

Conveyor Solutions
Trellex aramid conveyor belts





Unbeatable strength-to-weight ratio!

Trellex® aramid conveyor belts combine a strong and light reinforcement with a variety of cover materials, making this product the perfect solution for all kinds of applications. Tensile strengths from 500 to 2500 N/mm. Cover grades are available as wear, heat, oil and grease or flame resistant. Special attention should be paid to all conveyor details, that have an influence on the high modulus of Trellex aramid conveyor belts, eg. transition distances, pulley diameters or curve radii.

High-performance fiber aramid

Trellex aramid conveyor belts are reinforced with aramid fibers. This material is as light as other synthetic fibers like polyester or Polyamid, but as strong as steel. It has low elongation, no creep and excellent resistance against heat and chemicals.

Optimized belt design for a long lifetime

The straight-warp fabric contains transverse polyamid cords that protect the aramid cords from both sides.

As there is a single fabric ply only, the carcass is light and flexible with optimum strength utilization. Aramid conveyor belts are fatigue resistant throughout their lifetime. The reinforcement does not corrode or rot and is resistant against chemical influences.

Trellex® aramid conveyor belts combine a strong and light reinforcement with a variety of cover materials, making this product the perfect solution for all kinds of applications.



Top and bottom cover meet high demands on wear and impact resistance, providing the optimum protection for the valuable aramid. If increased impact resistance is required, Trellex aramid conveyor belts can be supplied with additional polyamid breaker plies.

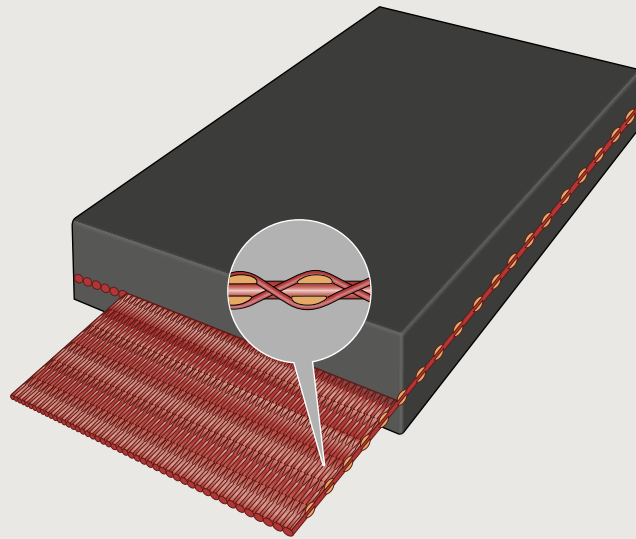
Easy installation and maintenance

Lower belt weight and thickness mean more length per roll. Installation time goes down. Trellex aramid conveyor belts can be spliced with finger splices. Improved splicing schemes have shown higher fatigue strength than for multiply textile belts. No special tools are required. Cold splicing is possible in emergencies. Repairs can be done the same as for other belt types.

Low power consumption

The power consumption of a conveyor can be substantially reduced by installing a light Trellex aramid conveyor belt. Maximum savings can be achieved using a low-energy compound as bottom cover as well as ESI idlers found in the Metso Components section.

Aramid belt with
straight-warp fabric



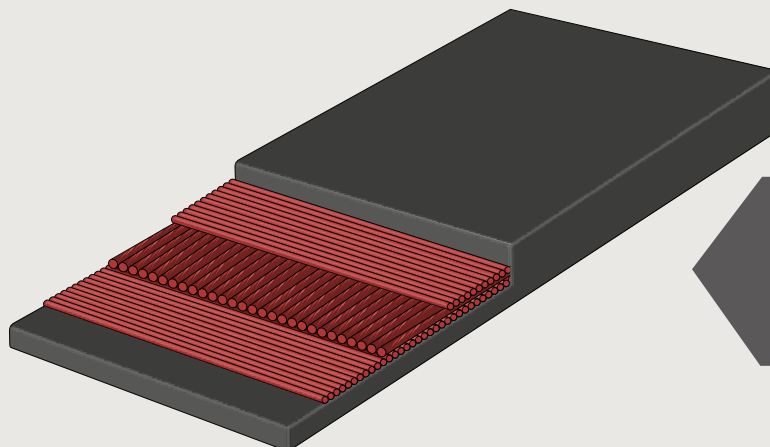
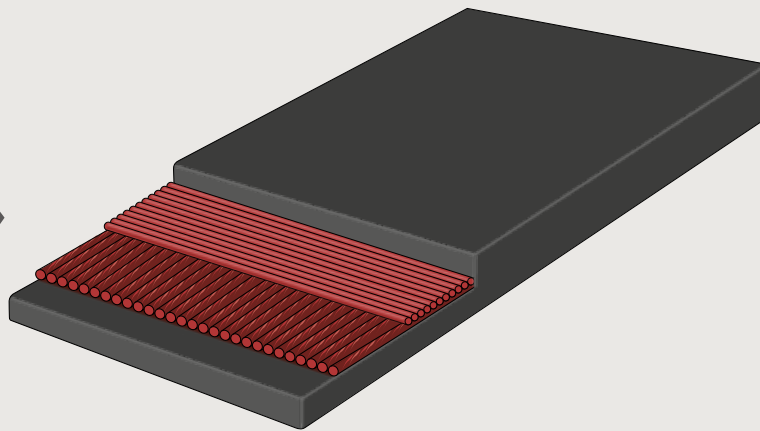
Exactly the right fit

For the correct adjustment of conveyor and belt, our engineers can help you to perform the necessary calculations quickly.

Breaker plies for Trellex aramid belts

Additional polyamide breakers can be chosen to protect the fabric against rips or heavy impacts.

Polyamide breaker



Polyamide breaker,
top and bottom



↔ Low-elongation straight-wrap fabric

Designation belt strength (N/mm)	Max. working tension (N/mm)	Modulus of elasticity (kN/mm)	Weight of carcass (kg/m ²)	Thickness of carcass (mm)	Covers standard (mm)	Belt weight* (kg/m ²)
DP 500	63	23	2.9	2.5	6 + 2	11.7
DP 630	80	27	3.0	2.6	6 + 2	11.8
DP 800	100	31	3.2	2.7	6 + 2	12.0
DP 1000	125	37	4.0	3.5	6 + 2	12.8
DP 1250	160	44	4.1	3.6	6 + 2	16.2
DP 1400	175	49	4.3	3.7	8 + 3	16.4
DP 1600	200	54	4.4	3.8	8 + 3	16.5
DP 1800	225	60	4.8	4.2	8 + 3	16.9
DP 2000	250	66	5.2	4.5	8 + 3	17.3
DP 2500	315	80	5.8	5.0	8 + 3	17.9

* Standard covers, grade X



Pulley diameters

A

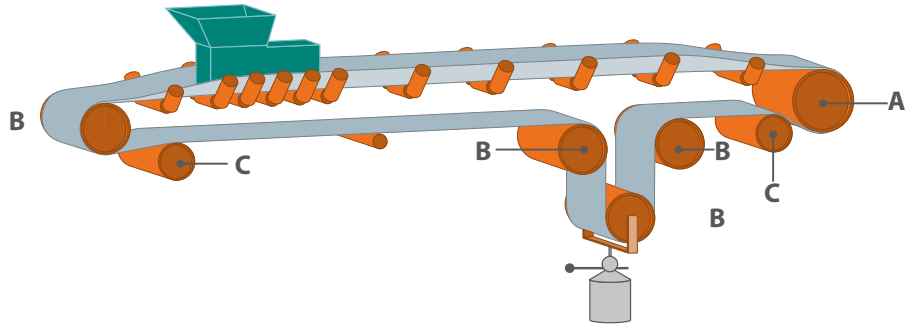
Group A pulleys:
Drive, discharge or other pulleys, where belt tension is relatively high

B

Group B pulleys:
Return, bend, takeup, or other pulleys, where belt tension is relatively low

C

Group C pulleys:
Snub, deflection or other pulleys, where belt wrap angle is $\leq 45^\circ$



Pulley diameters

For the selection of the correct pulley diameter, the strength utilization has to be considered. The recommended diameters also depend on the pulley group.

Utilization Belt type	Recommended minimum pulley diameter				Group C mm
	Group A		Group B		
	>60% mm	<60% mm	>60% mm	<60% mm	
DP 500	315	250	250	200	200
DP 630	315	250	250	200	200
DP 800	315	250	250	200	200
DP 1000	500	400	400	315	315
DP 1250	500	400	400	315	315
DP 1400	630	500	500	400	400
DP 1600	630	500	500	400	400
DP 1850	800	630	630	500	500
DP 2000	1000	800	800	630	630
DP 2500	1000	800	800	630	630



Cover grades

Flexocord® grade	Tensile strength min. (N/mm)	Elongation at break min.(%)	Abrasion mm ³ (max.)	Characteristics and applications
Wear resistance				
X	25	450	120	Heavy duty cover for coarse and sharp materials Resistant against impacts and cuts Complies with: X (DIN), RMA1, H (ISO), M (AS), M24 (BS)
Y	20	400	150	Wear resistant cover for normal operating conditions Complies with: Y (DIN), RMA 1&2, L (ISO), N (AS), N17 (BS)
W	18	400	90	Cover with excellent resistance against erosive wear For small-sized, abrasive materials Complies with: W (DIN), RMA 1&2, D (ISO)
UAR	18	400	50	Ultra abrasive resistant cover
UAR25	18	400	25	Ultra abrasion resistant cover with max. abrasion of 25mm ³
Flame resistance				
K	20	400	150	Abrasion resistant cover with flame resistant characteristics according to ISO 340
VT	17	350	175	Cover with fire resistant properties according to DIN, vt
Heat resistance				
T120	15	400	175	Heat resistant, abrasion resistant cover for temperatures up to 120°C
T200	10	350	180	High heat resistant cover for max. material temperatures of 180°C
MOR	14	400	200	Oil and grease resistant cover



Splicing

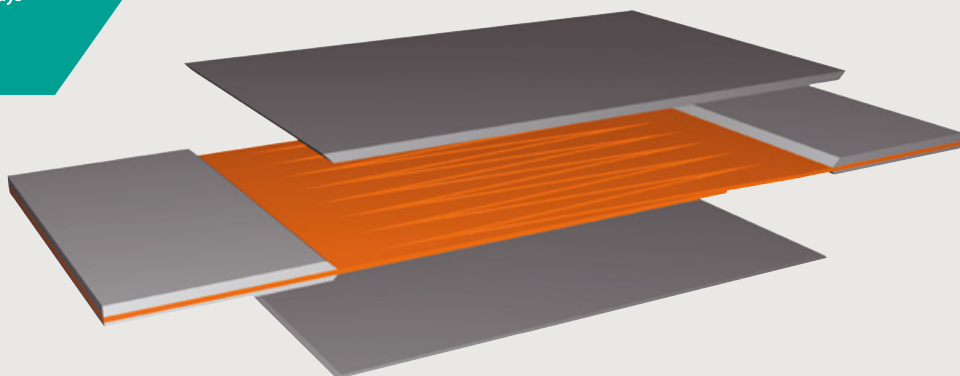
Aramid belt types should be joined with a finger splice. This is the right method, if a smooth transition of belt and carcass is desired.

Particular attention should be given to the splicing procedure, as it seriously affects the splice strength. The use of Trellex splicing material is strongly recommended. The dimensions of finger splices are listed in the table. Exact splicing instructions are available on request.

Strength	Finger length (mm)	Splice length (mm)
500	500	800
630	600	900
800	800	1200
1000	900	1300
1250	1100	1600
1400	1300	1800
1600	1500	2000
1800	1700	2200
2000	1900	2500
2500	2400	3000

* Standard covers, grade X

Regular splices are always hot-vulcanised.

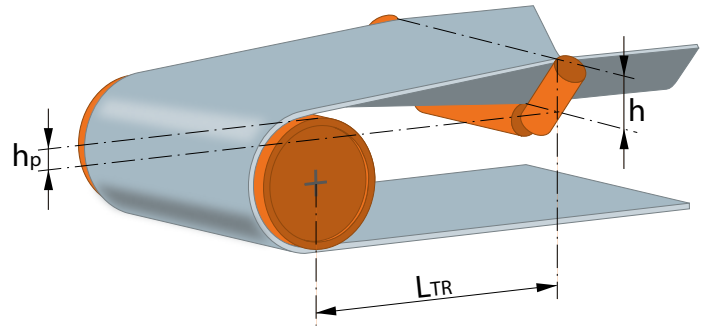




Transition lengths

Due to the low-elongation characteristics of Trellex aramid conveyor belts, transition lengths are longer than for other textile belts.

The transition length LTR depends on troughing angle, belt width (B) and pulley elevation (h_p) above the centre idler roll. Minimum lengths for the loading and discharging of the belt (standard 3-roll troughing idlers) can be obtained from the table below.



Troughing angle	Minimum transition length							
	30°		35°		40°		45°	
Pulley elevation	$h_p=0$	$h_p=h/3$	$h_p=0$	$h_p=h/3$	$h_p=0$	$h_p=h/3$	$h_p=0$	$h_p=h/3$
	2.1 x B	1.6 x B	2.4 x B	1.8 x B	2.7 x B	2.2 x B	3.1 x B	2.5 x B



For contact or information about
your nearest sales office please visit:
www.metso.com