.

Possible principle constructions for curves:

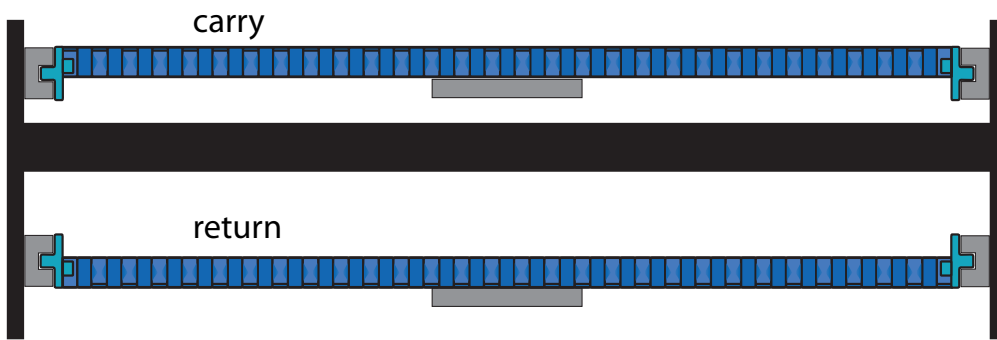
Standard without TABs and with slider shoes:



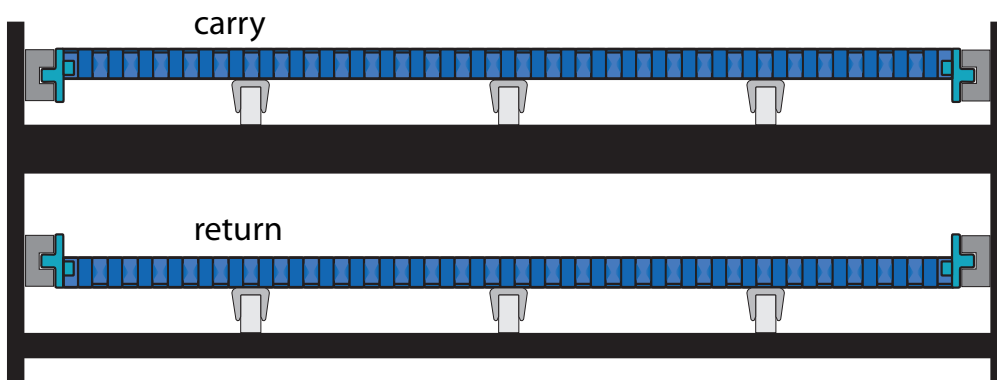
With TABs:



With TABs and positioners:



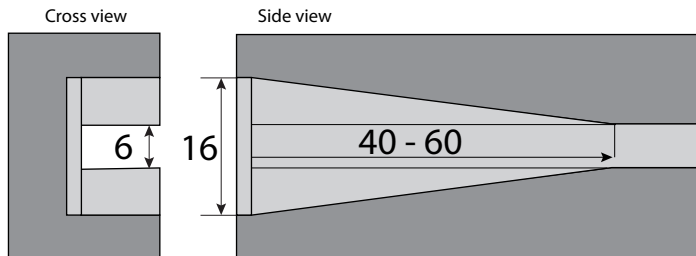
The flat support of the belt can also be set up using bar cap profiles like 19S00081.
For example:



2256 SIDEFLEXING BELT

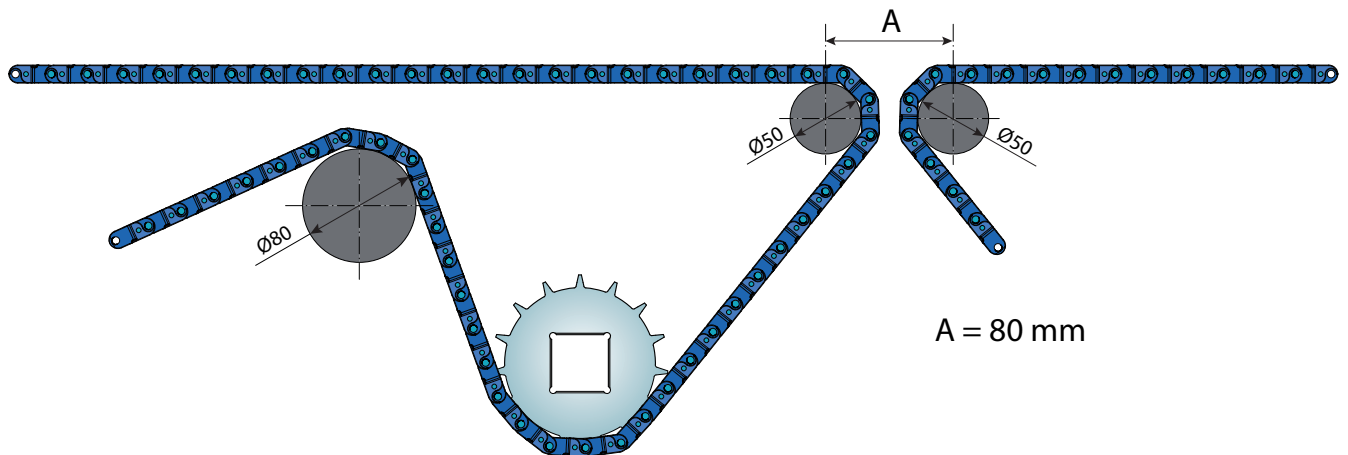
For the return section, depending on the exact construction, an intermediate support is only necessary for a belt width of 12" and wider.

Important for the transfer from one guide section to the other and at the entry of the guide profile is a proper **chamfer**, both in horizontal as well as in vertical direction. For example:



Transfers:

The 2256 series belt has a small 1" pitch, thus making small **head-to-tail** transfers possible. The minimum diameter head roller is 50 mm. The minimum advised take up roller after the sprocket in case of a bottom drive is 80 mm.

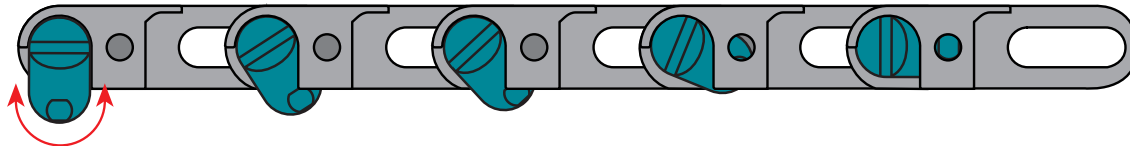


Mounting and dismounting:

We advise to make –part of - the guides easy to remove to be able to take the belt out easily for inspection, maintenance, etc.

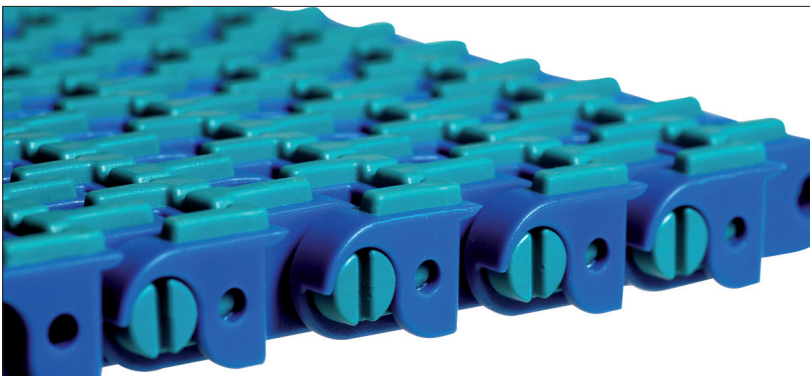
Or make a position on the conveyor where the belt can be taken out.

The clip system allows for very easy mounting and dismounting of the pins and modules.



With a simple (but sufficiently large) flat screw driver, the clip can be twisted and taken out. Then the pin can be pulled out.

Grip belt:

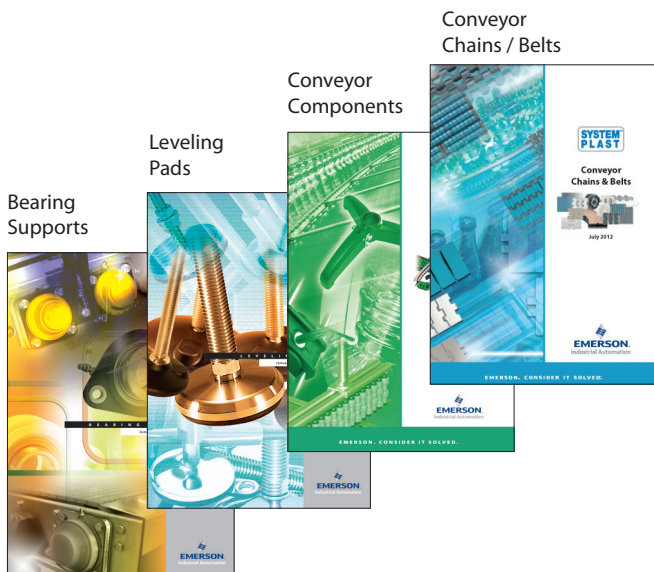


Find info about inclining/declining applications in the related chapters in the Engineering Manual.
Material used for the rubber inserts is TPR/SEBS.

Catalogues available on request

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Engineering Manual



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Engineering Manual - 2256 Appendix

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