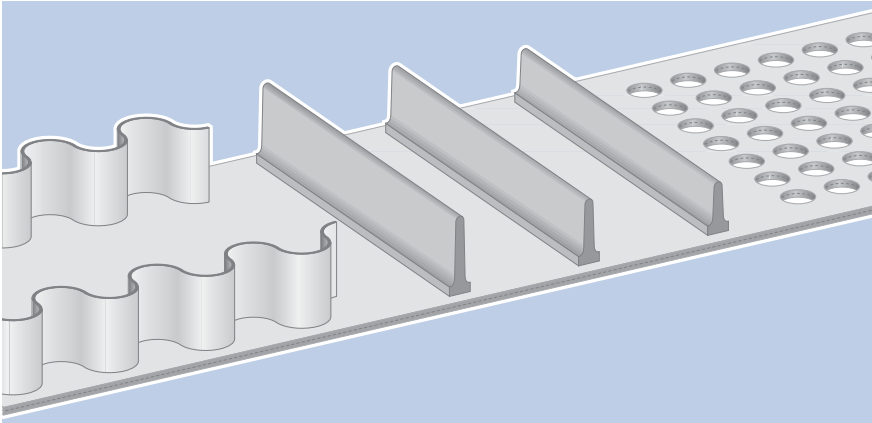


# siegling transilon

conveyor and processing belts

## Technical Information 2

### Special features and properties



**NA**

Siegling Transilon conveyor and processing belts are high-quality products characterised by their durability, simple handling, freedom from maintenance and economical operation.

**HC**

Certain conveying and processing tasks require mechanical, physical or chemical belt properties which are made possible only by special production processes, combination of materials or finishing.

**SE**

- For example,
- profiles, sidewalls and surface patterns improve the grip properties,
  - special tension member designs allow usage as knife edge or curved belt,
  - NA, HC and SE belts fulfil special requirements in applications.

Important basic information about storage, finishing and fitting of your Siegling Transilon conveyor and processing belt can be found in our brochure ref. no. 317 "Technical Information 1".

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### Special belt properties

Antistatic belts	14
NA (Non-antistatic)	14
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Accumulation belts	15
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# Profiles and sidewalls



Conveyor belts equipped with profiles are used for the inclined conveying of bulk goods and small items.

Profiles are available in various shapes and sizes, and in some cases can be supplied as roll material.

Sidewall profiles are used – often in conjunction with lateral profiles – to contain bulk goods on the sides of the belt.

## Splice

For Siegling Transilon belts with profiles and sidewalls, the splice types listed in the “Technical Information 1” can be used, depending on the belt type.

In swan-neck conveyor belts, because of stiffness around the splice, a stepped Z-splice or overlap splice must be used.

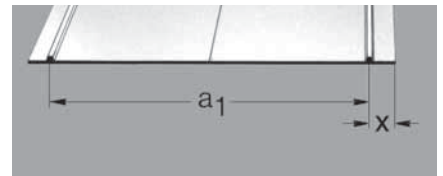
## Positioning of profiles

Lateral profiles are usually positioned at a right angle to the belt edge. For other profile arrangements (e.g. V-shaped or curved) please note manufacturing possibilities and special dimensions on page 3.

With longitudinal profiles the distance from the belt edge to the middle of the profile (x) must be stated. Longitudinal profiles can be flush with the belt edge.

Exception: profiles on U0 surfaces require a gap from the belt edge of at least 2 mm.

When longitudinal profiles are attached in pairs the distance between the profile centres (a<sub>1</sub>) must also be specified.



### Combinations of materials

Top face/ underside coating	Minimum coating thickness [mm]	Profile type/ material <sup>(1)</sup>	welded	hot-bonded
0; U0; E0; V1; U1; Y0	0	F, K profiles		●
VH	0.2	PVC F, K profiles all PU profiles	●	●
V	0.5	all PVC profiles/sidewalls all PU profiles	●	●
U2 <sup>(2)</sup>	0.2	all PU profiles PVC F, K profiles	●	●
U4; U8	0.4; 0.8	all PU profiles/sidewalls PVC F, K profiles	●	●
U3; U20; UH; U2H; S; P; G; LF	–	no profiles/sidewalls possible		
E	0.3	all polyester profiles/sidewalls	●	
NOVO	2.5 mm total thickness	PVC F, K profiles		●
A	–	profiles on request		

The welding of profiles onto 1-ply belt types and onto the type E 5/2 is possible only to a limited extent.  
Please inquire.

<sup>1)</sup> The letters “F” and “K” indicate profile shapes (see pages 4/5).

<sup>2)</sup> The welding of PU profiles onto E 18/H U0/U2 MT white FDA is possible.

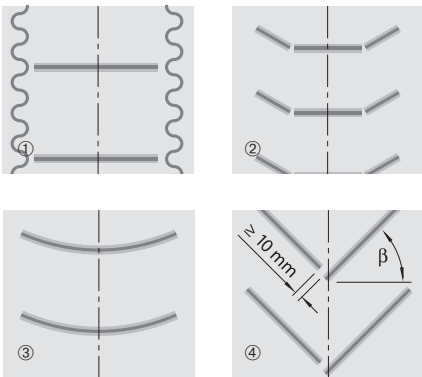
<b>A</b>	Polyolefin
<b>C</b>	Cotton
<b>E</b>	Polyester
<b>G</b>	Rubber/elastomer
<b>F; Z</b>	Felt, velour
<b>P</b>	Polyamide
<b>S</b>	Silicone
<b>V</b>	PVC
<b>VH</b>	Hard PVC
<b>VS</b>	Soft PVC
<b>U</b>	Urethane
<b>UH</b>	Hard urethane
<b>NOVO</b>	Polyester fibre bundle

<b>0</b>	Uncoated
<b>A0</b>	Impregnated with polyolefin
<b>E0</b>	Impregnated with polyester
<b>LF</b>	Low friction
<b>S0</b>	Impregnated with silicone
<b>U0</b>	Impregnated with urethane
<b>U1</b>	0.1 mm thick urethane coating
<b>U2H</b>	0.2 mm thick hard urethane coating
<b>V1</b>	0.1 mm thick PVC coating
<b>Y0</b>	Special impregnation on underside

## Sizes available

No longitudinal profiles can be applied around a longitudinal seam, the distance  $a_1$  must be at least 400 mm. If a longitudinal profile must be located in the centre of the belt, then the longitudinal seam must be offset by approx. 200 mm to either side of the centre.

If profiles on both sides or longitudinal and lateral profiles combined are needed, please inquire.



- ① Box-shaped welded profiles
- ② V-shaped welded profiles
- ③ Curved welded profiles
- ④ V-shaped welded profiles (sketch of dimensions)

Profile positions		
Profile details for v-shaped welded profiles (see fig.)		
Angle $\beta$	Belt length* min. [mm]	Belt width max. [mm]
45°	5500	1150
40°	5100	1300
35°	4800	1450
30°	4650	1600
25°	4300	1700
20°	3900	1800
15°	3300	1900
8.5°	2600	2000

\* Shorter belt lengths available on request.

Belt sizes for lateral profiles	open belts	endless belts
	minimum belt length	any length
maximum belt length	any length	any length
minimum belt width <sup>1)</sup>	50 mm	50 mm
maximum belt width <sup>1)</sup>	approx. 3200 mm	approx. 3200 mm

Belt sizes for longitudinal profiles on top face	Belt width approx. [mm]	Minimum length endless belts <sup>2)</sup> approx. [mm]
up to 1200		700
up to 4700		1900
$>$ 4700		on request

Belt sizes for longitudinal profiles on underside	Belt width approx. [mm]	Minimum length approx. [mm]
up to 500		700
up to 700		1250
up to 1000		2000
up to 1750		2700
up to 2500		4000
up to 4450		5500
$>$ 4450		on request

Belts with profiles on top face and underside	Minimum widths
for lateral profiles	50 mm
for longitudinal profiles	$a_1$ + profile width

Tolerances of profile centre distances $a_1$	$a_1$ [mm]	Tolerance [mm]
	50 – 500	$\pm$ 1.5
	up to 1000	$\pm$ 2.0
	up to 3000	$\pm$ 3.0
	up to 4000	$\pm$ 4.0
	over 4000	$\pm$ 5.0

Larger belt widths on request.

<sup>1)</sup> Depending on the profile shape and positioning, guidelines do not have to be kept to or may be exceeded – when using larger profiles or where profiles are positioned particularly narrowly, please consult us.

<sup>2)</sup> Please note the manufacturing possibilities depending on the splicing angle – table minimum lengths in brochure ref. no. 317, page 4.

# Types of profiles

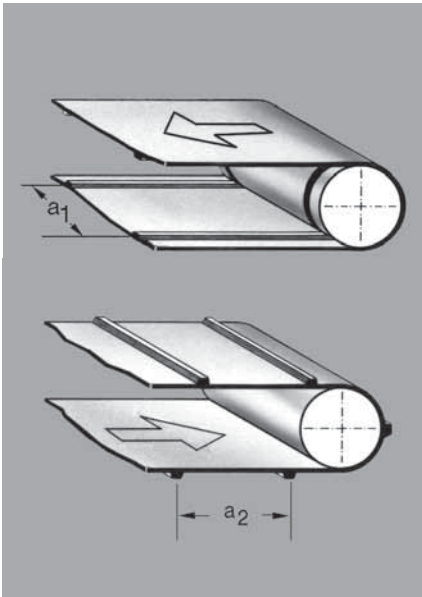
Material

Shapes

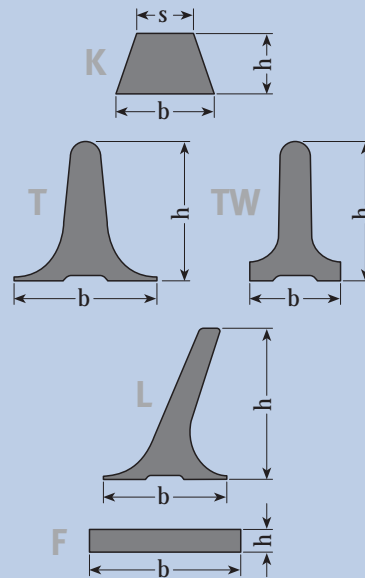
Shore-A-Hardness

Designation

Sizes  
b x h x s [mm]



PVC Profiles



60

K 6	6 x 4 x 4
K 10	10 x 6 x 6
K 13	13 x 8 x 7.5
K 15	15 x 8 x 9.5
K 17	17 x 11 x 9.5
K 30	30 x 16 x 18
T 20	20 x 20
T 60	70 x 60
TW 40 <sup>2)</sup>	30 x 40
TW 60 <sup>2)</sup>	30 x 60
TW 80 <sup>2)</sup>	40 x 80
L 40	33 x 40
L 60	33 x 60
L 80	46 x 80
F 20 x 3	20 x 3
F 30 x 8	30 x 8

Indented longitudinal profiles are available too. To extend service life we recommend using whole profiles that are not indented, as the indentation can cause splits at the bottom of the profile.

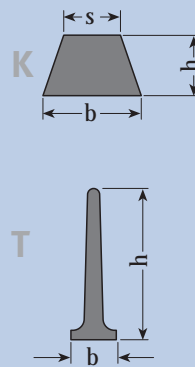
Further special profiles available on request.

Please note:

Profiles can mean that belt properties are changed. This applies particularly to types that

- are ATEX compliant
- have a highly conductive coating (HC)
- are flame-retardant (SE/FR)

Urethane Profiles

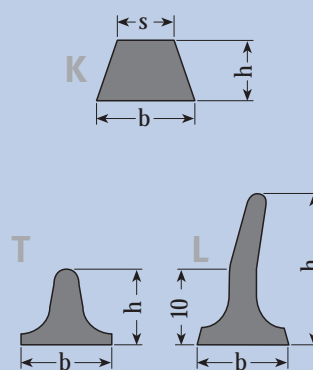


65

K 6	6 x 4 x 4
K 10	10 x 6 x 6
K 13	13 x 8 x 7.5
K 15	15 x 8 x 9.5
K 17	17 x 11 x 9.5
T 20	12 x 20
T 30	12 x 30
T 40	12 x 40
T 50	12 x 50
T 60	12 x 60
F 15 x 6	15 x 6
F 30 x 8	30 x 8

87

Polyester Profiles



92

K 10	10 x 6 x 6
K 13	13 x 8 x 7.5
K 17	17 x 11 x 9.5
T 10	12 x 10
LB 20	12 x 20
LB 30	12 x 30
LB 40	12 x 40
LB 50	12 x 50
LB 60	12 x 60

## Recommended splice method

1-ply types	with splice film reinforced with gauze
2 + 3-ply types	Z-overlap or Overlap splice

<sup>1)</sup> The  $d_{min}$  specifications for the belt, the lateral profile and the sidewall must be taken into consideration when determining the drum diameters. The largest value is the most important factor and a smaller diameter may not be used. The specifications for  $d_{min}$  are standard values determined at normal ambient conditions (20 °C/50 % humidity).

Lower temperatures require larger diameters.

<sup>2)</sup> Can be used only in conjunction with sidewalls.

<sup>3)</sup> Available, but not BFR/EU or FDA approved.

Colour and physiological property						Weight approx. [g/m]	Permissible operating temperature [°C]	Use as lateral profile		Use as longitudinal profile		
Blue RAL 5013	Blue RAL 5015	Transparent	White	Green	a <sub>z, min</sub> [mm]			d <sub>min</sub> approx. [mm] <sup>1)</sup>	a <sub>z, min</sub> [mm]	d <sub>min</sub> approx. [mm] <sup>1)</sup> underside	d <sub>min</sub> approx. [mm] <sup>1)</sup> top face	
	FDA		FDA	● <sup>3)</sup>	25	-10 to +70	30	30	30	40	30	
	FDA		FDA	● <sup>3)</sup>	55	-10 to +70	30	50	30	70	60	
	FDA		FDA	● <sup>3)</sup>	100	-10 to +70	30	80	30	90	60	
				● <sup>3)</sup>	120	-10 to +70	30	90	30	90	60	
	FDA		FDA	● <sup>3)</sup>	170	-10 to +70	30	110	30	90	90	
				● <sup>3)</sup>	470	-10 to +70	60	180	50	230	180	
	FDA		FDA	● <sup>3)</sup>	160	-10 to +70	30	90				
				● <sup>3)</sup>	1400	-10 to +70	100	150				
	FDA		FDA	● <sup>3)</sup>	540	-10 to +70		120				
	FDA		FDA	● <sup>3)</sup>	710	-10 to +70		150				
			FDA	● <sup>3)</sup>	1250	-10 to +70		150				
	FDA		FDA	● <sup>3)</sup>	470	-10 to +70	80	80				
	FDA		FDA	● <sup>3)</sup>	600	-10 to +70	90	80				
	FDA		FDA	● <sup>3)</sup>	1200	-10 to +70	100	140				
			FDA	● <sup>3)</sup>	65	-10 to +70	30	70	30	70	50	
			FDA	● <sup>3)</sup>	260	-10 to +70	40	120	45	120	90	
			● <sup>3)</sup>		25	-30 to +80	30	30	30	40	30	
			● <sup>3)</sup>		55	-30 to +80	30	50	30	70	60	
			● <sup>3)</sup>		100	-30 to +80	30	80	30	90	60	
			● <sup>3)</sup>		120	-30 to +80	30	90	30	90	60	
			● <sup>3)</sup>		170	-30 to +80	30	110	30	90	90	
	FDA	FDA		FDA	FDA	140	-30 to +80	30	50			
	FDA	FDA		FDA	FDA	180	-30 to +80	30	50			
		FDA		FDA	FDA	220	-30 to +80	30	50			
	FDA	FDA		FDA	FDA	250	-30 to +80	30	50			
				FDA	FDA	280	-30 to +80	30	50			
			●			100	-30 to +80	30	70	30	70	
			●			290	-30 to +80	40	120	45	120	
			FDA			55	-30 to +100	30	70	30	70	
			FDA			100	-30 to +100	30	120	30	100	
			FDA			170	-30 to +100	30	140	30	110	
			FDA			85	-30 to +100	30	70			
			FDA			135	-30 to +100	30	70			
			FDA			180	-30 to +100	30	70			
			FDA			240	-30 to +100	30	70			
			FDA			270	-30 to +100	30	70			
			FDA			290	-30 to +100	30	70			

# Sidewalls

Shore-A Hardness

Colour and physiological property

Designation

Transparent

White

Green

Height h [mm]

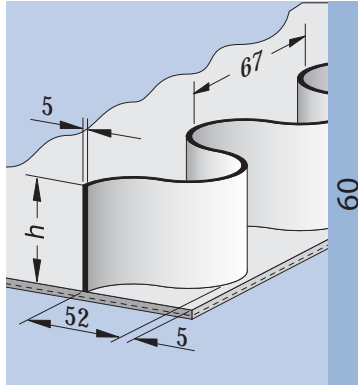
Width [mm]

Weight of attached sidewall approx. [g/m]

Permissible operating temperature [°C]

$d_{min}$  approx. [mm]\*

PVC sidewalls



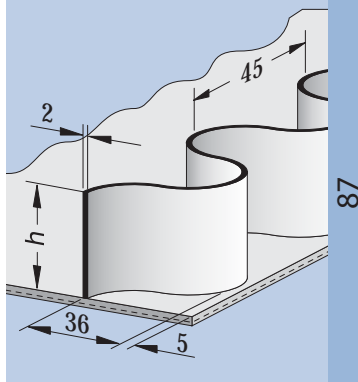
FW 5 x 40	FDA	● <sup>3)</sup>	40	52	430	-10 to +70	120
FW 5 x 60	FDA	● <sup>3)</sup>	60	52	645	-10 to +70	150
FW 5 x 80	FDA	● <sup>3)</sup>	80	52	865	-10 to +70	150

Lateral profiles which can be used:

TW 40, TW 60, TW 80, L 40, L 60, L 80 (See table on pages 4/5 for technical data)

Minimum centre distance  $a_2 = 134$  mm (if flush with but not welded to sidewall)

Urethane sidewalls



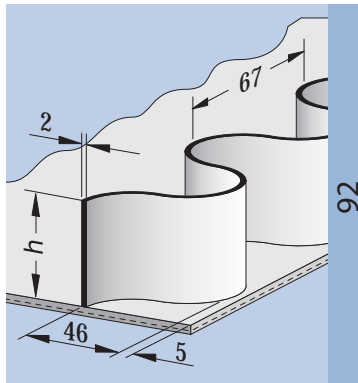
FW 2 x 30	FDA	● <sup>3)</sup>	30	36	130	-30 to +80	60
FW 2 x 40	FDA	● <sup>3)</sup>	40	36	170	-30 to +80	80
FW 2 x 60	FDA	● <sup>3)</sup>	60	36	240	-30 to +80	100

Lateral profiles which can be used:

T 20, T 30, T 40, T 50, T 60, L 40, L 60 (See table on pages 4/5 for technical data)

Minimum centre distance  $a_2 = 90$  mm (if flush with but not welded to sidewall)

Polyester sidewalls

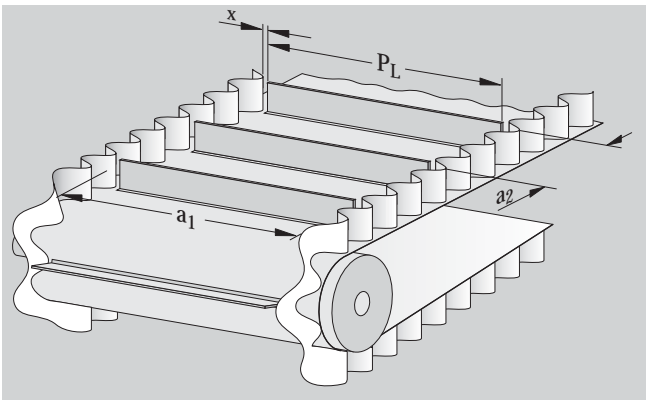


FW 2 x 40	FDA		40	46	170	-30 to +100	120
FW 2 x 60	FDA		60	46	240	-30 to +100	150
FW 2 x 80	FDA		80	46	320	-30 to +100	150

Lateral profiles which can be used:

T 10, L 20, L 30, L 40, L 50, L 60 (See table on pages 4/5 for technical data)

Minimum centre distance  $a_2 = 134$  mm (if flush with but not welded to sidewall)



### Finished belt sizes available

Length: 2600 to 60000 mm

Width: 200 to 1300 mm

### Recommended splicing method

Stepped overlap or stepped Z-splice

### Inner distance between sidewalls

$a_1 = 100$  to 1200 mm (for  $a_1 < 150$  mm deviations in edge parallelism are possible)

### Maximum profile length $PL_{max}$

$PL_{max} = a_1 - 2x$  (with  $x = 2 \pm \frac{3}{8}$ )

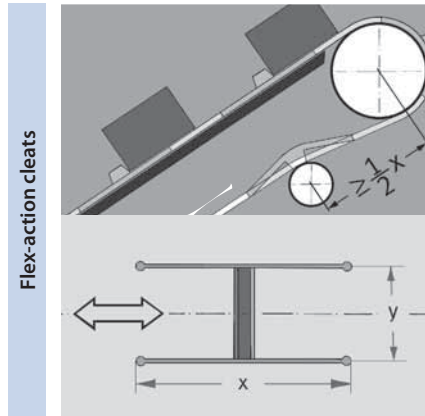
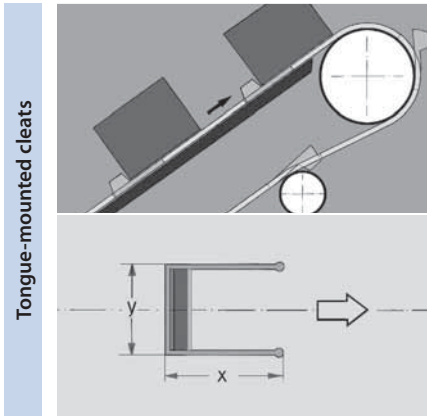
### Sidewall amplitude tolerances

$\pm 1.0$  mm

### Manual splice tolerances

amplitude  $\pm 3.0$  mm; spacing distance  $\pm 1.5$  mm

# Tongue-mounted and flex-action cleats



With tongue-mounted and flex-action cleats it is possible to convey unit goods on inclines without problems – even at steeper incline angles.

A tongue is punched into the belt material in tongue-mounted cleats and a slit on flex-action cleats, on which a profile is applied laterally.

On the conveying side, the tongue or flexible section lies, like the belt itself, flat on the slider bed and makes form-fit conveying of unit goods on inclines possible. (Use of rollers with flex-action cleats is possible in some cases).

On the return side, the profile on the relatively narrow longitudinal strip flexes inwards when the belt runs over snub or support rollers. For that reason, belts with tongue-mounted and flex-action cleats can be retrofitted in existing conveyors without design modifications.

Profile	Tongue length (x) [mm]	Tongue width (y) [mm]
K 10	45 to 50	50 or 70
K 13	45 to 50	50 or 70
K 15	50 to 55	50 or 70
K 17	50 to 55	50 or 70

For other designs please inquire.

Profile	Length of flexible section (x) [mm]	Width of flexible section (y) [mm]
K 10	250	50 or 70
K 13	250	50 or 70
K 15	250 or 400	50 or 70
K 17	250 or 400	50 or 70

For other designs please inquire.

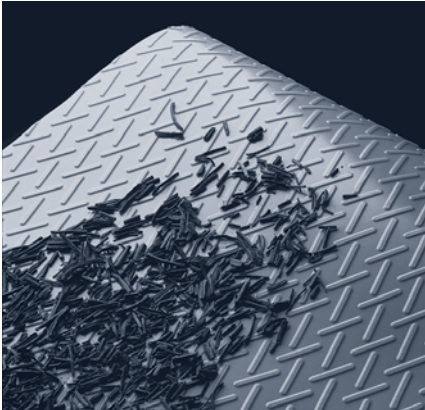
Tongue-mounted cleats carry unit goods only in an upward direction.

The slider bed should be located as close as possible to the snub rollers to prevent the profiles from sagging on the conveying side.

Flex-action cleats are suitable for inclined and declined conveying.

Belts with flex-action cleats are preferred for upwards conveying where the slider beds are too short, have gaps or are installed at a higher level than the snub rollers.

# Top face patterns



Siegling Transilon patterned belts guarantee good grip or good release properties, depending on the design and goods conveyed.

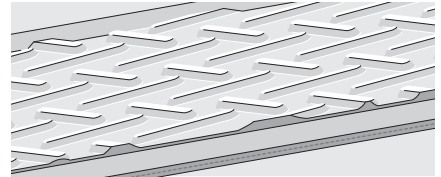
Conveying angles of up to 30° can be achieved without profiles with certain patterned belts.

So patterned belts are not just an affordably-priced alternative to profile belts. The combination of patterned belts with longitudinal or lateral profiles is often possible.

Patterns can be peeled off from the belt edge up to a width of 150 mm (e.g. for clamps in swan-neck conveyors – see fig. on right).

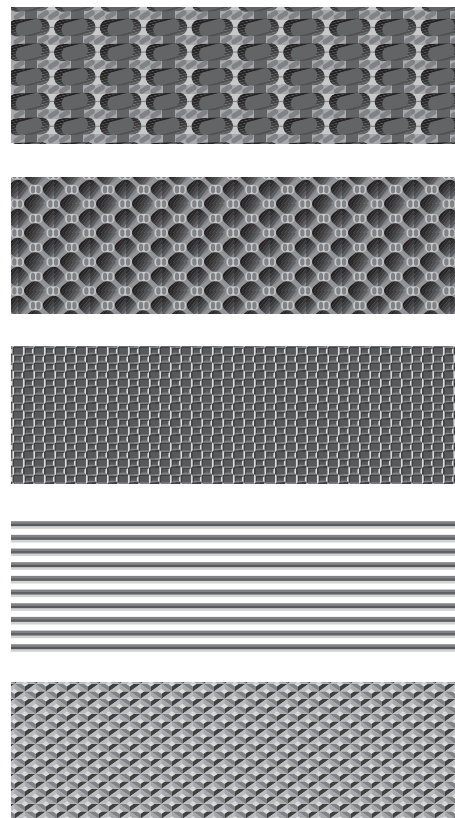
## Splice

The splice types specified in “Technical Information 1” can be used, depending on the belt type.



- = applicable
- = applicable to a limited extent

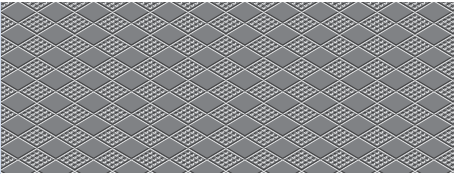
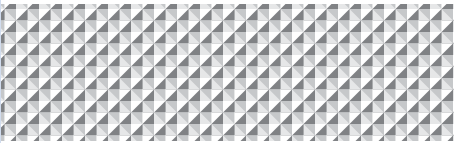
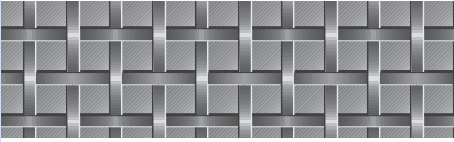





- AR**  
Anti-skid pattern (Scale 1:1)
- GSTR**  
Coarse textured pattern (Scale 1:1)
- STR**  
Normal textured pattern (Scale 1:1)
- LG**  
Longitudinal groove (Scale 1:1)
- RF**  
Fine rhomboid pattern (Scale 1:1)



Properties					
good draining properties (wet areas)	easy to clean	wear resistant	low-noise in counter bending	Inclined conveying	FDA design available
○			○	●	
			○	○	
			○	○	
○	●	●	●	●	
	●		●		●



Properties					
good draining properties (wet areas)	easy to clean	wear resistant	low-noise in counter-bending	Inclined conveying	FDA design available

	●		○		●	
	○	○	●	○	●	
●	○		○	●		
●	●	●		●	●	
●	○	●		●		
		●		●		
●		●		●		
●	○	●		●	●	

**RFF**  
Flat fine rhomboid pattern (Scale 1:1)

**NP**  
Inverted pyramid pattern (Scale 1:1)

**SG**  
Lattice pattern (Scale 1:1)

**VN**  
Staggered stud pattern (Scale 1:4)

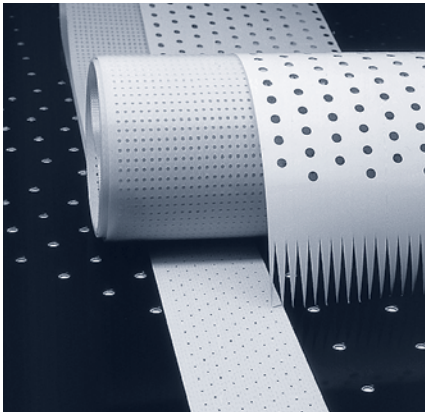
**KN**  
Cross-stud pattern (Scale 1:1)

**R80**  
Rhomboid pattern (Scale 1:4)

**CH**  
Check-in pattern (Scale 1:4)

**FG**  
Herringbone pattern (Scale 1:2)

# Perforations



In Siegling Transilon material almost any perforation configuration can be achieved within narrow tolerances ( $\pm 1$  mm) – please inquire about the perforation configuration you require. Special designs with metal eyelets are also available.

Perforated belts are not suitable for form-fit transmission of force. Ask your Forbo Siegling contact person for alternatives.

**Maximum belt width  $b_0$  [mm] = approx. 3000 (for several perforations)**

**Diameters of perforations  $d$  [mm]:**

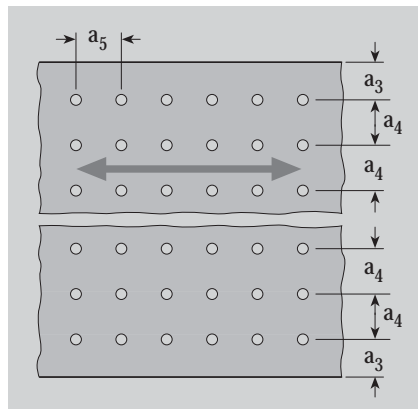
4	5	6	7	8	9	10	11	12
13	14	15	16	18	19	20	30	

**Tolerance [mm]  $\pm 1$**

## Splice

An overlap or stepped Z-splice should be used for perforated belts, since such splices can also be perforated in the splice section.

Rows of perforations with identical diameters



**Distance from edge [mm]**

$$a_{3 \min} = d/2 + 25$$

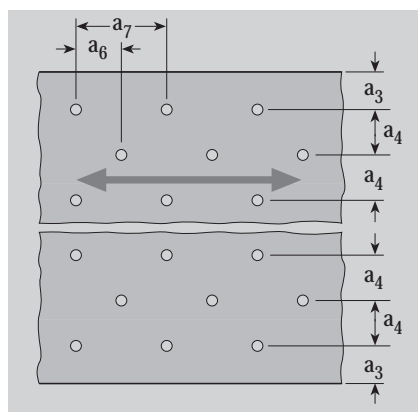
**Distance between perforations, longitudinal [mm]**

$$a_{5 \min} = d + 35$$

**Distance between perforations, lateral [mm]**

$$a_{4 \min} = d + 35$$

Off-set rows of perforations with identical diameters



**Distance from Edge [mm]**

$$a_{3 \min} = d/2 + 25$$

**Distance between perforations, longitudinal [mm]**

$$a_{6 \min} = d + 25$$

$$a_{7 \min} = d + 25$$

**Distance between perforations, lateral [mm]**

$$a_{4 \min} = d + 35$$

Tolerances for elevator belts

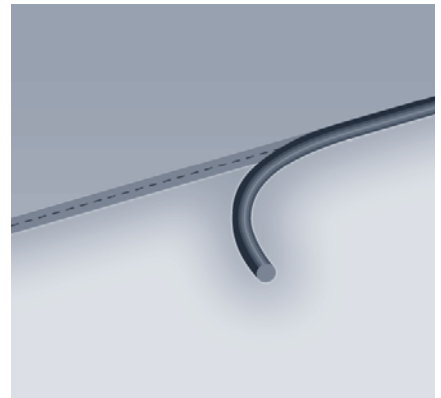
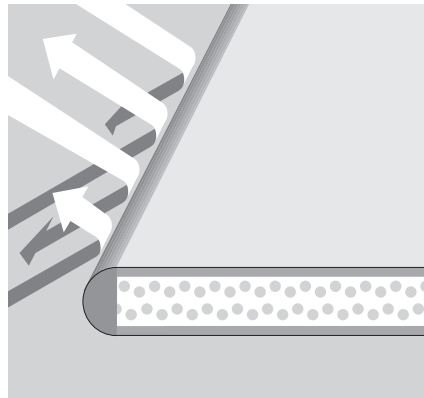
Centre distance of perforation [mm]	Tolerance [mm]	Screw size	Perforation [mm]
40 – 50	$\pm 1$	M 6/M 7 M 8/M 9	+1
63 – 125	$\pm 2$	M 10/M 12 M 13/M 14	+2

# Proseal

A belt edge sealing prevents oil, grease, water, foreign substances and bacteria from penetrating the belt. This also increases the service life of the belt.

In the textile industry, the risk of fibres sticking to belt edges is minimised.

Almost every Siegling Transilon conveyor belt can be equipped with this extra protection. Details on the combinations can be found in the data sheets.



## Splice

The splice types specified in “Technical Information 1” can be used for Siegling Transilon belts with belt edge sealing.

### Combinations of materials

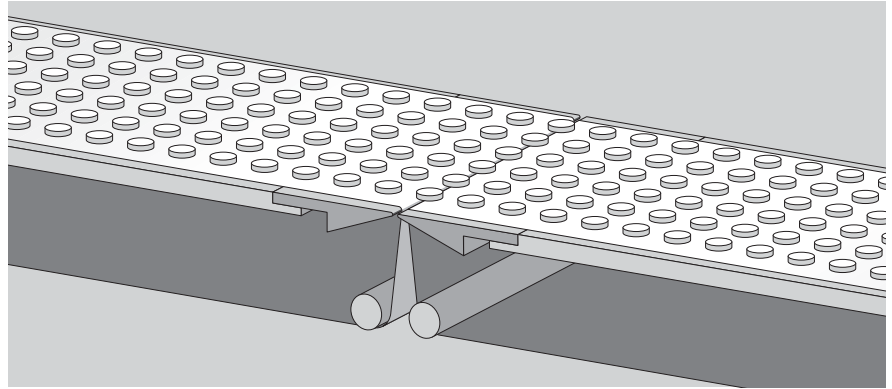
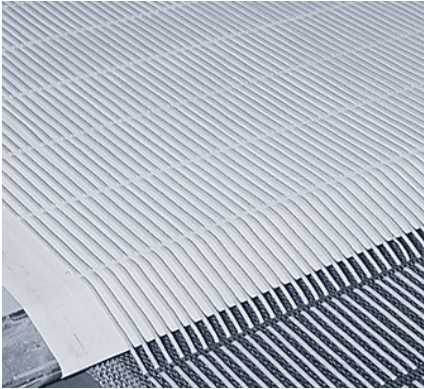
Top face coating	Belt thickness from/to [mm]	Proseal colours				Belt widths [mm] from to	
		transparent	white	green	blue		
0; U0	0.7–2.7		●	○	●	40	1000*
A	2.5–3.7	●				40	1000*
E	1.7–2.2	●				40	1000*
U; UxS	0.7–2.7		●	○	●	40	1000*
V; VxS	1.2–4.5		●	●	●	40	1000*

● available

○ on request

\* larger widths on request

# Knife edge belts



Siegling Transilon knife edge belts are especially rigid both longitudinally and laterally thanks to their fabric design. They are suitable for use on knife edges as of 3 mm radius.

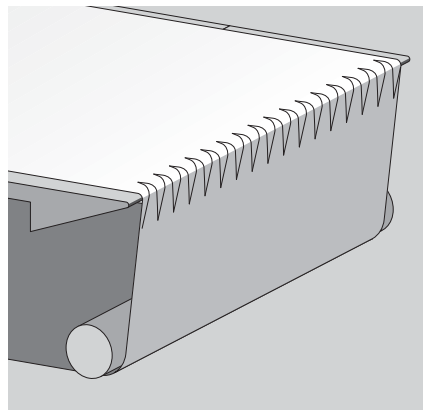
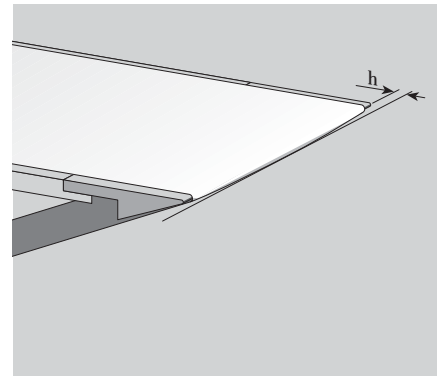
Even wide belts run flat, so even light-weight goods remain in position.

With their high coefficients of thermal conductivity, knife edge belts are exceptionally well suited for use as cooling tunnel belts. They are physiologically harmless, largely impermeable to oils and greases and meet BfR, EU and FDA stipulations for the conveying of unwrapped foodstuffs. They can also be supplied in blue and white HACCP design.

Since the power consumption of knife edge belts is higher, the arc of contact should be kept as small as possible.

Long conveyor belts running over knife edges (e.g. cooling tunnels) usually have edge-mounted tracking devices.

Shorter knife edge belts (e. g. at transfer points and tray belts) can be tracked well if a crown (h) is added to the knife edge or in reverse operation to both knife edges.



## Splice Z-splice

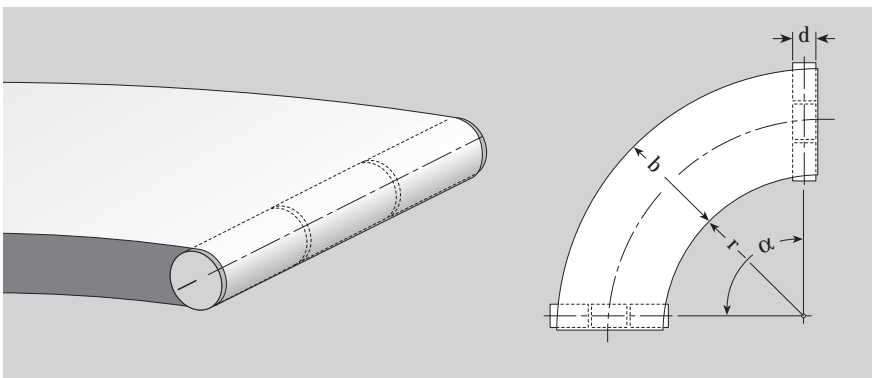
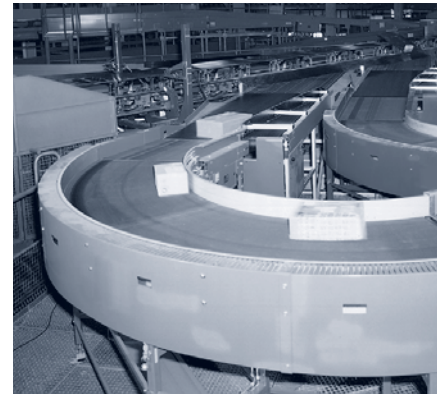
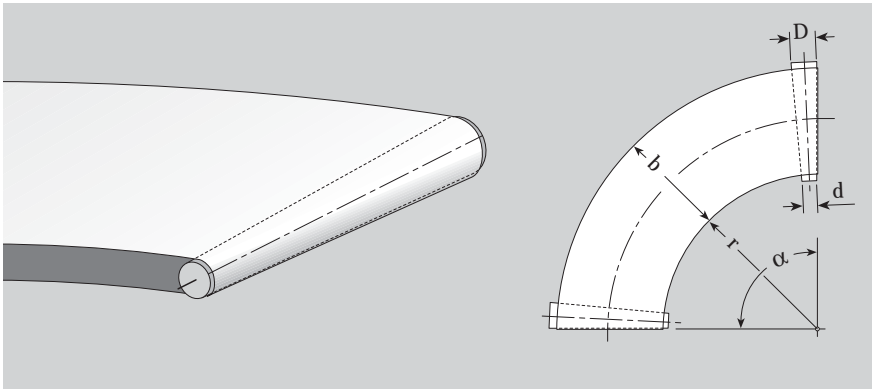
Due to its high flexibility and durability, we recommend the hot-pressed Z-splice for knife edge belts. The standard splice is 90°. A 60° or 80° splice is also possible for this type (particularly smooth operation).

By using special splice films almost identical friction coefficients are achieved on the underside of the splice. This makes belt travel smoother and running times longer.

Further information about finishing, types available, standard sizes and tolerances can be found in "Technical Information 1".

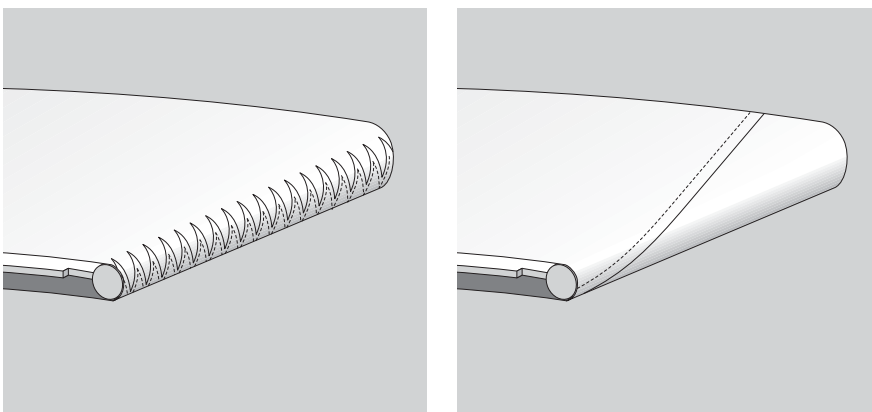
Further information on fitting knife edge machinery can be found in leaflet 305 "Recommendations for conveyor design".

# Curved belts



Thanks to their fabric design, Siegling Transilon curved belts are exceptionally flexible, both laterally and longitudinally, ensuring an optimal distribution of forces within the belt.

Depending on the application, either conical or cylindrical drums are used, or in some cases even knife edges or rolling knife edges.



Curved belts can be fabricated from one or more segments. Fabrication from several segments improves the distribution of forces within the belt. Curved belts can be equipped with perforations or eyelets along the edges so they can be attached to tracking systems later on.

## Splice

### Z-splice

1-ply types are made endless with a Z-splice.

### Stepped Z-splice

For 2-ply curved belts we recommend the stepped Z-splice. It has the same flexibility properties as the Z-splice, but can better absorb the lateral forces which arise in the curved belt.

### Diagonal wedge or overlap splice

These two splice types can be used as an alternative if a stepped Z-splice cannot be fabricated. Both splice types enable the belt splice to roll over the drum evenly and can also absorb the lateral forces which arise.

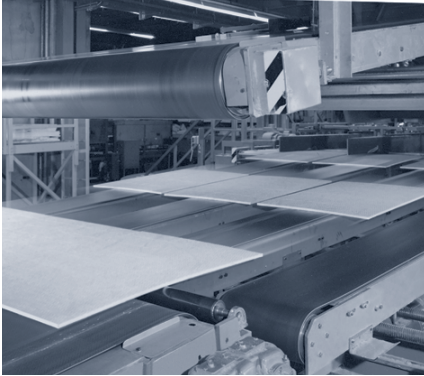
### Standard curved belt dimensions [mm]

$r_{min}$	=	250
$b_{max}$	=	4500

Special dimensions on request

# Special belt properties

## Antistatic belts



Antistatic Siegling Transilon belts are equipped with an electrically conductive antistatic inhibitor that is abrasion-protected and embedded in the belt. It effectively prevents static build-up from the running belt. Antistatic belts do not always guarantee discharge of previously statically-charged conveyed goods, e.g. in the nonwovens industry, when conveying plastic or electronic components. In these cases HC belts should be used, particularly when they have to be ESD safe.

In line with DIN-EN-ISO 284 thresholds, the electrical resistance measured on the inside (lengthways)  $R_{Di}$ , according to ISO 21178, is less than  $3 \times 10^8 \Omega$ .

### Splice

The splice types listed in "Technical Information 1" can – depending on type – be used for antistatic Siegling Transilon belts.

## NA (Non-antistatic)



Siegling Transilon NA belts are produced without an electrically conductive antistatic element. Tested according to ISO 21178 the electrical surface resistance  $R_{Di}$  is more than  $3 \times 10^8 \Omega$ .

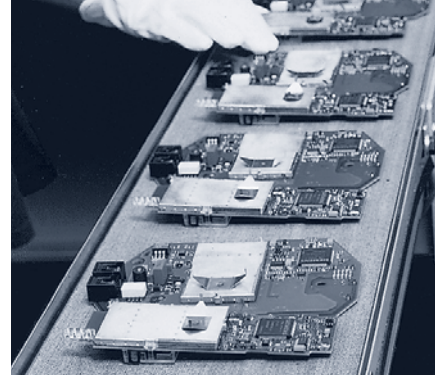
Combined with the coating materials appropriate in each case, NA belts guarantee smooth operation when using in electro-magnetic fields such as machine components with high frequency, X-ray and microwave applications.

NA belts in many different coatings with specific properties for particular products provide a high safety standard, in particular because of stringent quality controls, in the food and tobacco, chemical, pharmaceutical and particle board industries. In this way sensitive metal detectors for example can be used to an optimum with Siegling Transilon NA belts.

### Splice

The splice types specified in "Technical Information 1" can be used for Siegling Transilon NA belts, depending on the belt type. It is not possible to use mechanical fasteners made of steel if metal detectors are in use or in microwave applications.

## HC (Highly-conductive)



Siegling Transilon HC belts (Highly-conductive) are particularly antistatic due to a conductive top face and underside. Measured in line with ISO 21178, the electrical surface resistivity of the top face and underside is  $R_{OA} < 3 \times 10^8 \Omega$ . In the majority of belt types, the surface resistivity  $R_{OA}$  of the top face and underside is even less than  $1 \times 10^7 \Omega$  and as a result falls significantly short of the threshold stated in DIN-EN ISO 284.

Numerous belt types also have an electrical volume resistance  $R_D < 1 \times 10^9 \Omega$ , verified in accordance with ISO 21178.

HC belts are particularly suitable for conveying electronic components and anywhere where, if the belts and the goods conveyed are charged, there is a detrimental effect on product quality e.g. in the nonwovens or chemical industries.

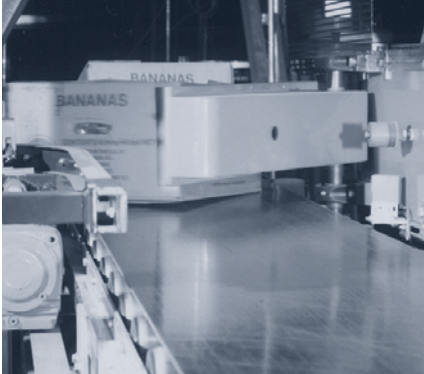
If the belts have to be ESD safe, only HC belts can be used. Should the belts be required for ESD applications, we recommend consulting application engineers at Forbo Siegling to discuss the technical details.

### Splice

The splice types specified in "Technical Information 1" can be used for Siegling Transilon HC belts, depending on the belt type.



## Accumulation belts



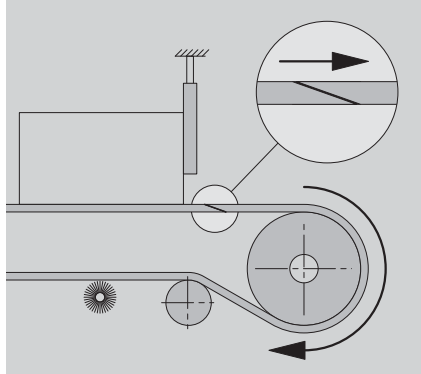
Accumulation belts are used when collecting conveyed goods behind a barrier or when sliding onto or off a belt. The particularly stiff design of the belts ensures level conveying in larger belt widths. So pushing unit goods on or off from the side is no problem at all.

Minimum friction coefficients between slider bed and underside and accumulation goods and top face must be maintained so that required power and wear and tear is kept low.

Siegling Transilon accumulation belts with duroplastic urethane coating (UH or U2H) are particularly abrasion resistant and have low friction coefficients. These properties guarantee long durability and reduce maintenance costs.

To eliminate belt mistracking that might be caused by loading or unloading of goods from the sides, we recommend:

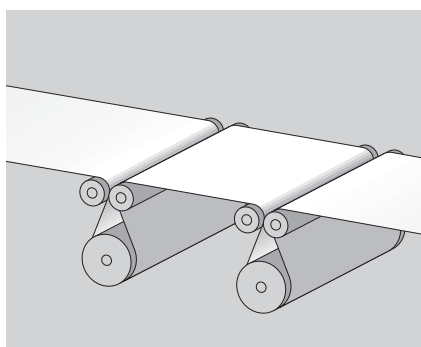
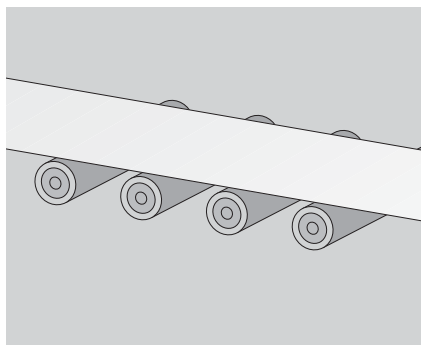
- lagging all support rollers in the loading area so as to increase the drag between them and the belt which counterbalances the lateral forces
- designing the conveyor for increased belt wrap around the drums/rollers in the loading area (also advisable in the case of eject mechanisms).



## Splice

The splice types specified in "Technical Information 1" can be used for Siegling Transilon accumulation belts, depending on the belt type, but Z or stepped Z-splice is preferred.

When using overlap and wedge splices please note: because of the unusual load on the top face in accumulation, the splice lap must decline from the top face (see fig. below).



## SE/FR (flame retardant)



Tunnels connecting terminals or storeys are a potential fire risk.

Flame retardant Siegling Transilon belts (SE/FR) prevent the fire from spreading. In keeping with EN 20340/ISO 340 (SE) and MSHA Std 2G (30CFR18.65) measured according to ASTM D-378 (FR) these belt extinguish after being subjected to an open flame and do not re-ignite should they come into contact with a stream of air.

SE and FR belts ensure extra safety in baggage and freight handling in distribution centres and at airports.

## Splice

The splice types specified in "Technical Information 1" can be used for Siegling Transilon SE belts.



Flame-retardant belts cease to burn within seconds as soon as they are no longer subjected to an open flame.

## ATEX-compliant processing belts



Since 1 July, 2003 guideline 94/9EG for avoiding ignition risks in explosive atmospheres, known in the trade as "ATEX guideline 95", has come into force. When used in conveyors, processing belts are also at risk of ignition from static electricity or friction heat, if they are not used properly. Two partners are responsible for seeing this is done: the belt supplier and conveyor manufacturer.

As a belt supplier Forbo Siegling faces up to this responsibility and if required, will supply processing belts that may be used in an explosive atmosphere.

The suitability of processing belts is outlined in ATEX manufacturer and compliance declarations, issued in conjunction with an officially nominated body (TÜV – German Technical Supervisory Body).

Detailed operating instructions, with information on how to use the conveyor in compliance with ATEX, are part of the compliance declarations.

As our ATEX product range is continually added to, please ask your Siegling contact person about the types currently available.

Of course we provide advice to our customers, on a personal basis too, on current and future ATEX aspects.

The next up-date has already been announced: while the current ATEX guideline 95 deals with operation of new machinery, as of July 2006 ATEX guideline 137 will come into force. As part of the decree on safety in the workplace, it will regulate the operation of machinery that could cause explosive atmospheres. This also affects what is known as old machinery, that if required, will have to be modified to meet the new regulations.

So old machinery will also have to be fitted with processing belts based on the new ATEX regulations already.

Because our products are used in so many applications and because of the individual factors involved, our operating instructions, details and information on the suitability and use of the products are only general guidelines and do not absolve the ordering party from carrying out checks and tests themselves. When we provide technical support on the application, the ordering party bears the risk of the machinery functioning properly.