

Product range

Bigger range
NEW



siegling proposition
timing belts

siegling proposition

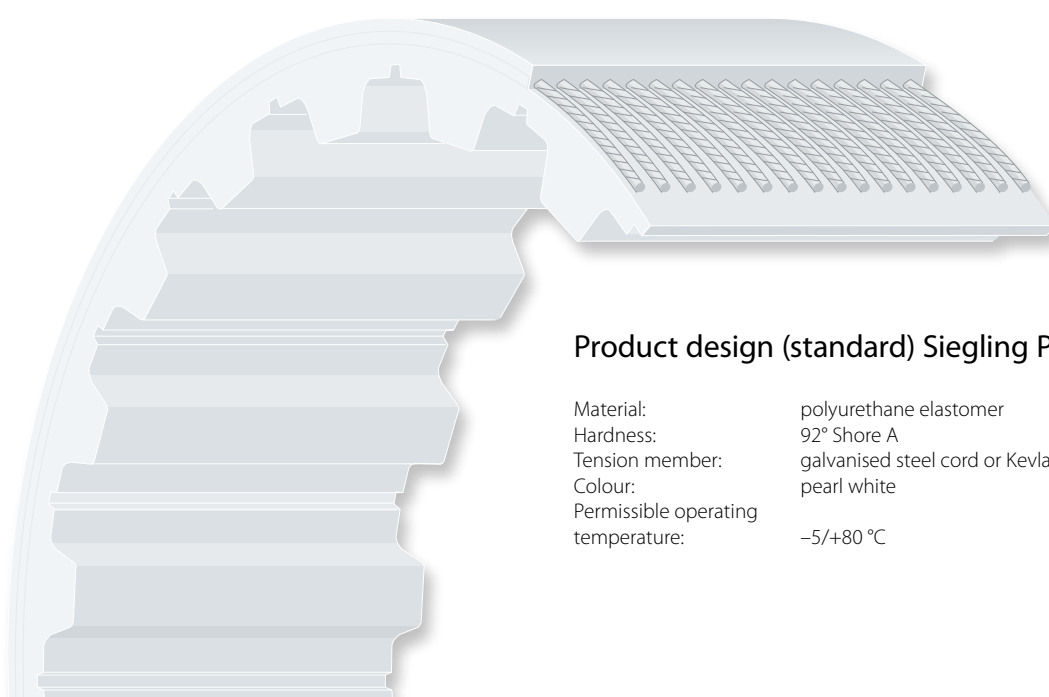
timing belts

In modern power-transmission and handling technology, timing belts are versatile components for positioning, conveying, synchronising, interval conveying and singling.

As form-fit power-transmission and conveying components, Siegling Proposition timing belts complement the established family of Siegling Transilon conveying and processing belts. Our vast experience in light materials handling guarantees superb product quality, in-depth support and fast service.

Siegling Proposition high-efficiency timing belts are made of high-quality polyurethane with an embedded tension member made of steel cord or Kevlar. Thanks to their low mass and extreme tensile strength, they are quiet to operate and require virtually no maintenance. These characteristics make them ideal for demanding tasks like accelerating and braking, as well as for exact positioning.

A wide range of coatings, patterns and profiles can be applied to standard timing belts. They can be modified even further by adding perforations, milling and grinding. As a result, the belts are true specialists when dealing with conveying, power-transmission or handling jobs.



Product design (standard) Siegling Proposition

Material:	polyurethane elastomer
Hardness:	92° Shore A
Tension member:	galvanised steel cord or Kevlar
Colour:	pearl white
Permissible operating temperature:	-5/+80 °C



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The properties

The advantages

wear-resistant	▶	long belt life
maintenance-free	▶	no maintenance costs
good tracking properties	▶	reliable, gentle operation
low noise	▶	safe working conditions
flexible	▶	small reversing diameters, high counter-bending strength
saves room	▶	compact machine designs possible



MOVEMENT SYSTEMS

Siegling Proposition applications

Linear drives

Thanks to form-fit transmission and narrow fabrication tolerances, Siegling Proposition timing belts guarantee isogonic rotations and high repeat accuracy in linear drives. ATL timing belts are especially good at meeting these challenges.



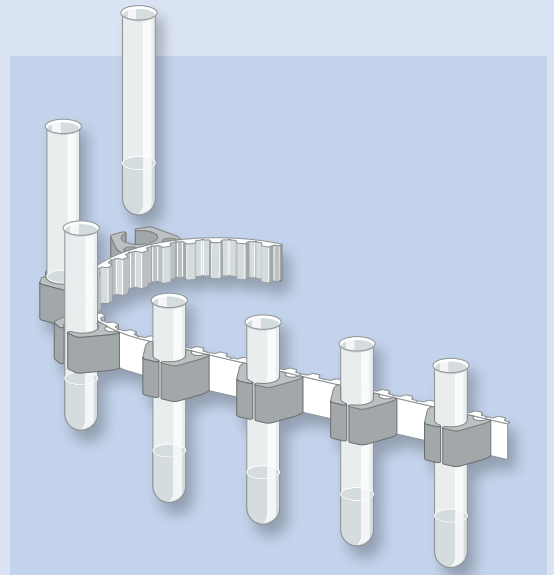
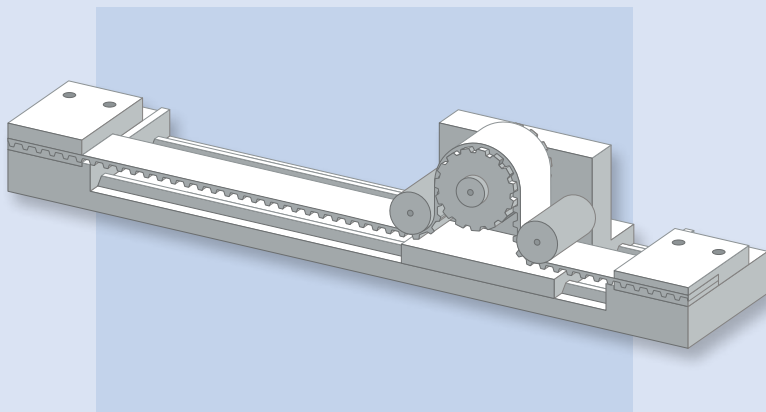
Siegling Proposition on the power test rig.

Automation and handling technology

In automation and handling technology, Siegling Proposition timing belts are often used in place of chains and other systems which require complex designs.



Siegling Proposition belts in a packaging machine.



Lifting devices, portal robots and roll-up door drives

In lifting devices, portal robots and roll-up door drives, Siegling Proposition timing belts transmit large forces while providing a high degree of positioning accuracy.



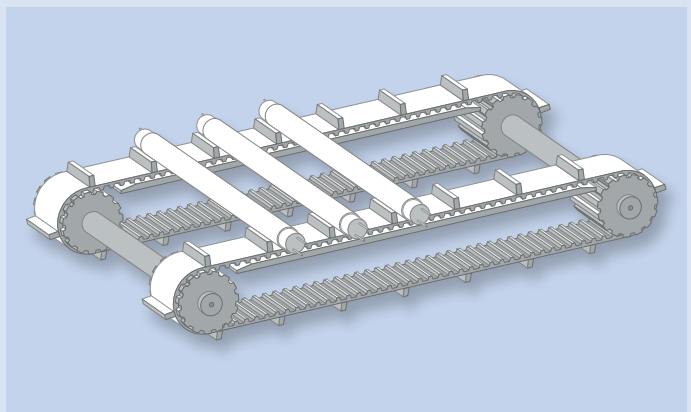
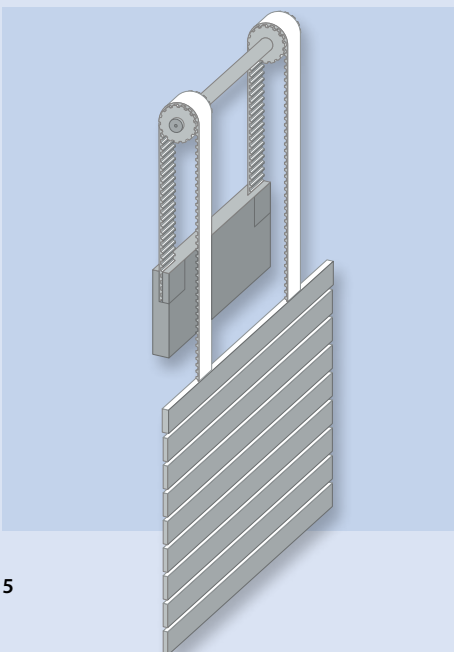
Siegling Proposition timing belts in the vertical axis of an industrial robot.

Synchronous operation

As conveyor belts running synchronously in sets, they guarantee that the goods being conveyed remain in position. Cams, coatings and coverings make it possible to customise the belts precisely for the goods being conveyed and the conveying task.



Conveying of car windows by belts running synchronously. The coverings on the reverse face of the timing belts treat the goods gently and improve the grip.



Standard product range

	Width [mm]	Z _{min} minimum number of teeth		Weight, approx. [kg/m ²]**	d _{min} approx. [mm] tensioning roller on toothed face	F _{perm} approx. [N/mm width]**			
		d _{min} approx. [mm]	Steel - Kevlar			Steel - Kevlar	open Steel - Kevlar	welded endless Steel - Kevlar	truly endless Steel - Kevlar
T 5		6, 8, 10, 12, 16, 20, 25, 32, 50, 75, 100	10	16	2.4 - 2.0	25 - 30	~32 - ~38	~15 - ~19	~32 - -
T 5 L		10, 12, 16, 20, 25, 32, 50, 75, 100	12	19	2.8 - -	50 - -	- - -	- - -	~75 - -
T 10		10, 12, 16, 20, 25, 32, 40, 50, 75, 100	12	38	4.8 - 4.0	50 - 50	~85 - ~70	~42 - ~34	~77 - -
T 10 LE		16, 25, 32, 50, 75, 100	12	38	6.4 - -	90 - -	- - -	- - -	~141 - -
T 20		16, 20, 25, 32, 50, 75, 100	15	96	7.7 - 6.4	120 - 120	~134 - ~114	~67 - ~57	~159 - -
T 20 E		16, 20, 25, 32, 50, 75, 100	12	76	7.2 - -	90 - -	- - -	- - -	~140 - -
T 20 L		16, 20, 25, 32, 50, 75, 100	20	125	8.6 - -	140 - -	- - -	- - -	~289 - -
AT 5		10, 12, 16, 20, 25, 32, 50, 75, 100	12	18	3.0 - -	50 - -	~70 - -	~35 - -	~76 - -
AT 10		12, 16, 20, 25, 32, 50, 75, 100, 150	15	48	6.4 - -	90 - -	~155 - -	~77 - -	~152 - -
AT 10 E		10, 12, 16, 20, 25, 32, 50, 75, 100	14	45	6.4 - -	90 - -	~124 - -	~62 - -	~128 - -
AT 10 L		10, 12, 16, 20, 25, 32, 50, 75, 100	25	80	6.8 - -	120 - -	~284 - -	~75 - -	~286 - -

For detailed technical information visit www.forbo-siegling.com



* Width tolerance generally between ± 0.5 and ± 1.0 mm. You can find the exact figure for each belt width on the Internet.

** Median figures, rounded. You can find the exact figure for each belt width on the Internet.

The figures stated are based on 20/50 ambient conditions.

	Width [mm]	Z _{min} minimum number of teeth		Weight, approx. [kg/m ²]**	d _{min} approx. [mm]	d _{min} approx. [mm] tensioning roller on toothed face			F _{perm} approx. [N/mm width]**		
		Steel	Kevlar			Steel	Kevlar	open	welded endless	truly endless	
AT 20		16, 25, 32, 50, 75, 100, 150	18	115	10	120	~273	~136	~290	-	-
AT 20 L		25, 32, 50, 75, 100, 150	22	140	11.1	170	~337	-	~320	-	-
XL		6,4, 7,9, 9,5, 12,7, 19,1, 25,4	10	16	-	-	-	-	-	-	-
L		9,5, 12,7, 19,1, 25,4, 38,1, 50,8, 76,2, 101,6	12	36	3.9	60	~86	~43	-	-	-
H		12,7, 19,1, 25,4, 38,1, 50,8, 76,2, 101,6	14	56	4.5	80	~85	~42	~79	-	-
HLE		12,7, 19,1, 25,4, 38,1, 50,8, 76,2, 101,6	12	49	5.2	90	-	-	~138	-	-
HL		12,7, 19,1, 25,4, 38,1, 50,8, 76,2, 101,6	15	61	5.5	90	-	-	~155	-	-
XH		25,4, 50,8, 76,2, 101,6	18	127	1.0	150	~132	~66	-	-	-
HTD 5 M		10, 12, 15, 20, 25, 32, 50, 75, 100	13	20	4.8	50	~72	~33	~76	-	-
HTD 8 M		10, 15, 20, 25, 30, 50, 85, 100	18	46	6.9	90	~147	~74	~155	-	-
HTD 8 ME		20, 25, 30, 50, 85, 100	16	41	6.5	90	-	-	~140	-	-

Continued on the next page

For detailed technical information visit www.forbo-siegling.com



MOVEMENT SYSTEMS

Standard product range

Width [mm]	Z _{min} minimum number of teeth		Weight, approx. [kg/m ²]**	d _{min} approx. [mm]	d _{min} approx. [mm] tensioning roller on toothed face	F _{perm} approx. [N/mm width]**		
	Steel	Kevlar				open	welded endless	truly endless
HTD 14 M	25, 40, 55, 85, 115	111	11	120	~296	~148	~289	
HTD 14 ML	55, 85, 115, 150	152	12	170	-	-	~347	
HTD 14 MLL	55, 85, 115, 150	170	13.5	180	-	-	~447	
RPP 8 M	15, 20, 25, 30, 50, 85	46	6.4	90	~153	~84	-	-

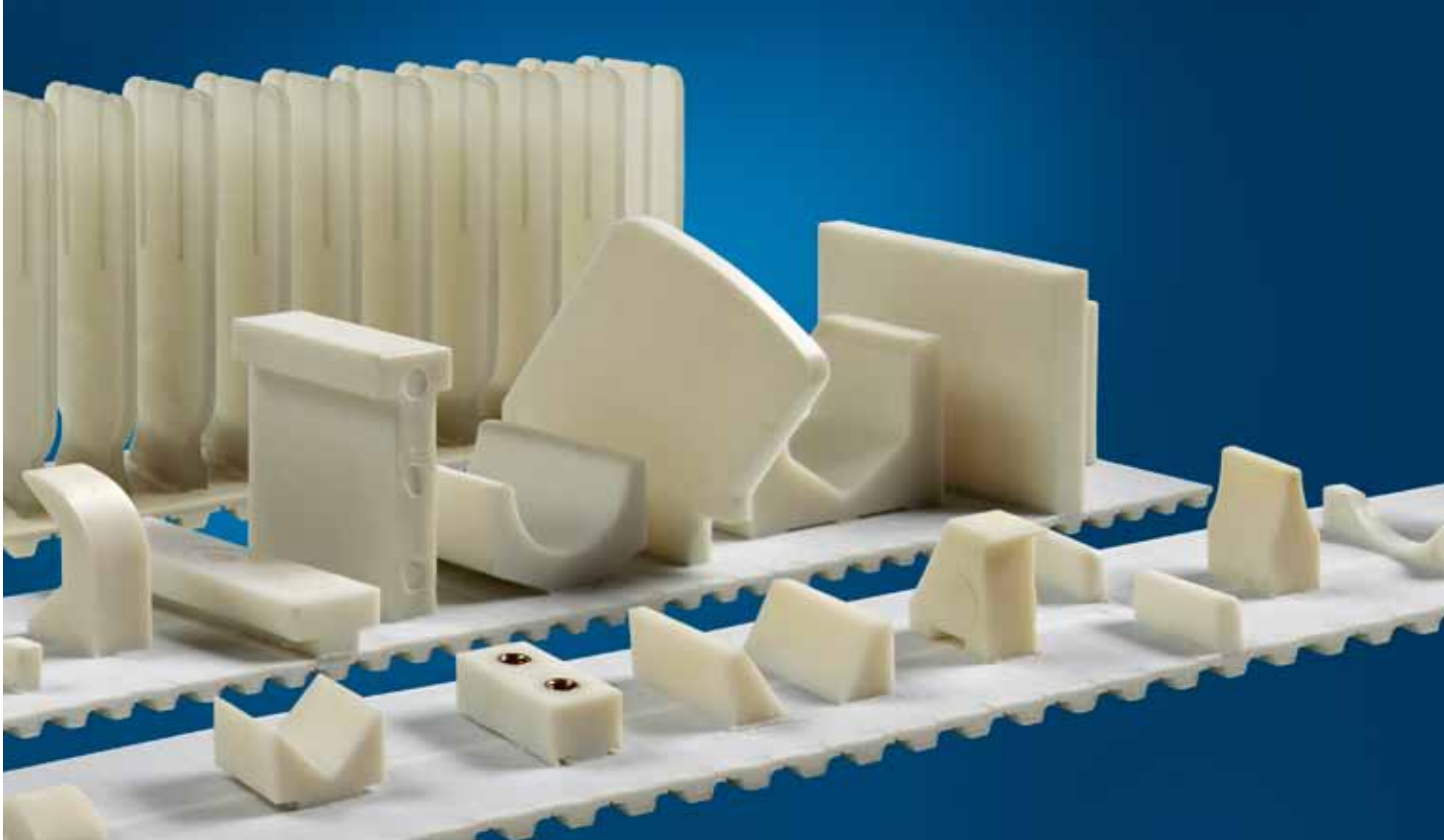
Standard wide timing belt range

Width min. [mm]*	Width max. [mm]*	Z _{min} minimum number of teeth	d _{min} approx. [mm]	Weight, approx. [kg/m ²]	d _{min} approx. [mm] tensioning roller on toothed face	endless welded belts		
						F _{perm} approx. [N/mm]**	Min. length made [mm]	
WT 10	150	450	14	45	3.9	80	12.5	1100
WH	152.4	457.2	14	56.64	3.3	80	12.5	1104.9

For detailed technical information visit www.forbo-siegling.com



* Width tolerance generally between ± 0.5 and ± 1.0 mm. You can find the exact figure for each belt width on the Internet.
 ** Median figures, rounded. You can find the exact figure for each belt width on the Internet.
 The figures stated are based on 20/50 ambient conditions.



Cams and profiles

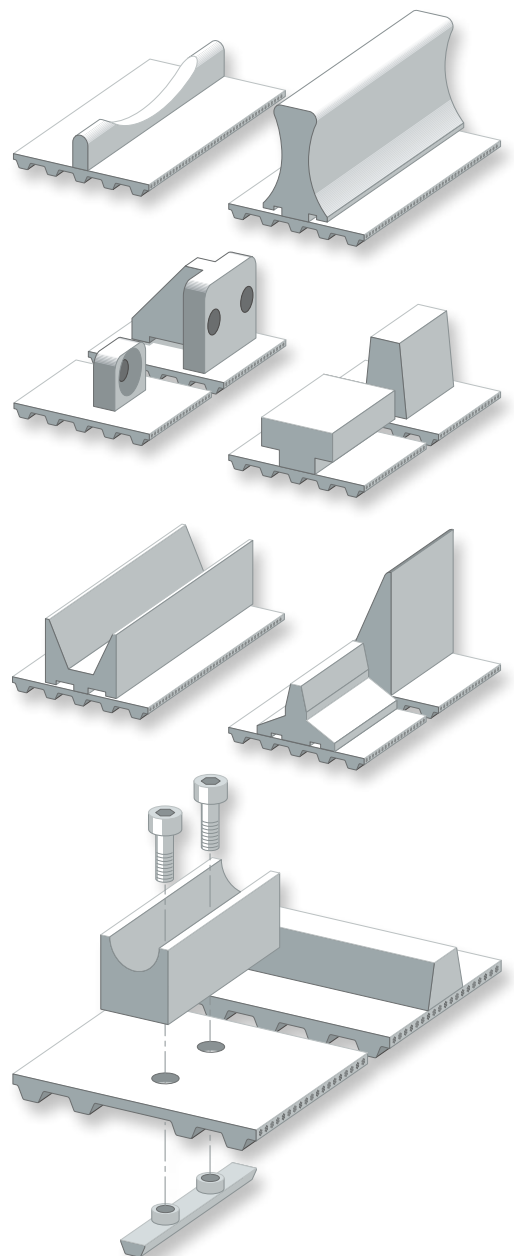
For conveying and many more specialised tasks in material handling (interval conveying, singling, positioning), cams and profiles pave the way for innovative design solutions. In addition to a number of standard cams from half-finished products, any special shapes can be made as injection moulded parts.

Welded cams

Cams are usually made of polyurethane – as are the timing belts themselves, ensuring the reliability of the weld between the cam and the reverse face of the timing belt. The welding of cams onto a timing belt affects its flexibility. The smallest possible cam thickness (t) should be selected. If possible, cams should be attached “opposite teeth”.

Screwed-on cams

Cams that are screwed on are particularly flexible to use. The original teeth on the belts are removed and replaced with brass teeth with threads. Brass teeth are available in T10/ AT10, T20, AT20 and XH tooth shapes. (Standard widths: 25/32/50; further widths on request).



For detailed technical information visit www.forbo-siegling.com



Coatings

Various coatings can be applied to all standard Siegling Proposition types.

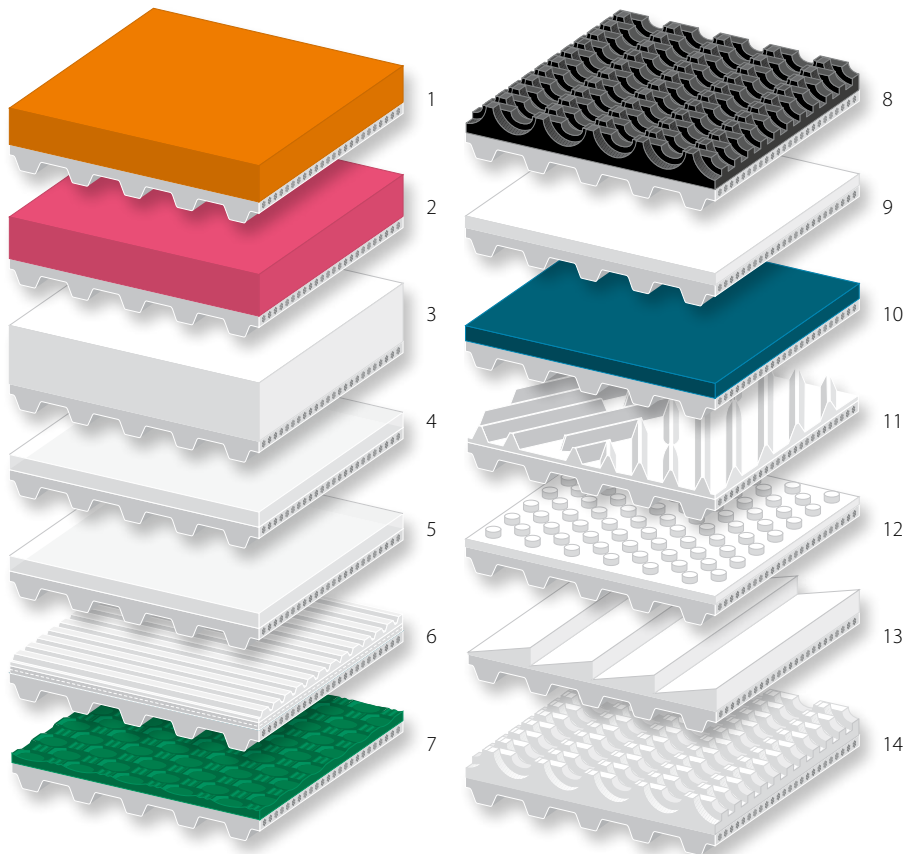
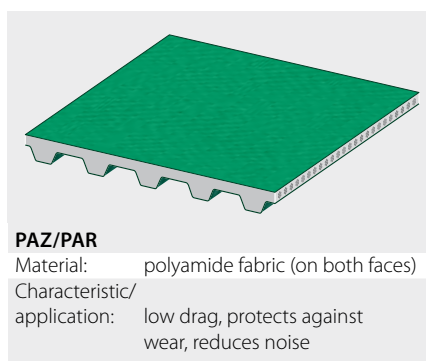
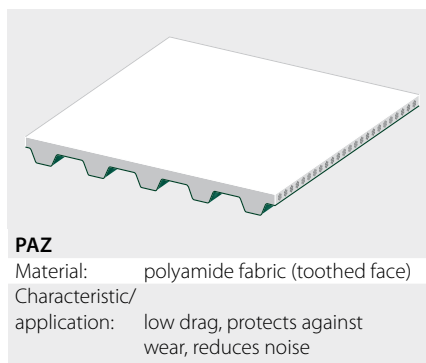
On the toothed and/or reverse face, coverings of polyester fabric reduce the drag. This facilitates the intermeshing of the teeth, in turn reducing the noise.

Other coverings and coatings for the reverse face, varying in material and texture considerably,

- increase the drag, thereby improving the grip properties (pick-off belts, inclined conveyors)
- conform to FDA regulations (processing of food)
- protect the surface of sensitive goods (glass, furniture)
- are largely unaffected by rough goods or goods with sharp edges thanks to their tenacity (sheet metal, wood).

For the types PAZ and PAZ/PAR (below) the polyamide fabric is applied during the production of the timing belt. Therefore their sizes correspond to those of the standard types.

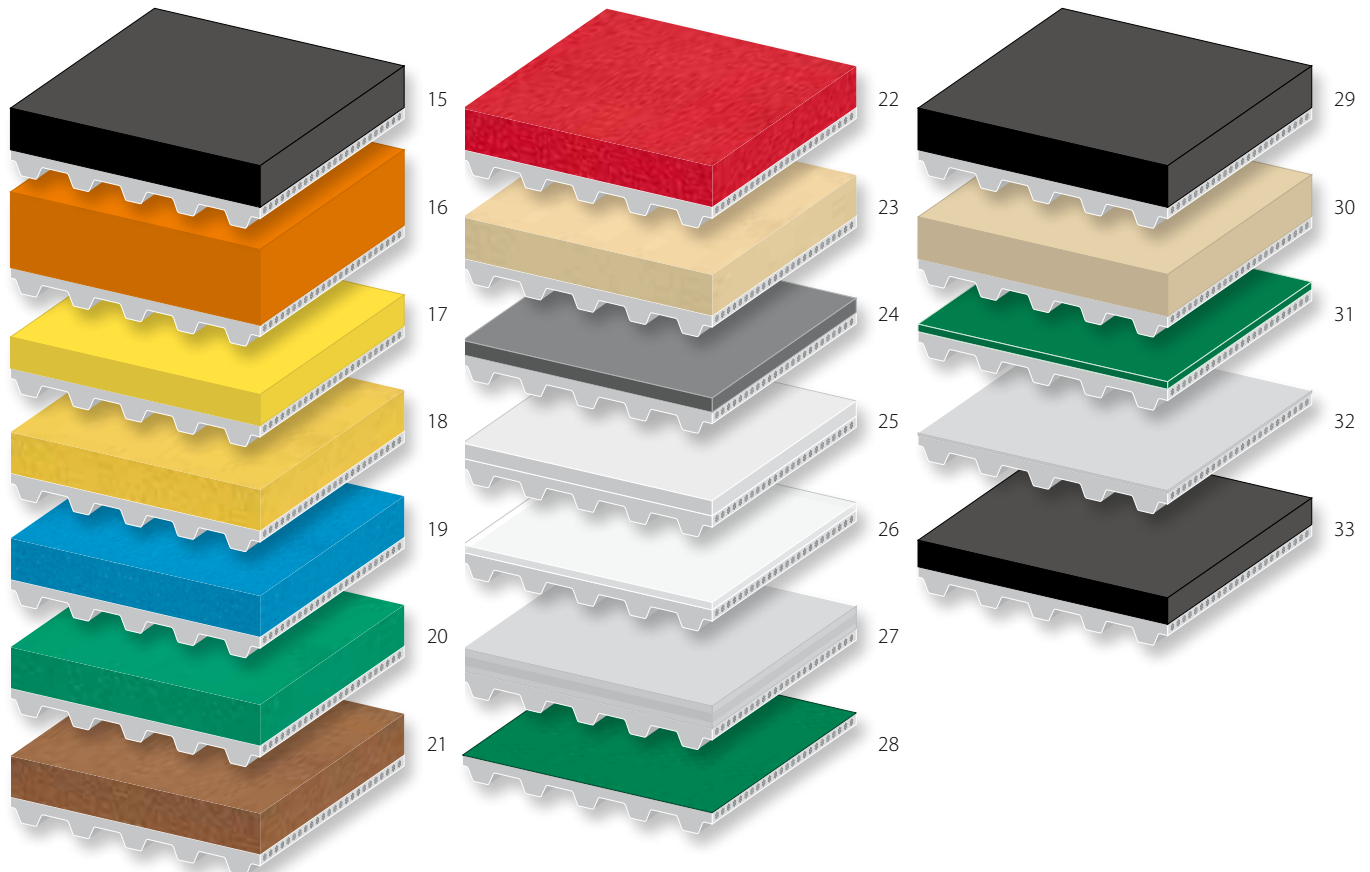
	Coating type/Colour		Coating material	Hardness [Shore A]	Thickness [mm]
1	Linatrilite	orange	Nitrile (NBR)	50	2.4 – 5
2	Linatex	red	Natural Rubber	40	1.6 – 12
3	Linafood	white	Natural Rubber	38	6 – 8
4	PU foil 85	transparent	Polyurethane	85	1 – 4
5	PU foil 60	transparent	Polyurethane	60	2
6	PU foil LG	transparent	Polyurethane	85	2
7	G/GSTR	green	Rubber	50	2.6
8	G/AR	black	Rubber	70	3.5
9	PVC	white	PVC	65	1.5
10	PVC	blue	PVC	40	1 – 3
11	FG	white	PVC	65	13
12	Pimple top	white	PVC	65	1.8
13	Saw profile	white	PVC	65	3
14	PVC/AR	white	PVC	50	3.5
15	SZ/Porol	black	Neoprene Rubber	165 kg/m ³	2 – 15
16	SO	orange	Silicone	250 kg/m ³	10 – 15
17	PU	yellow	Polyurethane foam	55	2 – 10
18	Sylomer	yellow	Polyurethane foam	160 kg/m ³	12
19	Sylomer	blue	Polyurethane foam	220 kg/m ³	6 – 12
20	Sylomer	green	Polyurethane foam	300 kg/m ³	6 – 12
21	Sylomer	brown	Polyurethane foam	400 kg/m ³	6 – 12
22	Sylomer	red	Polyurethane foam	500 kg/m ³	12
23	Vulcocell VS40MH	beige	Polyurethane foam	400 kg/m ³	2 – 10
24	Novo 12 HC	grey	Polyester fleece	-	1.2
25	Novo 25 NA	light grey	Polyester fleece	-	2.5
26	Silicone	transparent	Silicone	30	1
27	Chrome leather	grey	Leather	-	3
28	Polyamid fabric	green	Polyamide	-	0.5
29	EPDM	black	Rubber	70	2 – 10
30	Correx	beige	Natural Rubber	40	4 – 10
31	Elastomer	green	Rubber	60	1 – 2
32	Teflon	grey	PTFE	-	0.3
33	Viton	black	Rubber	60	1 – 5

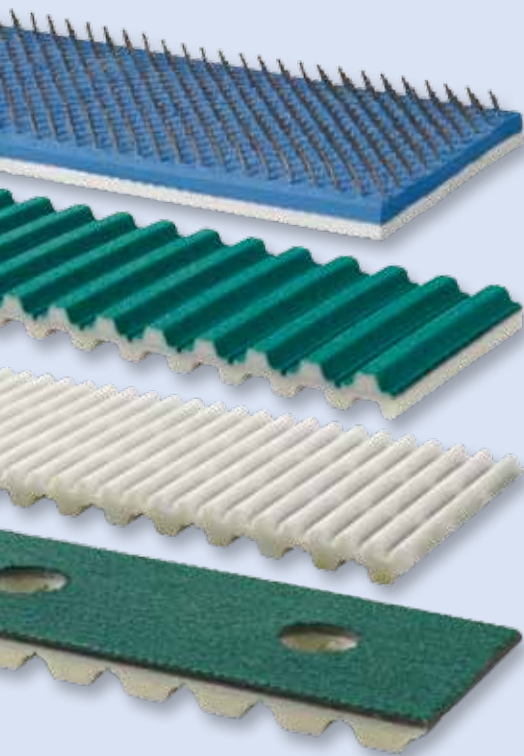


d-factor*	Permissible operating temperature [°C]	Resistance**	Applications	Properties
25	110	Simple fats & oils	Wood conveying, Chemical & oil contact conveying	High friction and wear resistance
20	70	Wet abrasion	Paper & wood conveying industry, paper conveying	High friction & abrasion resistance; high flexibility at low temperatures
20	70	Wet abrasion	Food and pharmaceutical industries, paper conveying	FDA approval for direct contact with food
30	80	Simple fats & oils	Conveying of abrasive parts	Cut resistant, extr. abrasion resistant
25	80	Simple fats & oils	Conveying of abrasive parts, glass & paper industries	Cut resistant, extr. abrasion resistant
30	80	Simple fats & oils	Conveying of abrasive parts	Cut resistant, extr. abrasion resistant
25	100	Simple fats & oils	Conveying steel plates, wood, paper etc.	Good grip, wear resistance
25	70	Simple fats & oils	General conveying, inclined conveying	Good grip
25	80	Acids, salts & bases	Food and pharmaceutical industries	FDA approval for direct contact with food
20	80	Acids, salts & bases	Food and pharmaceutical industries	Good grip
30	80	Acids, salts & bases	Paper and wood industry, glass conveying	FDA approval for direct contact with food
20	80	Acids, salts & bases	Food and pharmaceutical industries	Good grip
25	80	Acids, salts & bases	Pharmaceutical industry, wood & steel conveying	Good grip in one direction
25	80	Acids, salts & bases	Paper industry, glass conveying	Very good grip
10	70	Simple fats & oils	Conveying of delicate parts	Flexible, compressible
10	70	No fats and oils	Conveying of delicate parts	Flexible, extremely compressible
20	70	Simple fats & oils	Vacuum & paper applications	Good wear resistance
10	70	Simple fats & oils	Glass industry, bottle conveying, paper industry	Very flexible, compressible
15	70	Simple fats & oils	Glass industry, bottle conveying, paper industry	Very flexible, compressible
15	70	Simple fats & oils	Conveying of delicate parts	Flexible, compressible
20	70	Simple fats & oils	Conveying of delicate parts	Very flexible, compressible
25	70	Simple fats & oils	Conveying of delicate parts	Very flexible, compressible
20	80	Simple fats & oils	Conveying of delicate parts	Flexible, compressible
40	120	Simple fats & oils	General conveying, glass conveying	Antistatic
25	120	Simple fats & oils	General conveying, glass conveying	Low friction
50	100	Simple fats & oils	Conveying hot and sticky goods	Good grip
25	60	Simple fats & oils	Conveying hot and sticky goods	Good grip
60	60	No fats and oils	Glass and paper industries, cutting tables	Low friction
25	70	No fats and oils	Solar industry, steel conveying	Good grip
20	70	Simple fats & oils	Extruders, conveying plastic boxes	Good grip
25	70	No fats and oils	Glass and paper industry	Good grip, good abrasion resistance
300	200	Simple fats & oils	Food and pharmaceutical industries	Low friction
25	200	No fats and oils	Solar industry, hot forming in the sheet-steel industry	Good grip, temperature resistant

* Factor x thickness = smallest diameter

**If uncertain, please contact Forbo Siegling.





Customised products

By modifying timing belts with and without coatings or coverings afterwards, it is possible to tailor them exactly to meet the needs of individual applications in materials handling. Because of the wide array of possibilities and combinations, we can show you here just a very small selection. Please contact your Forbo Siegling partner regarding any specific requirements you may have.

Mechanical processing

Almost any shape can be milled, ground or punch-cut into timing belts and coatings or coverings with very narrow tolerances. CNC-powered machines and water jets are used.

Special colours

Timing belts (as well as cams) can be produced in special colours.

Special coatings and coverings

It is possible to apply an extra covering of PA fabric afterwards – also to sections which have been milled – to improve the low grip properties.

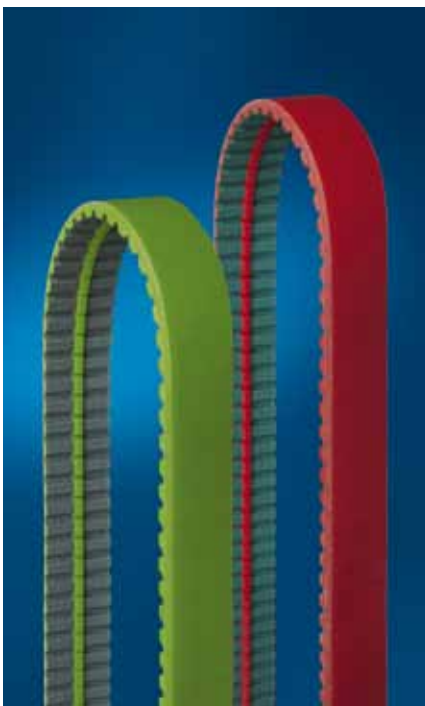
Truly endless belts

Information about truly endless belts (polyurethane and neoprene) is available on request.

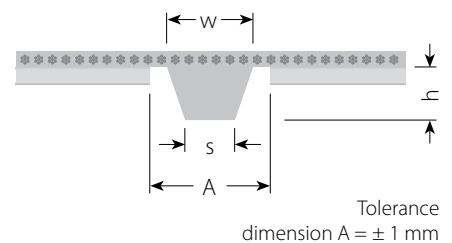
You can find more detailed information here:
www.forbo-siegling.com



Timing belts with longitudinal tracking profiles



The wedge profiles mounted on the timing belts ensure that the belts track perfectly straight over the entire length, even where lateral forces are a factor. Flanged pulleys are not required. All timing belt types can be equipped with various wedge profiles.



Longitudinal tracking profiles

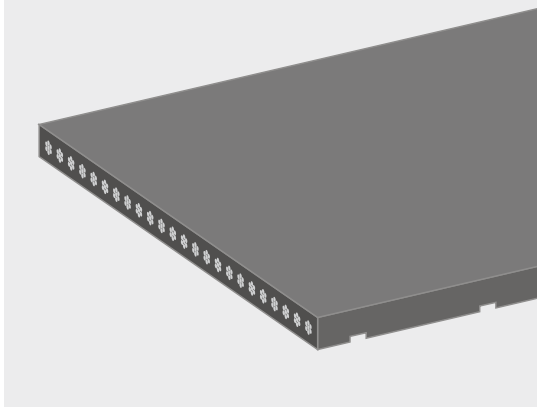
Type	Material	Colour	w x h x s [mm]	Hardness [Shore A]	Groove with A [mm]	d _{min} [mm]
K 6-U65	Urethane	transparent	6 x 4 x 4	65	7	40
K 10-U65	Urethane	transparent	10 x 6 x 6	65	11	70
K 13-U65	Urethane	transparent	13 x 8 x 7.5	65	14	100
K 15-U65	Urethane	transparent	15 x 8 x 9.5	65	16	100
K 17-U65	Urethane	transparent	17 x 11 x 9.5	65	18	100



Powerbelt

Technical information

Material:	polyurethane elastomer
Hardness:	92° Shore A
Tension member:	Steel (standard) or Kevlar (on request)
Colour:	black
Permissible operating temperature:	-5/+80 °C
Thickness:	2 mm (standard) other thicknesses on request



For the transmission of large tensile forces, the Forbo Siegling Powerbelt is an alternative to cables, chains and fabric belts.

Forbo Siegling Powerbelt was developed especially for use in sports and fitness equipment, roll-up doors and venetian blinds. It is available only as open material.

Data sheet available on request.

forbo

MOVEMENT SYSTEMS

Accessories

Toothed pulleys for timing belts

For the service life of the timing belt and for smooth operations, it is vital that the toothed pulley be matched correctly to the timing belt.

For all timing belts in its product range, Forbo Siegling carries the corresponding toothed pulley.



- Standard design with boring
- Special methods of attachment on request
- O pulleys and SE pulleys available on request
- Can be fabricated from drawing

Standard material for general applications is aluminium. For higher loads, steel pulleys are recommended. Toothed pulleys are available on request.

You can find more detailed information here:
www.forbo-siegling.com

Clamping plates

Clamping plates for fastening open material are available for all timing belt types and in all standard sizes.



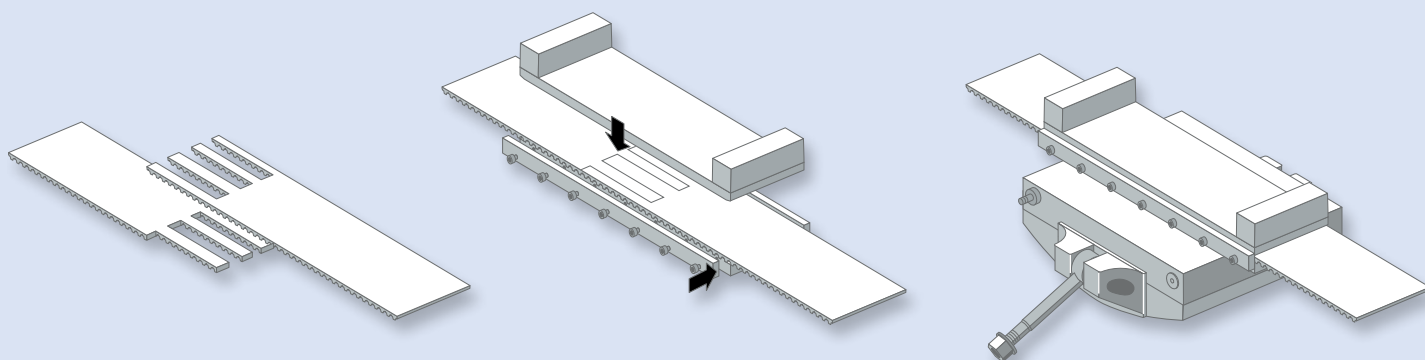
Endless splices

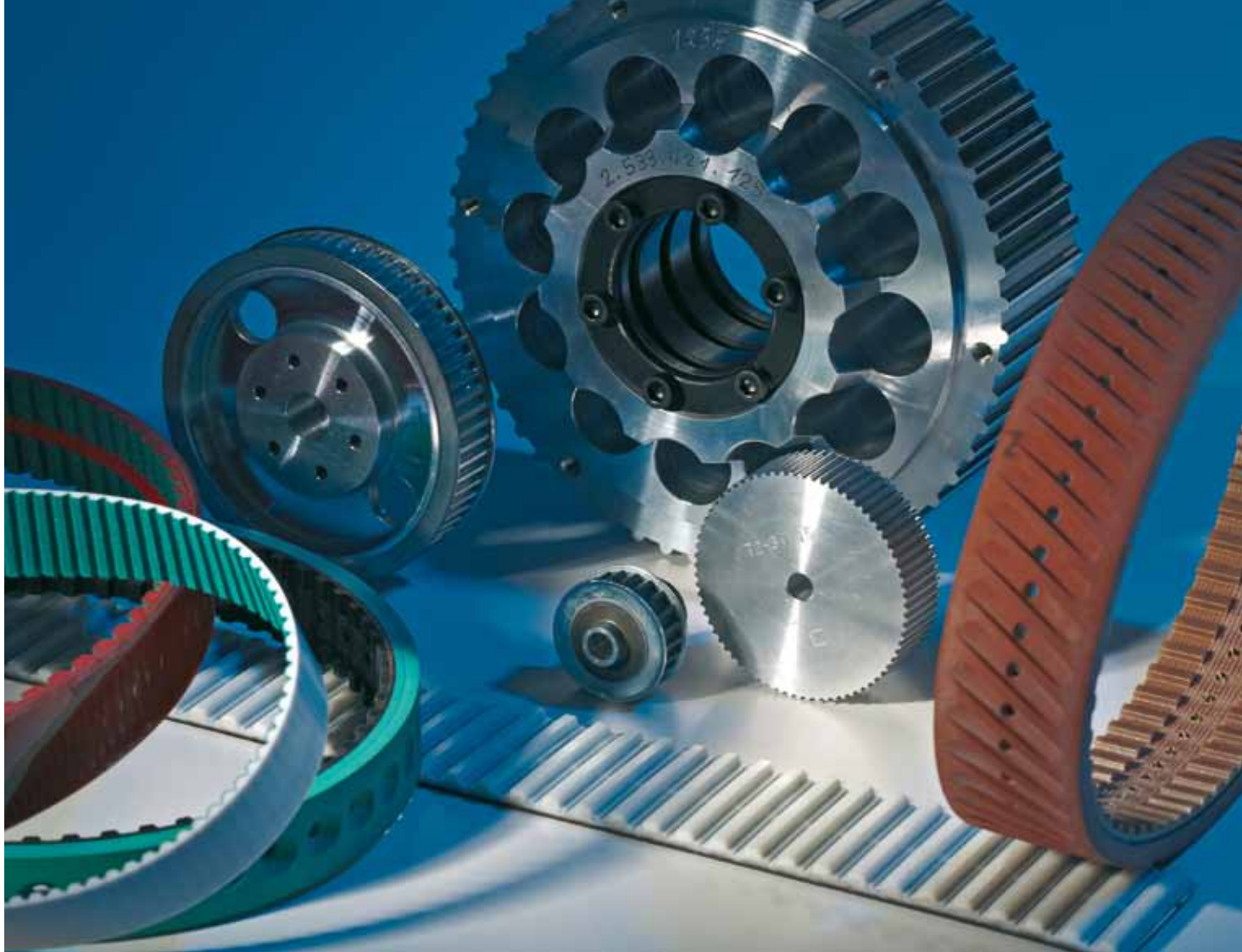
Open Siegling Proposition timing belts are made endless with a meander or Z-splice. Although with this splice approximately 50% of the tensile strength of truly endless timing belts is achieved, such belts should not be used as power transmission belts.

Welded splices

Timing belts prepared for the meander splice can be hot-pressed endless quickly and easily on-site with our heating devices. This process makes time-consuming fitting work on the machine unnecessary.

The SMX-HP 150/120-PP and SMX-HP 150/60-PP heating presses can be used (with the corresponding splice guide) for all timing belts of all widths.

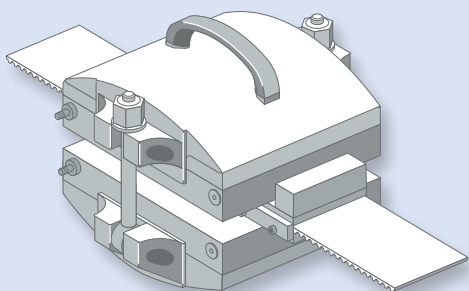
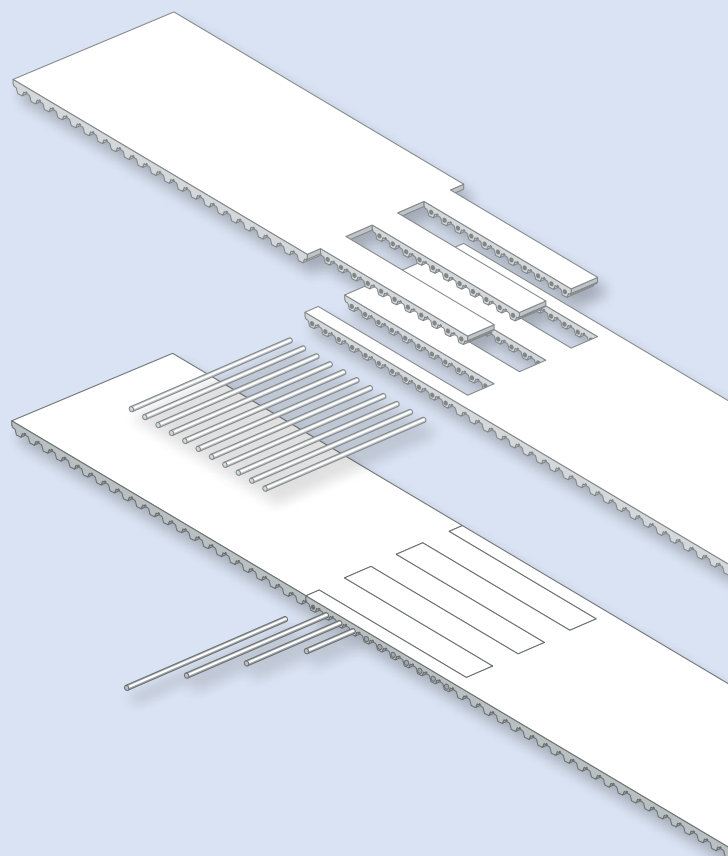




Mechanical fasteners

Specially prepared timing belts (teeth with drilled holes) can be made endless using pins. This procedure is ideal when low downtimes are required when exchanging belts or carrying out maintenance.

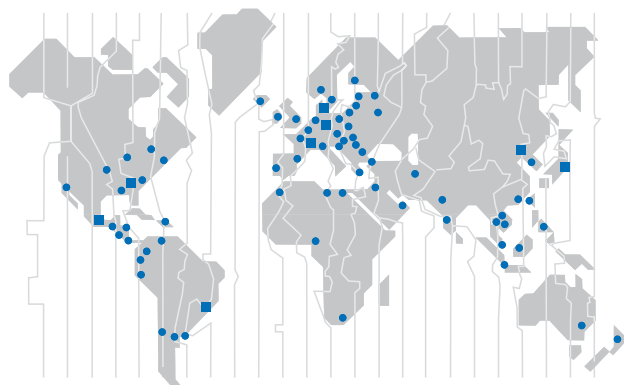
Mechanical fasteners are available as a standard for T5, T10, T20, AT5, AT10 and AT20. Other types on request.



Siegling – total belting solutions

Committed staff, quality-orientated organisation and production processes ensure the constantly high standards of our products and services. The Forbo Siegling Quality Management System is certified in accordance with DIN EN ISO 9001.

In addition to product quality, environmental protection is an important corporate goal. Early on we also introduced an environmental management system, certified in accordance with ISO 14001.



Forbo Siegling Service – anytime, anywhere

In the company group, Forbo Siegling employs more than 1800 people worldwide. Our production facilities are located in nine countries; you can find companies and agencies with stock and workshops in more than 50 countries. Forbo Siegling service centres provide qualified assistance at more than 300 locations throughout the world.