

Food

siegling belting



Siegling Transilon food belts For consistent support of your HACCP concept

As a leading manufacturer of conveyor and processing belts, Forbo Siegling knows all about the food industry's special requirements. Our food belts, tailor-made for this industry, are the result of close co-operation with manufacturers of machinery and food producers.

Consequently they're successfully used worldwide in all logistical processes when manufacturing food.

We'll support your HACCP concept reliably and in compliance with legal requirements.

To do so, our food range – in particular the special HACCP types – provides a variety of special product properties and types. These elements put a stop to any potential safety risks in the manufacturing process.

▶ Excellent resistance to hydrolysis

The HACCP types are resistant to hot water, cleaning agents and disinfectants. This allows many cleaning cycles to be carried out without risking delamination and/or destroying the top layer.

▶ Preventative protection from micro-organisms

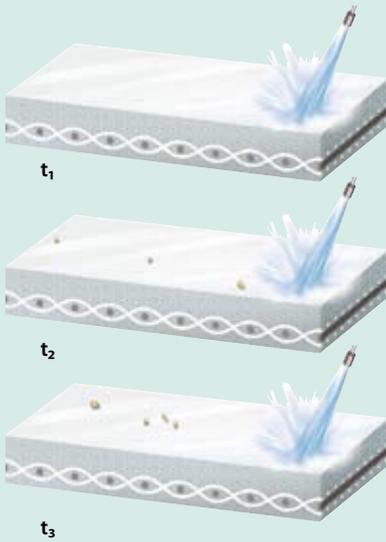
We use new materials for the HACCP types that don't provide any nutrient bases for micro-organisms to grow and multiply.

Without applying biocidal additives that can migrate from the material, belts are protected from microbial attack – reliably and in line with legal regulations (as long as cleaning is carried out frequently). Lab trials show that attack from for example E. coli bacteria, in comparison to standard materials, is reduced by 99.5% (test bacteria Escherichia coli (DSM), film contact method, 37°C/24 h. Study by the Ahlemer Institute in Hanover).

All materials and raw materials used in the HACCP types comply with EU guideline 2002/72/EC and/or AP 96/(5), and are BfR and FDA approved.

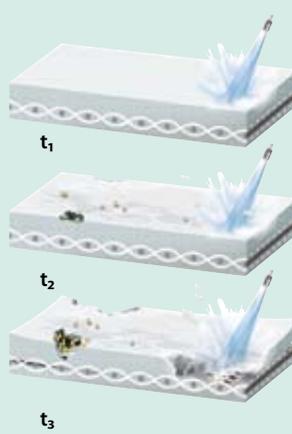


Siegling Transilon HACCP belt



HACCP belts provide preventative protection from micro-organisms – without using biocides!

Standard conveyor belt



Siegling Transilon HACCP belt in comparison to a standard conveyor belt.

Influence of bacterial growth and hot water cleaning cycles on the condition of the belt or the way it functions depending on time [t].

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Good release properties

Because of their excellent release properties, all HACCP types are a great advantage when producing adhesive foodstuffs and particles from conveyed goods are easy to clean off.

The plastic modules have a special hinge mechanism, meaning that particles from conveyed goods can be rinsed out very easily.

Blue a strong colour contrast

Blue does not occur in natural foodstuffs. This allows soiling to be recognised more easily and quickly on blue belts than on the traditional white used in the food industry. Blue belts are suitable for use in optical sorters. The reduced light reflection provides better and safer conditions to work in.

Belt edge sealing optional

Penetration of oil, grease, water and bacteria is prevented around the belt edge. This increases the service life of the belt and reduces the risk of product contamination.

For further relevant Forbo Siegling products in the food industry please see the following brochures:

- No. Titel
- 224 Siegling Transilon Product Range
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- 228 Tobacco Industry
- 317 Siegling Transilon
Technical Information 1
Storage · finishing · fitting
- 318 Siegling Transilon
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Special features and properties



MOVEMENT SYSTEMS

Two product lines for the most varied of applications

siegling transilon conveyor and processing belts

Siegling Transilon plastic conveyor belts with fabric tension member

are safe, resistant to oil and grease and are BfR, EU and FDA compliant. The special HACCP types also provide an enormous hygiene benefit.

The properties

BfR, EU and/or FDA compliant

light/flexible material that can be processed

tension member for the application

dimensionally stable

light with low overall thickness

low elongation

The advantages

▶ all types are suitable for direct contact with foodstuffs

▶ individual design (e.g. surfaces, profiles, sidewalls)

▶ depending on application, stiff or flexible

▶ also for use where humidity and temperature fluctuates

▶ low energy consumption, very small drum diameters possible

▶ short take-up ranges possible

siegling prolink modular belts

Siegling Prolink plastic modular belts

are made of homogenous materials, FDA and USDA approved and the HACCP types have preventative hygiene protection.





The properties

FDA and/or USDA compliant

homogenous material

robust

easy to clean

rot-resistant

easy to fit

The advantages

▶ all types are suitable for direct contact to foodstuffs

▶ sealed design

▶ also operates in extreme conditions

▶ not sensitive to extreme cleaning methods

▶ long service life

▶ time and cost saving



Processing methods and conditions are as varied as the range of food consumed.

Apart from basic conveying Siegling Transilon conveyor and processing belts and Prolink modular belts are geared towards the special requirements of the different applications.

Meat and poultry

Siegling Transilon conveyor belts with resistant PVC surfaces are easy to clean with hot water and are extremely durable thanks to their excellent resistance to oil and grease. Cutting and chopping can be done on especially incision-resistant types.

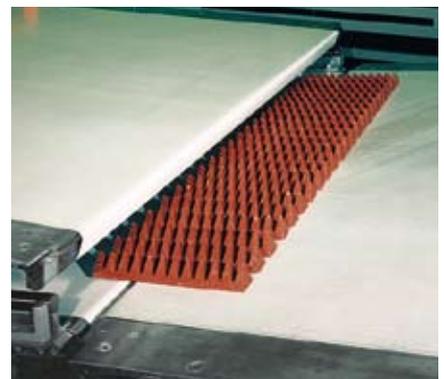
Siegling Prolink modular belts which, even around the hinges, are easily to clean are particularly resistant towards incisions and scratches.



Confectionery

Siegling Transilon belts, with patterned surfaces and dehesive belts with excellent release properties to sticky goods such as toffee or chewing gum, are the specialists in the confectionery industry. Belts suitable for knife edges ($\varnothing \geq 6$ mm) with good thermal conductivity make cooling the hot chocolate on the cooling line quicker.

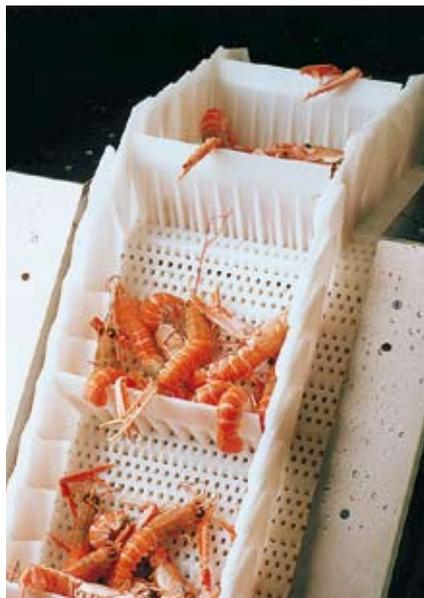
Cooling lines can be produced easily with Siegling Prolink modular belts that have low reversing radii ($\varnothing \geq 18$ mm) with a high level of permeability (series 4).



Fish

Siegling Transilon conveyor belts resistant to decay and rot remain dimensionally stable and flexible despite frequent cleaning. On and offshore they are used for conveying, skinning, filleting and freezing. Different patterns make inclined conveying without using additional profiles possible.

Siegling Prolink modular belts are excellent for deep freezing (depending on the material down to -70 °C). The high level of permeability to water of certain modular types permits drainage required in production.



forbo

MOVEMENT SYSTEMS



Baked goods

In the modern bakery industry nearly all processing steps are carried out with conveyor and processing belts. Siegling Transilon processing belts shape the dough and convey it to the individual processing machines.

After baking, the products are cooled down on permeable Siegling Prolink modular belts ideal for the purpose. When using curved modules with high levels of permeability the cooling process is controlled ideally in cooling towers.



Elastic belts from our Siegling Extremultus range are used as spreading belts.

Dairy products



Dairy products “coagulate” placing high demands on belt hygiene and durability. Special PVC coated types fulfil these demands continually and reliably. Incision-resistant surfaces allow portioning on the belt. Using special surfaces and dimensionally stable belt constructions make continuous conveying of the products possible.

Siegling Prolink modular belts guarantee hygienic conveying kind to packaging in the filling department.

Fruit/vegetables

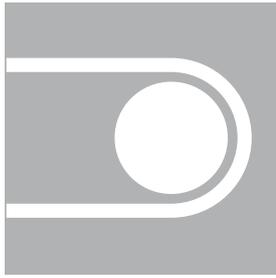
Siegling Transilon belts guarantee careful but at the same time quick conveying of fruit and vegetables during processing and so reduce the amount of time spent in production.

They are resistant to fruit acids and have long service lives – equipped with profiles and sidewalls, they are frequently used for inclined conveying.

Permeable Siegling Prolink modular belts simplify processing particularly during the cleaning process. With profiles and sidewalls inclined conveying is also possible.

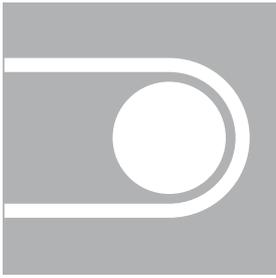


siegling transilon Food product range

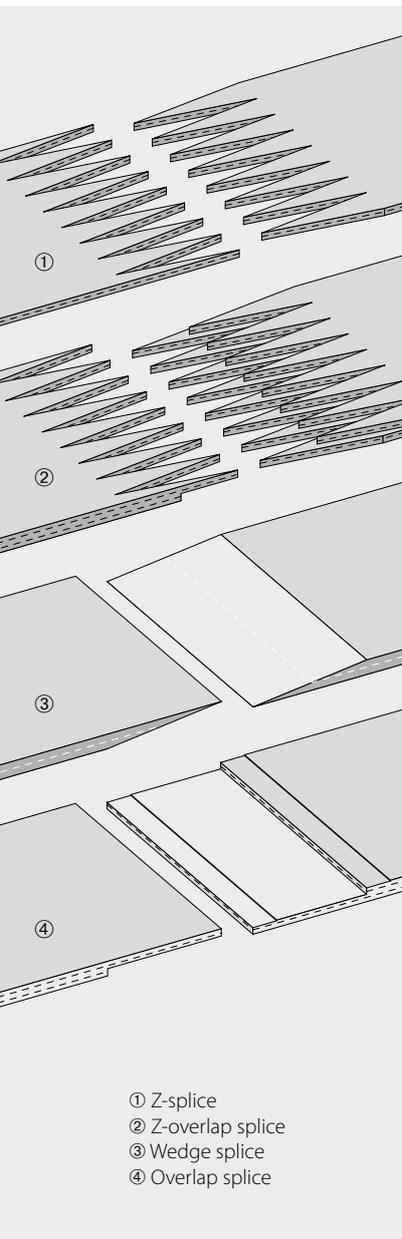


Technical data, properties and recommendations		Article number	FDA-compliant	Antistatic	Belt edge sealing (ProSeal) possible	Top face finish	Total thickness approx. [mm]	Weight approx. [kg/m ²]	Effective pull at 1% elongation (k _{1%} relaxed) [N/mm width]*	d _{min} approx [mm]**	Permissible operating temperature [°C]
Urethane											
E 2/1 U0/U2 HACCP	white	900176	●	●	●	0.2 mm Urethane	0.7	0.7	3.5	r 3-8	-30 to +100
E 2/2 U0/0	transparent	900102	●	●	●	no coating	1.2	1.2	3	r 3-8	-30 to +100
E 3/1 U0/U0	transparent	906430	●	●	●	Urethane impregnated	0.9	0.6	3.5	r 3-8	-30 to +100
E 3/1 U0/U2 HACCP	white	900006	●	●	●	0.2 mm Urethane	1.2	1.2	3.5	r 3-8	-30 to +100
E 3/1 U0/U2 MT-C-HACCP	white	900008	●	●	●	0.2 mm Urethane	0.7	0.7	2	r 3-8	-30 to +100
E 3/1 U0/U2 MT-NA-HACCP	white	900201	●	●	●	0.2 mm Urethane	0.8	0.9	3	r 3-8	-30 to +100
E 3/1 U0/U2 RF	amber	900007	●	●	●	0.2 mm Urethane	1.2	1.1	4	r 3-8	-30 to +100
E 3/2 U0/U0	transparent	900009	●	●	●	Urethane impregnated	1.2	1.1	5	r 3-8	-30 to +100
E 3/1 U0/U2 RFF-LA	white	906564	○	●	○	0.2 Urethane	1.2	1.1	3	r 3-8	-30 to +100
E 3/2 U0/U2 HACCP	white	900103	●	●	●	0.2 mm Urethane	1.5	1.6	5	r 3-8	-30 to +100
E 3/2 U0/U2 HACCP	blue	906603	●	●	●	0.2 mm Urethane	1.5	1.6	5	r 3-8	-30 to +100
E 4/2 U0/U0	transparent	900206	●	●	●	Urethane impregnated	1.1	1.1	4	r 3-8	-30 to +100
E 4/2 U0/U2 MT-HACCP	white	900207	●	●	●	0.2 mm Urethane	1.4	1.6	4	r 3-8	-30 to +100
E 4/2 U0/U2 LF	white	906373	○	●	●	0.2 mm Urethane	1.4	1.5	4	r 3-8	-30 to +100
E 8/2 U0/U2 MT-NA	white	900277	●	●	●	0.2 mm Urethane	1.4	1.5	7.5	25	-30 to +100
E 8/2 U0/U8	transparent	900024	●	●	●	0.8 mm Urethane	2.0	2.2	7.5	60	-30 to +100
E 8/H U0/U2 MT-HACCP	white	906451	●	●	●	0.2 mm Urethane	1.4	1.3	12	r 3-8	-30 to +100
E 8/H U0/U2 MT-HACCP	blue	906473	●	●	●	0.2 mm Urethane	1.4	1.3	12	r 3-8	-30 to +100
E 8/H U0/U5 NP-HACCP	white	906489	●	●	●	0.5 mm Urethane	1.6	1.7	12	r 3-8	-30 to +100
E 8/H U0/U5 NP-HACCP	blue	906605	●	●	●	0.5 mm Urethane	1.6	1.7	12	r 3-8	-30 to +100
E 8/H U2/U2 MT/MT-HACCP	blue	906604	●	●	●	0.2 mm Urethane	1.6	1.7	11	10	-30 to +100
E 10/H X0/U2 MT-HACCP	transparent	906557	●	●	●	0.2 mm Urethane	1.3	1.2	10	r 3-8	-30 to +100
E 12/2 U0/U0	transparent	900040	●	●	●	Urethane impregnated	1.4	1.4	6.5	60	-30 to +100
E 18/H U0/U2 MT	white	906420	●	●	●	0.2 mm Urethane	1.8	1.8	22	20	-30 to +100
UU 20U-NA FSTR/NP 2) 6)	blue	855590	●				1.4	1.5	-	10 5)	-20 to +50
Polyolefin											
E 10/2 E0/A5 TT	transparent	906505	●	●	●	0.5 mm Polyolefin	2.6	2.4	11	60	-10 to +60
PVC											
E 5/2 0/0	transparent	900104	BFR	●	●	No coating	1.5	1.5	1.5	25 4)	-10 to +70
E 8/2 U0/V4 MT	blue	906595	●	●	●	0.4 mm PVC	2.1	2.3	5	30	-10 to +70
E 8/2 U0/V5 MT	white	900028	●	●	●	0.5 mm PVC	2.2	2.5	8	40	-10 to +70
E 8/2 U0/V5 NP 1)	white	900029	●	●	●	0.5 mm PVC	2.1	2.2	8	40	-10 to +70
E 8/2 V5/V8 NP/MT	blue	906567	●	●	●	0.8 mm PVC	2.7	3.2	6.5	40	-10 to +70
E 8/H U0/V5 MT-HACCP	white	906452	●	●	●	0.5 mm PVC	1.5	1.6	12	25	-10 to +70
E 10/M V1/V10 MT 1)	white	900092	●	●	●	1 mm PVC	2.9	3.3	9	60	-10 to +70
E 12/2 U0/V20 MT-NA	white	900050	●		●	2 mm PVC	3.7	4.4	12	60	-10 to +70
Silicone											
E 3/1 U0/S3	white	900184	●	●		0.3 mm Silicone	1.1	1.1	3	r 3-8	-30 to +100
E 4/2 S0/S0	transparent	900135	○	●		Silicone impregnated	1.3	1.1	2	40	-40 to +180
E 4/2 S0/S3 FSTR	white	900136	●	●		0.3 mm Silicone	1.5	1.6	3	40	-40 to +180
E 6/2 U0/U/S3	white	906477	●	●		0.3 mm Silicone	1.6	1.8	6	20	-30 to +100
E 8/H S0/S5 MT-HACCP	white	906478	●	●	○	0.5 mm Silicone	1.4	1.5	5.5	40 5)	-40 to +180
Cotton/Non-woven											
E 3/2 U0/U/C fine	white	999638	○	●	●	Cotton	1.4	1.4	2	r 3-8	-10 to +100
E 3/2 U0/U/C rough NA	transparent	906407	○	●	●	Cotton	2.0	1.7	2	r 3-8	-30 to +100
NOVO 25-NA 3)	white	996160	○			Polyester non-woven	2.5	1.3	9.5	40	-10 to +120
Polyester											
E 12/2 E0/E3 MT-TT	transparent	900348	●	●	●	Polyester	1.7	1.8	12	50	-30 to +100

siegling transilon to suit the application



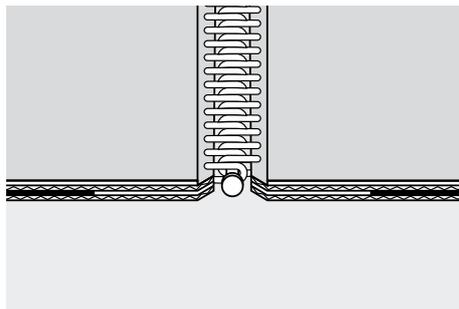
Types of splice



Plastic fasteners

- Plastic fasteners are FDA compliant
- Belts can be quickly and easily exchanged
- Plastic fasteners are suitable for use in metal detectors

Plastic fasteners are also available for imbedding in the belt coating or heated on.

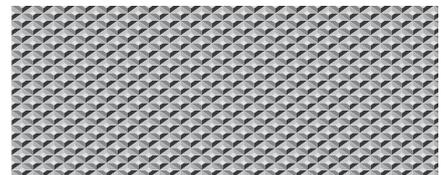


Dehesive belts

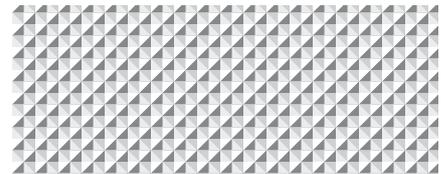
Dehesive belts have a fine coating produced in a special process on the conveying face (low friction – LF) with an extremely low friction coefficient. Goods that usually stick to the belt are released easily from these. The very smooth surface means that the LF belts are easy to clean and are excellent for use in accumulation sections.

Surface patterns

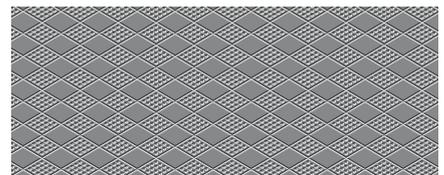
Special surface patterns can optimise grip and release properties for many products and emboss the under side of the goods conveyed (e.g. in chocolate).



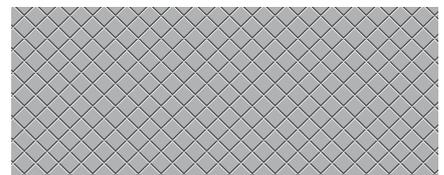
Fine rhomboid pattern (RF)



Inverted pyramid pattern (NP)



Fine, flat rhomboid pattern (RFF)



Fine pattern (FSTR)

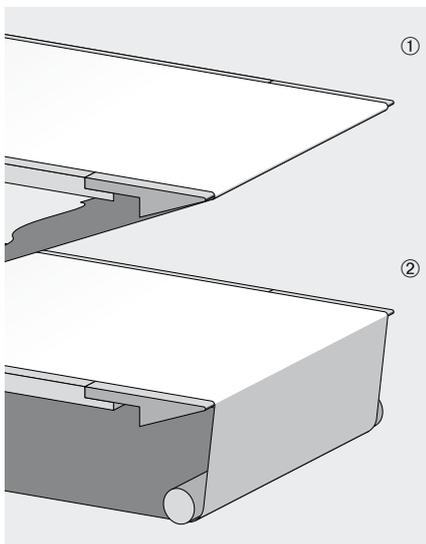
siegling transilon conveyor and processing belts

Suitability for knife edges

For certain applications, e.g. cooling lines, belts suitable for knife edges are required in order to transfer even the smallest of goods reliably to the next belt.

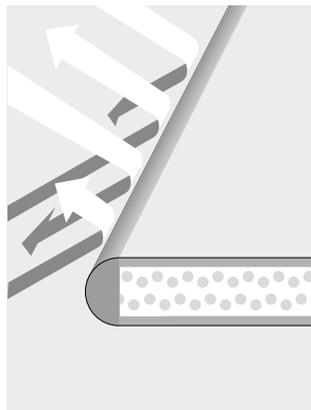
Siegling Transilon knife edge belts are suitable for the smallest of knife edge radii – special types also for use in curves and merges.

Because the belts are absolutely flat even light goods stay in the right position in long conveyor belts.



When rotating around the knife edge the power consumption of the belt (see ①) increases. To keep this low the belt wrap should be kept as small as possible (see ②).

Belt edge sealing



Penetration of oil, grease and water and therefore of bacteria around the belt edge is prevented. This also increases the service life of the belt. A closed belt edge with ProSeal belt edge sealing can be produced in plastic conveyor belts with fabric tension member.

Profiles and sidewalls



Conveyor belts equipped with sidewalls are used in inclined and steep conveying for bulky goods and small component goods.

Profiles are available in different types and dimensions and some can be supplied as roll material.

Sidewalls, often in conjunction with lateral profiles, are used for closing up the sides when conveying bulky goods.

Siegling Transilon is supplied as

- endless belts
- belts prepared for hot or cold-pressing on site
- roll material for independent belt fabrication
- belts with mechanical fasteners
- belts with sealed edges (Proseal)
- belts with profiles welded on (longitudinal, lateral, diagonal, half-round)
- belts with sidewalls
- belts with perforations
- special designs with metal eyelets, impulse foils, special markings, etc.



The Siegling Prolink system consists of seven series designed for the different conveying and processing tasks. Five series are relevant to the food industry.

The individual modules are flexibly joined and made endless with one another with connecting rods and can be equipped with various additional elements such as sidewalls and lateral profiles.

This means:

- quick fitting
- variable widths and lengths
- simple repair
- low stock levels

Existing machinery can easily be converted to Siegling Prolink. Apart from the standard colours any other colours can be supplied on request. Standard materials available are polyethylene (PE), polypropylene (PP) and polyacetal (POM). The materials are FDA certified and some USDA approved.

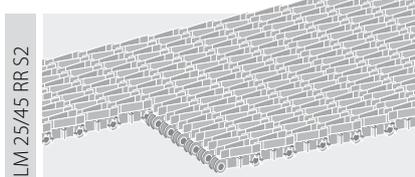
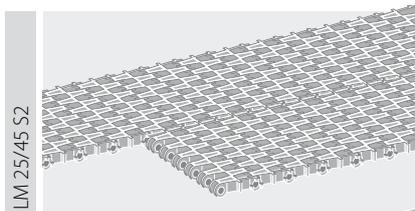
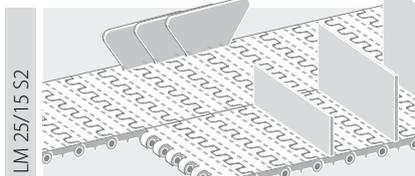
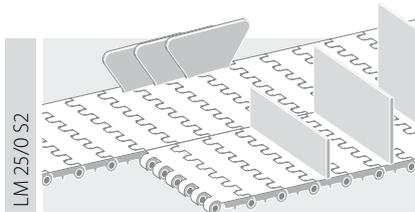
All Siegling Prolink modules and additional elements (coupling rods, sidewalls) are made of polyethylene (PE) and to some extent POM and can be supplied as HACCP types.

The mechanical properties of materials are not changed because belts are HACCP types.

Series 2

The series for conveying lighter goods. (Tins, poultry, fruit and vegetables)

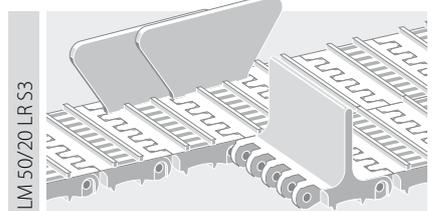
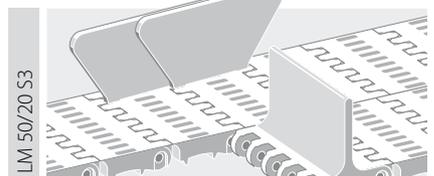
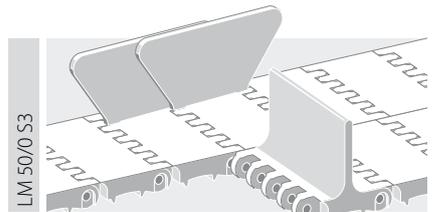
Pitch: 25 mm
Standard colour(s): white, blue
Some USDA approved



Series 3

The series for standard applications for lighter goods. With particularly smooth surface for stable conveying and accumulations. (Bottles, fish and meat, light unit goods)

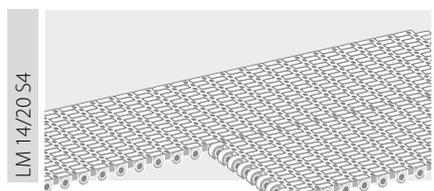
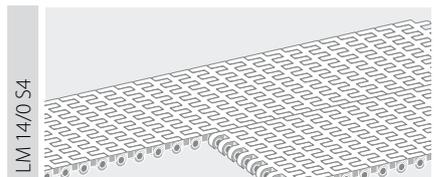
Pitch: 50 mm
Standard colour(s): white, blue
USDA approved



Series 4

For conveying smaller objects requiring a small corner diameter. (Baked goods, confectionery, light unit goods)

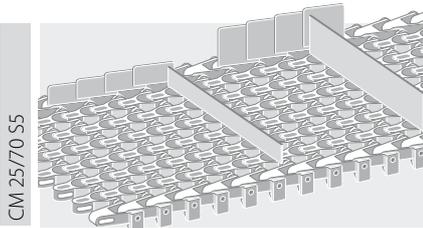
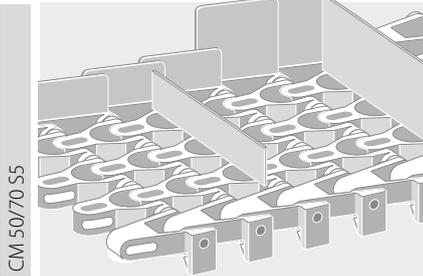
Pitch: 14 mm
Standard colour(s): white, blue



Series 5

Curved modules permit straight and radial conveying lines without a break. Extremely high permeability. (Deep frozen goods, fish, meat, unit goods)

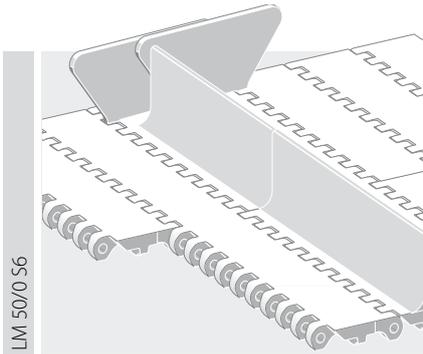
Pitch: 50 mm/25 mm
Standard colour(s): white, blue



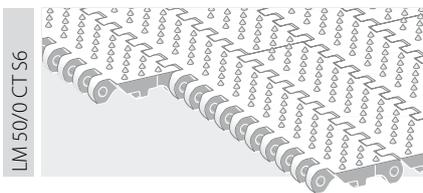
Series 6

For hygiene-sensitive areas with easy-to-clean module design without dirt traps. (Fish, meat ...)

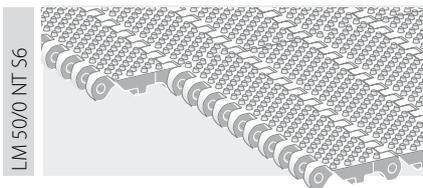
Pitch: 50 mm
Standard colour(s): white, blue



The easy-to-clean belt. With closed, smooth surface, so products can be shifted easily.



The easy-to-clean belt. With pyramid-shaped structural elements on the surface providing excellent grip even in inclined conveying.



The easy-to-clean belt. With cylindrical structural elements on the surface providing gentle grip and good release properties.

siegling prolink modular belts

- PP = polypropylene
- PE = polyethylene
- POM = polyacetal
- LM = linear module
- CM = curved modules
- PM = profile module
- SM = side module
- SG = side guards
- CS = curved sprocket module
- LS = linear sprocket module
- RR = raised rib
- LR = lateral rib
- FT = friction top
- NT = nub top
- CT = cone top

Type key

		module materials			module shape			modular spacing in mm			permeability in %			guided			series			colour		
POM-	LM	50/20	S1	W																		
PE-	LM	25/45	S2	W																		
PP-	CM	25/70	G	S5	B																	

We would be pleased to forward data sheets and further technical information on request. Our product overview Siegling Prolink (ref. no. 223) includes more detailed information.

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 9001:2000.

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 2000 people worldwide. Our production facilities are located in eight 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.