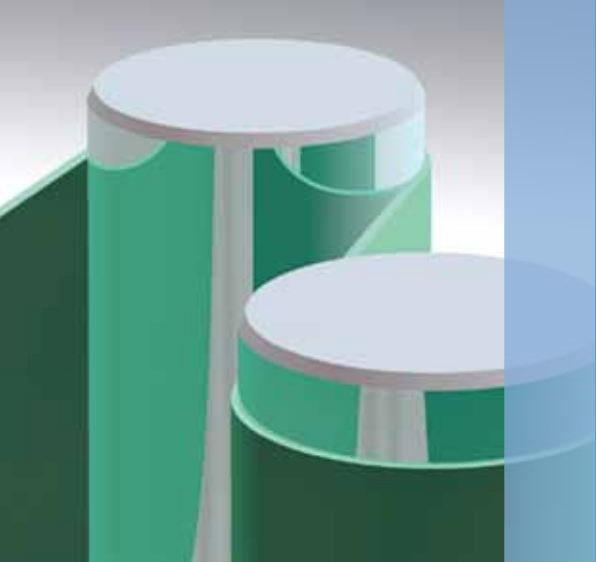


Product range

Power transmission belts



siegling extremultus flat belts





Siegling Extremultus – exceptional power transmission

We have developed the Siegling Extremultus power transmission belt range in close co-operation with users and OEMs. As a result, it can offer a market-driven range of types that can handle all sorts of power transmission in every industry.

Different materials for the friction and top coating are combined with one of the three tension member materials

- A (aramide – also truly endless)
- E (polyester – also truly endless) or
- P (polyamide)

Producing a varied range with ideal properties for each and every application.

Siegling Extremultus power transmission belts are durable, extremely tough, elastic, absorb vibrations and shocks and can be used at belt velocities of up to 100 m/s.

Compared with other power transmission belts, they are easy to handle, extremely efficient and have a high level of synchronisation accuracy.

Apart from traditional pulleys, they can easily handle bevel and cone drives and drive several shafts, even in different rotational directions.

Contents

Multi-purpose, highly-efficient belts	5
Overview of the lines	6
A, E, P line product range	8
Product range Truly endless belts	10

The properties

The advantages

thin/flexible	▶	low power requirement, small pulley diameter
constant friction coefficient, high wear-resistance	▶	constant RPM, long belt life
high elastic modulus	▶	short take-up ranges, low creep
laterally stiff	▶	good edge stability
good damping properties	▶	treats bearings gently, vibration-free operation

More information on Siegling Extremultus flat belts can be found in the following brochures:

No.	Title
262	Wood
266	Logistics/live roller conveyors
296	Yarn production
316	Siegling Extremultus Flat belts Technical Information



MOVEMENT SYSTEMS



Chipper (wood manufacture), belt type GT 80 P black, width = 1000 mm, P = 1850 kW, v = 65 m/s



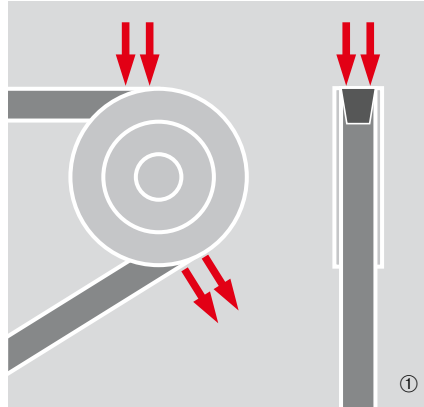
Drive (textile industry/yarn manufacture), belt type GG 20E-20 NSTR/FSTR grey/black



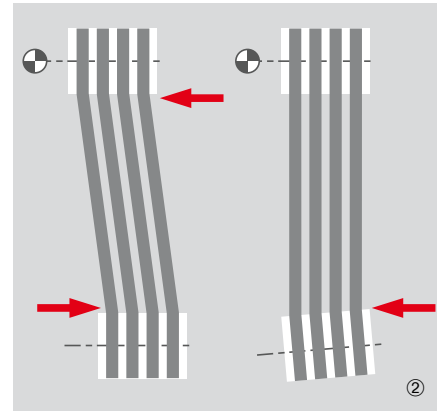
Live roller conveyor (logistics), belt type GG 20E-20 green

Multi-purpose, highly-efficient belts

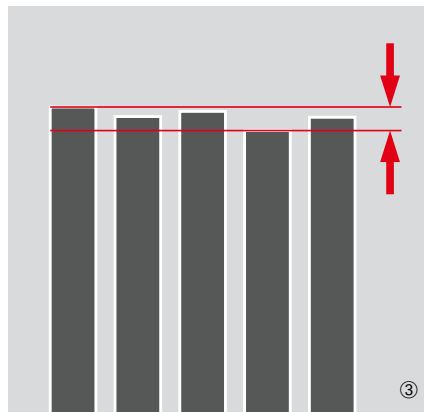
In addition to other advantages, **flat belts are much more efficient than V-belts**. In V-belts, energy losses occur, not just due to flexing in the material, but also due to friction at the sides and other aspects associated with the belt design.



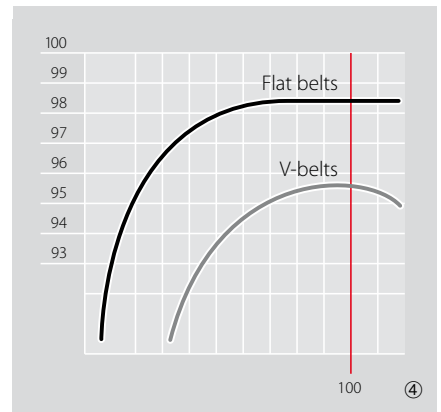
Friction on the sides at the top and bottom, internal friction losses due to hysteresis.



Higher friction losses when the V-belt pulleys are misaligned.

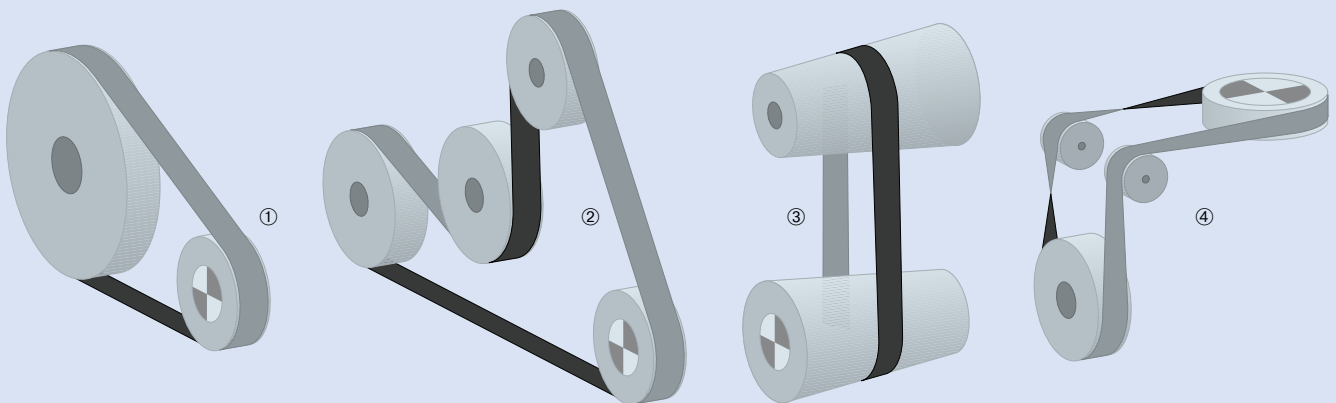


Difference in length and rotational vibrations when V-belts are not loaded evenly.



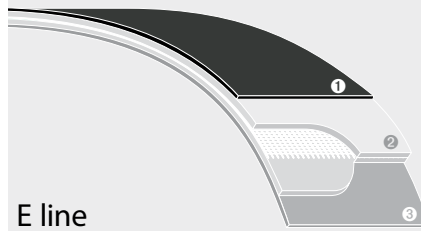
Efficiency of a flat belt (top), efficiency of a V-belt (bottom). Siegling Extremultus flat belts have an efficiency of 98.6 %.

Source:
①②③ Tests carried out by the
University of Göteborg
④ German Institute for Materials Testing, Berlin

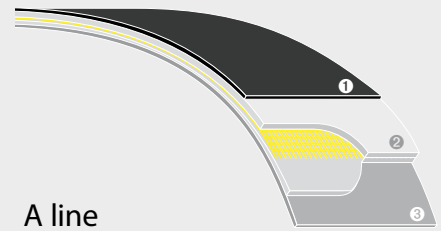


- ① Classical two-pulley drive
- ② Multiple pulley drive
- ③ Taper-cone drive
- ④ Mule drive

Overview of the lines



E line



A line

1 Top coating	
2 Tension member	
3 Friction coating	
Traction layer properties	
Elongation at fitting	
Flexibility	
Damping properties	
Type of splice	
Other factors	

Highly wear-resistant elastomer G (grey or black) or highly wear-resistant urethane (green)
Thermoplastic tension member with polyester fabric in warp and weft
Highly wear-resistant elastomer G (grey or black) or highly wear-resistant urethane (green)
Transmission of significant effective pull at low elongation
0.3 % – 2.0 %
High flexibility
Good
Z-splice 70 x 11.5 mm, 110 x 11.5 mm without adhesives
Power transmission belts with polyester tension members made can transmit significant effective pull and are excellent value. They are a perfect solution for almost any application.

Highly wear-resistant elastomer G (black) or highly wear-resistant urethane (green)
Thermoplastic tension member with highly-modular mixed fabric and aramide warp
Highly wear-resistant elastomer G (grey) or highly wear-resistant urethane (green)
Transmission of significant effective pull at low elongation
Elastomer G: 0.3 % – 1.0%, urethane: 0.3 % – 0.8%
High flexibility
Low
Z-splice 110 x 11.5 mm without adhesives
Power transmission belts with aramide tension members are designed for high levels of specific effective pull. Aramide line belts require careful handling to ensure perfect operation.

Friction/top layer properties

Urethane (U)

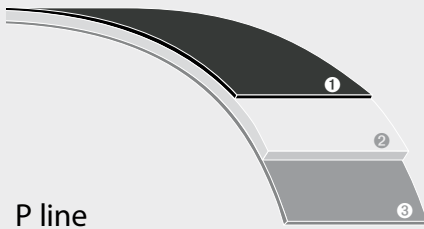
The urethane friction layer U is mainly used for drives. Thanks to its low thickness, it is especially well-suited for extreme flexing stress.

Elastomer G (G)

The friction coating elastomer G is used for all standard drives, also wherever dust and moisture are a factor. Not recommended when oil and grease are present (e.g. oil vapour).

Chrome-leather (L)

The chrome-leather friction coating is used wherever oil and grease are present.



P line

Chrome-leather, highly wear-resistant elastomer G (black) or polyamide fabric

Highly-orientated polyamide sheet

Chrome-leather or highly wear-resistant elastomer G (black or grey)

Transmission of large effective pull

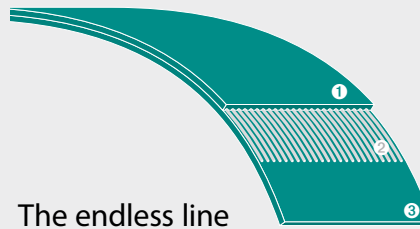
1.5 % – 3.0 %

Low flexibility

Very good

Wedge splice with adhesives

Power transmission belts with tension member made of polyamide sheet are laterally stiff and have very good damping properties.



The endless line

Chrome-leather, highly wear-resistant elastomer G/Urethane (green) or polyamide fabric

Truly endless polyester cord
Truly endless aramide cord

Chrome-leather or highly wear-resistant elastomer G/Urethane or polyamide fabric

Transmits high levels of effective pull with little elongation

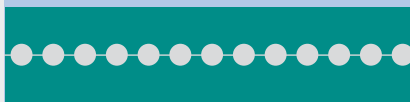
Polyester cord: 0.5 % – 1.5 %, aramide cord: 0.3 % – 1.0 %

High flexibility

Polyester cord: very good, aramide cord: lower

No splice, as truly endless

Power transmission belts with truly endless polyester or aramide cord tension members require short take-up ranges, can transmit high specific levels of effective pull and are not sensitive to fluctuations in ambient conditions. Because they are very flexible and track very steadily and evenly, they are an excellent choice for high levels of power transmission (> 60 m/s) and multiple rotations.



GG = elastomer friction layer on both sides (normal pattern) for power transmission on both sides

UU = green urethane friction coating on both sides, power taken from both sides of belt.

GT = elastomer friction coating on one side, for power transmission on one side, top coating made of polyamide fabric.

LT = chrome-leather friction coating on one side, for power transmission on one side, top coating made of polyamide fabric.

LL = chrome-leather friction coating on both sides, for power transmission on both sides

Selection from
product range
A, E, P lines

Technical data										
Article number	Total thickness approx. [mm]	d _{min} [mm]*	Nominal effective pull approx. [N/mm belt width]**	Nominal working elongation [% of belt length]	Max. transmittable effective pull [N/mm belt width]	Shaft load at 1% elongation [N/mm belt width]	Elongation at fitting [% of belt length]	Weight approx. [kg/m ²]	Permissible operating temperatures [°C (long-term temperature)***	
A line										
UU 15A-17 FSTR/FSTR green	995473	1.7	24	15	0.8	15	72	0.3–0.8	1.9	-20/+70
GG 25A-25 NSTR/FSTR grey/black	822130	2.5	40	25	1.0	28	55	0.3–1.0	2.7	-20/+70
GG 40A-32 NSTR/FSTR grey/black	822131	3.2	60	40	1.0	42	90	0.3–1.0	3.45	-20/+70
E line										
GG 8E green	822062	1.5	14	10	2.0	10	8	0.3–2.0	1.6	-20/+70
UU 20E-16 FSTR/FSTR green	822055	1.6	30	14	2.0	20	23	0.3–2.0	1.85	-20/+70
GG 20E-20 green	822052	2.0	24	20	2.0	20	23	0.3–2.0	2.15	-20/+70
GG 20E-20 NSTR/FSTR grey/black	822145	2.0	24	20	2.0	20	23	0.3–2.0	2.2	-20/+70
UU 30E-20 FSTR/FSTR green	822133	2.0	30	20	2.0	30	28	0.3–2.0	2.2	-20/+70
UU 30E-32 FSTR/FSTR green	822105	3.2	30	14	2.0	20	23	0.3–2.0	3.55	-20/+70
GG 30E-25 NSTR/FSTR grey/black	822126	2.5	30	30	2.0	30	30	0.3–2.0	2.75	-20/+70
GG 30E-30 NSTR/NSTR black	822127	3.0	60	30	2.0	40	50	0.3–2.0	3.25	-20/+70
GG 30E-32 FSTR/FSTR black	822118	3.2	40	26	2.0	28	30	0.3–2.0	3.55	-20/+70
GG 30E-32 green	822051	3.2	40	22	2.0	22	23	0.3–2.0	3.4	-20/+70
GG 40E-32 NSTR/NSTR grey/black	822128	3.2	60	40	2.0	40	45	0.3–2.0	3.45	-20/+70
GG 40E-37 NSTR/NSTR black	822129	3.7	60	40	2.0	60	45	0.3–2.0	4.15	-20/+70
TG 30E-30 black/green	822058	3.0	40	–	–	–	30	0.3–2.0	3.2	-20/+70
P line										
LL 10P	800016	3.1	40	10	2.0	12.5	10	1.5–3.0	3.1	-20/+80
LL 14P	800017	3.5	60	14	2.0	17.5	14	1.5–3.0	3.6	-20/+80
LL 20P	800018	4.4	90	20	2.0	25	20	1.5–3.0	4.2	-20/+80
LL 28P	800019	4.9	120	28	2.0	35	28	1.5–3.0	5.0	-20/+80
LL 40P	800020	5.9	200	40	2.0	50	40	1.5–3.0	5.6	-20/+80
LT 10P	800008	2.2	30	10	2.0	12.5	10	1.5–3.0	2.5	-20/+80
LT 14P	800009	2.4	60	14	2.0	17.5	14	1.5–3.0	2.6	-20/+80
LT 20P	800010	3.4	90	20	2.0	25	20	1.5–3.0	3.4	-20/+80
LT 28P	800011	3.7	125	28	2.0	35	28	1.5–3.0	3.7	-20/+80
LT 40P	800012	4.4	200	40	2.0	50	40	1.5–3.0	4.3	-20/+80
LT 54P	800013	5.5	300	54	2.0	67.5	54	1.5–3.0	5.5	-20/+80
LT 65P	998059	5.8	400	65	2.0	81	65	1.5–3.0	5.7	-20/+80
LT 80P	800014	7.2	400	80	2.0	100	80	1.5–3.0	7.1	-20/+80
GG 10P-20 NSTR/FSTR grey/black	855604	2.0	30	10	2.0	12.5	10	1.5–3.0	2.15	-20/+80
GG 15P-22 NSTR/FSTR grey/black	855605	2.2	40	15	2.0	19	15	1.5–3.0	2.3	-20/+80
GG 20P-25 NSTR/FSTR grey/black	855606	2.5	60	20	2.0	25	20	1.5–3.0	2.8	-20/+80
GG 20P-30 NSTR/NSTR black	855602	3.0	60	20	2.0	25.0	20	1.5–3.0	3.3	-20/+80
GG 30P-32 NSTR/FSTR grey/black	855607	3.2	125	30	2.0	37.5	30	1.5–3.0	3.5	-20/+80
GG 30P-37 NSTR/NSTR black	855603	3.7	125	30	2.0	37.5	30	1.5–3.0	3.9	-20/+80
GT 6P black	850044	1.3	20	6	2.0	7.5	6	1.5–3.0	1.3	-20/+80
GT 10P black	850045	1.6	30	10	2.0	12.5	10	1.5–3.0	1.6	-20/+80
GT 14P black	850046	1.8	40	14	2.0	17.5	14	1.5–3.0	1.8	-20/+80
GT 20P black	850047	2.5	60	20	2.0	25	20	1.5–3.0	2.65	-20/+80
GT 28P black	850048	3.0	120	28	2.0	35	28	1.5–3.0	3.3	-20/+80
GT 40P black	850049	3.65	200	40	2.0	50	40	1.5–3.0	4.0	-20/+80
GT 54P black	850050	4.5	300	54	2.0	67.5	54	1.5–3.0	4.9	-20/+80
GT 80P black	850051	6.0	400	80	2.0	100	80	1.5–3.0	6.4	-20/+80

Legend

* The smallest permissible pulley diameters were established in standard ambient conditions (23 °C, 50 % rel. humidity). Lower temperatures require larger drum diameters. For the P line, this also applies in the case of low humidity.

Recommended d_{min} for power transmission:
A line: 2.5 x type number
E line: 2 x type number
P line: 5 x type number
(7 x type number at relative humidity < 40 %)

** The nominal effective pull states the possible power transmission in N/mm belt width (standard ambient conditions 23 °C/50% rel. humidity) that the belt type can produce at nominal elongation.

*** If temperatures are exceeded, please contact Forbo Siegling application engineers.

Explanation of the abbreviations used, the type designation and resistances on page 11.

Supplied as

- Roll material for customers to finish themselves
- Prepared belts for on-site heating of splices. Please state the type of splice you require, sizes and any pre-tension required. Please contact us about belts lengths < 450 mm and > 125 m
- Special types with perforation or sawn edges (in the P line) on request

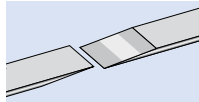
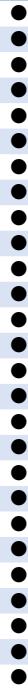
Splice

Z-splice
splice length [mm]

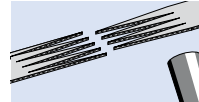
Ground wedge splice

110
110
110

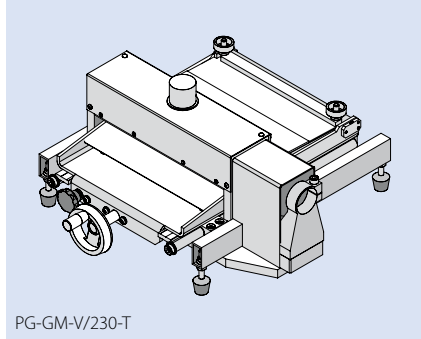
35/70
35/70
35/70/110
35/70/110
35/70
70
35/70
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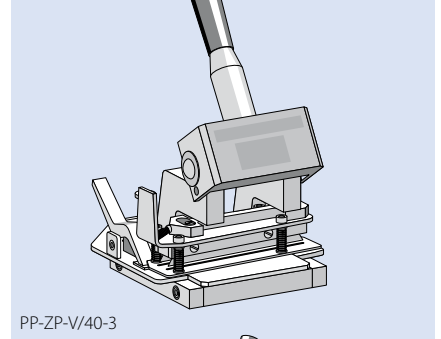
Equipment for finishing
the wedge splice (P line)



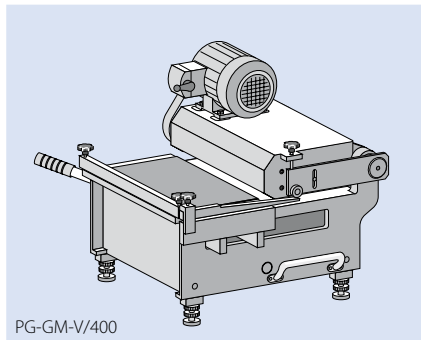
Equipment for finishing
the Z-splice (E line, A line)



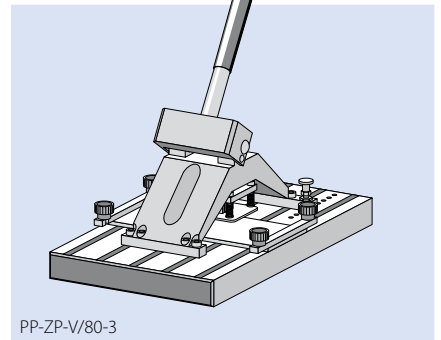
PG-GM-V/230-T



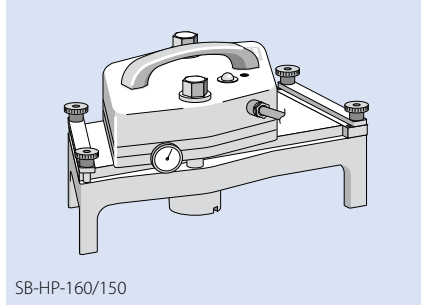
PP-ZP-V/40-3



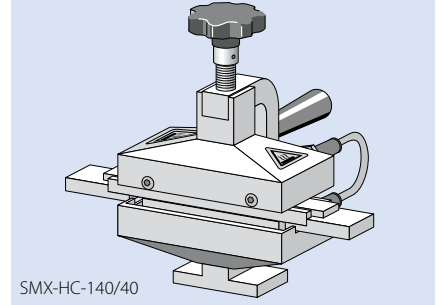
PG-GM-V/400



PP-ZP-V/80-3



SB-HP-160/150



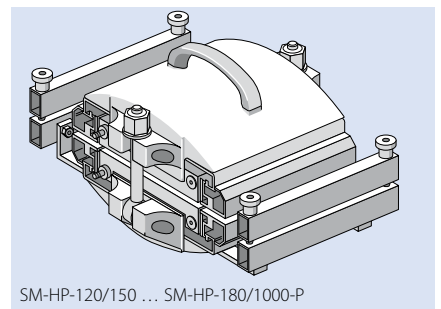
SMX-HC-140/40

Splicing technology

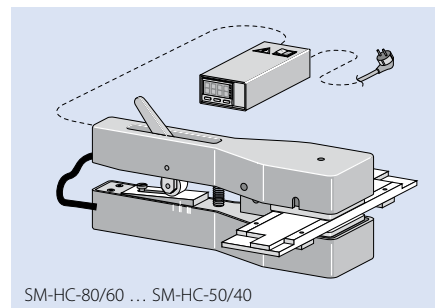
All types are made endless with tried-and-tested splicing methods. Using our practical finishing equipment guarantees:

- extremely fast preparation and finishing of the splice in the workshop or on the machine
- very flexible and durable splices
- detailed instructions for all tools and equipment and power transmission belt types

You can obtain our tool overview, tool sheets and instructions on request.



SM-HP-120/150 ... SM-HP-180/1000-P

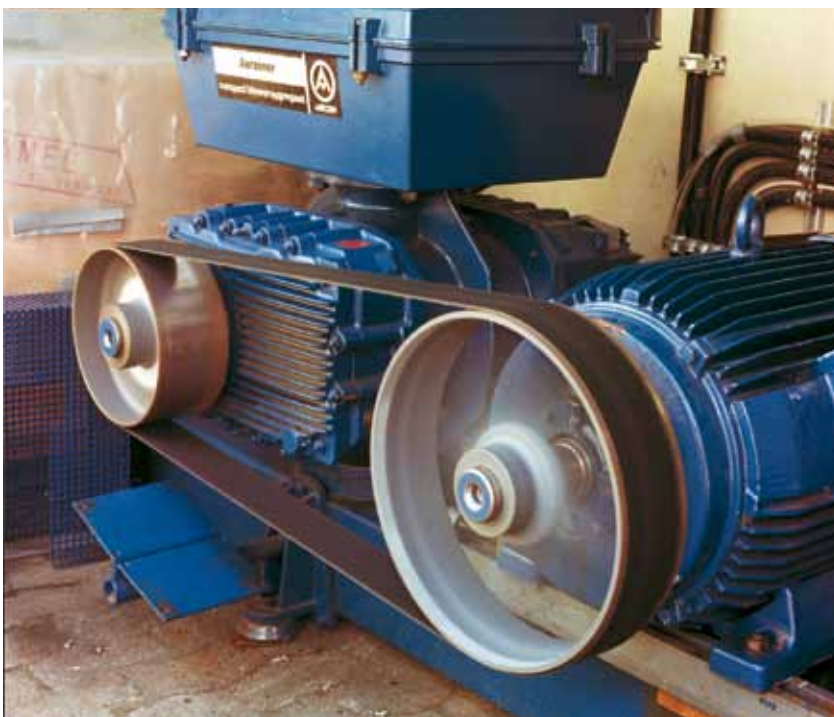


SM-HC-80/60 ... SM-HC-50/40

Selection from
product range
Endless line

Technical data

Article number	Total thickness approx. [mm]	d_{\min} [mm]*	Nominal effective pull approx. [N/mm belt width]**	Nominal working elongation [% of belt length]	Elongation at fitting [% of belt length]	Weight approx. [kg/m ²]	Permitted operating temperature Td [°C]*** (constant temperature)	
Aramide cord								
GT 54A black	810053	1.8	150	54	1.0	0.3 – 1.0	1.9	-20/+60
GT 80A black	810082	1.9	150	80	1.0	0.3 – 1.0	2.0	-20/+60
GG 54A NSTR/NSTR black	811055	2.8	150	54	1.0	0.3 – 1.0	2.8	-20/+60
LT 54A	810081	2.7	200	54	1.0	0.3 – 1.0	2.7	-20/+60
LT 80A	810080	2.8	200	80	1.0	0.3 – 1.0	2.8	-20/+60
Polyester cord								
UU 10E green	810011	0.75	30	-	1.0	0.5 – 1.5	0.7	-20/+60
UU 14E green	810012	0.8	30	-	1.0	0.5 – 1.5	0.8	-20/+60
UU 20E green	810013	1.2	90	-	1.0	0.5 – 1.5	1.1	-20/+60
GT 10E black	810028	1.2	30	10	1.0	0.5 – 1.5	1.2	-20/+60
GT 14E black	810027	1.3	50	14	1.0	0.5 – 1.5	1.3	-20/+60
GT 20E black	810026	1.9	70	20	1.0	0.5 – 1.5	1.9	-20/+60
GT 28E black	810029	2.1	120	28	1.0	0.5 – 1.5	2.2	-20/+60
GT 40E black	810032	2.4	160	40	1.0	0.5 – 1.5	2.5	-20/+60
GG 10E black	810033	1.8	30	10	1.0	0.5 – 1.5	1.9	-20/+60
GG 14E black	810035	1.9	50	14	1.0	0.5 – 1.5	2.0	-20/+60
GG 20E black	810031	2.8	70	28	1.0	0.5 – 1.5	2.9	-20/+60
GG 28E black	810036	3.1	120	28	1.0	0.5 – 1.5	3.2	-20/+60
GG 40E black	810030	3.4	160	40	1.0	0.5 – 1.5	3.5	-20/+60
LT 10E	810001	2.0	40	10	1.0	0.5 – 1.5	1.9	-20/+60
LT 14E	810002	2.1	40	14	1.0	0.5 – 1.5	2.2	-20/+60
LT 20E	810003	2.3	80	20	1.0	0.5 – 1.5	2.5	-20/+60
LT 28E	810004	2.9	130	28	1.0	0.5 – 1.5	3.2	-20/+60
LT 40E	810005	3.2	180	40	1.0	0.5 – 1.5	3.3	-20/+60
LT 54E	810083	4.0	300	54	1.0	0.5 – 1.5	3.8	-20/+60
LL 10E	810006	3.4	40	10	1.0	0.5 – 1.5	3.4	-20/+60
LL 14E	810007	3.6	60	14	1.0	0.5 – 1.5	3.6	-20/+60
LL 20E	810008	3.8	80	20	1.0	0.5 – 1.5	3.9	-20/+60
LL 28E	810009	4.2	130	28	1.0	0.5 – 1.5	4.2	-20/+60
LL 40E	810010	4.8	180	40	1.0	0.5 – 1.5	4.8	-20/+60



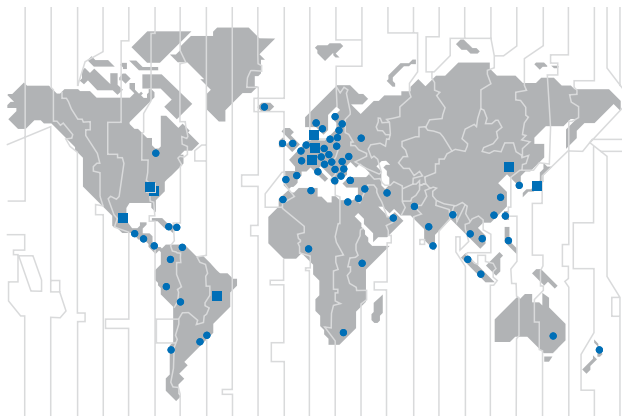
Legend

- * The smallest pulley diameters permissible were established in normal ambient conditions (23 °C, 50 % rel. humidity). Lower temperatures require larger drum diameters.
- ** The nominal effective pull states the possible power transmission in N/mm belt width (standard ambient conditions 23 °C/50 % rel. humidity) that the belt type can produce at nominal elongation.
- *** If temperatures are exceeded, please contact Forbo Siegling application engineers.

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 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

The Forbo Siegling Group employs more than 2,000 people. Our products are manufactured in nine production facilities across the world. You can find companies and agencies with warehouses and workshops in over 80 countries. Forbo Siegling service points are located in more than 300 places worldwide.