Conveyor Belts

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Trellex Aramid Conveyor Belts

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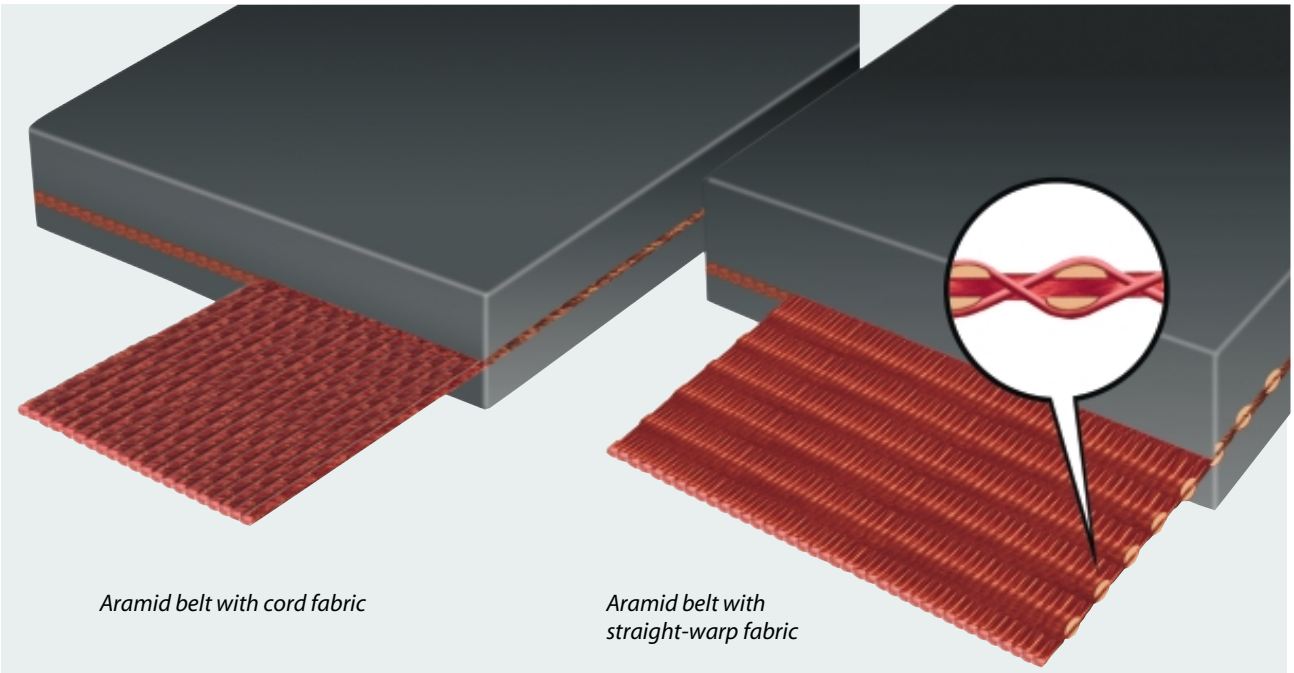


Aramid belt with cord fabric

Aramid belt with straight-warp fabric

Unbeatable strength-to-weight ratio

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

Two different fabric designs are available. The cord fabric consists of straight Aramid cords in longitudinal direction. The straight-warp fabric contains additional 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.
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

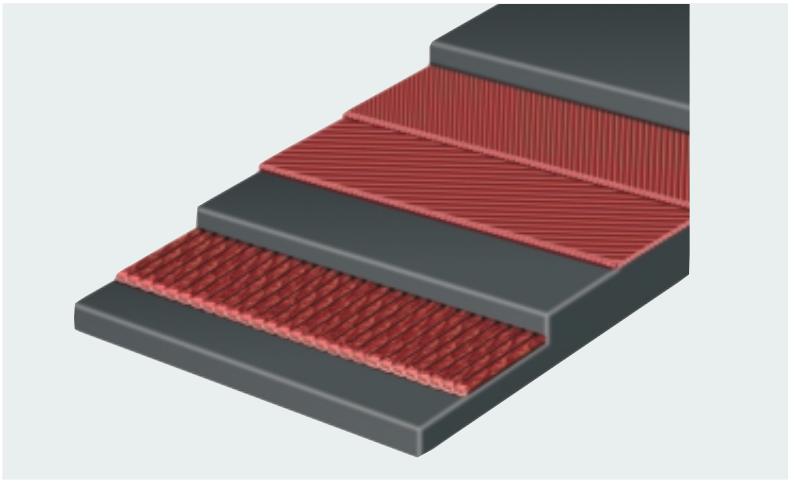
Lower belt weight and thickness mean more length per roll. Installation time goes down.
Trellex Aramid Conveyor Belts can be spliced with overlap or finger splices. Improved splicing schemes have shown higher fatigue strength than for multiply textile belts. No special tools are required. Cold splicing 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. Higher savings are achieved with a low-energy compound as the bottom cover.

Exactly the right fit

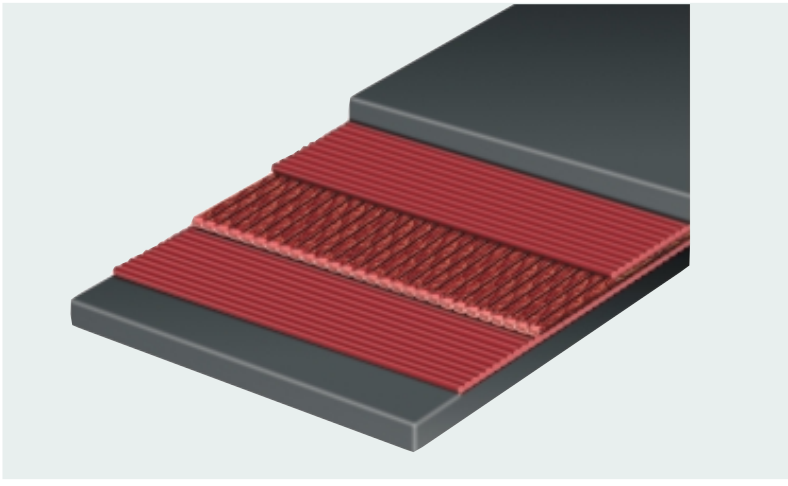
Trellex Aramid conveyor belts combine a strong and light reinforcement with a variety of cover materials, making this product the perfect solution for all kinds of applications.
Tensile strengths from 500 to 2500 N/mm. Cover grades are available as wear, heat, oil and grease or flame resistant.
Special 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. We can also offer a belt construction with higher elasticity (please refer to the tables in this brochure).
For the correct adjustment of conveyor and belt, our engineers can help you to perform the necessary calculations quickly.



TN-Breaker

Breaker plies for Trellex Aramid Belts with cord fabric

Different polyamid breakers can be chosen to protect the cord fabric against rips or heavy impact: Type TN on one or both sides; type XN is a double-breaker, with diagonal cords.



TN-Breaker, Top and Bottom

Trellex Aramid Belts with regular-elongation cord fabric

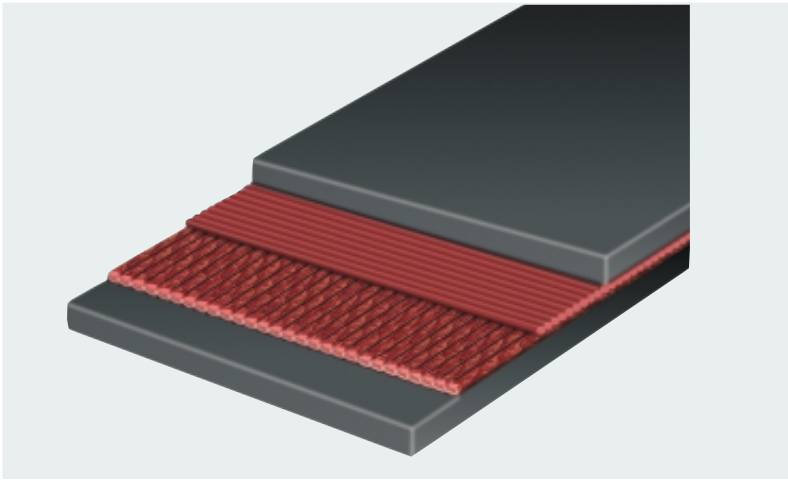
This belt type is designed for conveyors with demand for a more elastic reinforcement. It is recommended for installations with curves, low transition distances, and if there is more take-up length available, e.g. stackers/ reclaimers.

Trellex Aramid Belts with low-elongation cord fabric

Aramid Conveyor Belts with a high modulus cord fabric are the right choice for long conveyors with limited take-up length.

Trellex Aramid Belts with low-elongation straight-warp fabric

The high-modulus straight-warp-fabric combines impact and cut resistance with a thin and light belt design. Due to its low elongation, this belt is also suitable for long conveyors.



XN-Breaker

Aramid Belts with regular-elongation cord fabric

Designation Belt strength N/mm	Max. working tension N/mm	Modulus of elasticity kN/mm	Weight of carcass kg/m²	Thickness of carcass mm	Covers standard mm	Belt weight* kg/m²
D 630	80	12	1.75	1.6	6 + 2	10.6
D 800	100	15	2.1	1.7	6 + 2	10.8
D 1000	125	22	2.2	1.9	6 + 2	10.9
D 1250	160	23	2.3	2.2	6 + 2	11.1
D 1350	170	25	2.5	2.3	8 + 3	14.6
D 1600	200	24	2.6	2.4	8 + 3	14.7
D 1850	230	35	2.8	2.7	8 + 3	14.9
D 2000	250	37	3.4	3.0	8 + 3	15.5

* Standard covers, grade X

Aramid Belts with low-elongation cord fabric

Designation Belt strength N/mm	Max.working tension N/mm	Modulus of elasticity kN/mm	Weight of carcass kg/m²	Thickness of carcass mm	Covers standard mm	Belt weight* kg/m²
D 500	63	23	1.8	1.4	6 + 2	10.6
D 630	80	27	1.8	1.4	6 + 2	10.6
D 800	100	31	2.0	1.5	6 + 2	10.8
D 1000	125	37	2.2	1.7	6 + 2	11.0
D 1250	160	44	2.8	2.2	6 + 2	11.6
D 1400	175	49	3.0	2.3	8 + 3	15.1
D 1600	200	54	3.8	2.9	8 + 3	15.9
D 1800	225	60	4.3	3.3	8 + 3	16.4
D 2000	250	66	4.8	3.7	8 + 3	16.9
D 2500	315	80	4.9	3.7	8 + 3	17.0

* Standard covers, grade X

Aramid Belts with low-elongation straight-warp fabric

Designation Belt strength N/mm	Max.working tension N/mm	Modulus of elasticity kN/mm	Weight of carcass kg/m²	Thickness of carcass mm	Covers standard mm	Belt weight* kg/m²
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	8 + 3	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

Cover Grades

Grade	ISO	DIN	Characteristics	Applications (example)	Elastomer (material)	Material temperature °C min.	max.	peaks
X*	H	X	Wear resistant, heavy duty cover for sharp and lumpy material, or extreme drop heights	Ore, rock	NR/BR	-40	60	100
Y*	L	Y	Wear resistant cover for standard applications	Coal, gravel, sand, fertiliser	SBR	-30	60	100
YW*	D	Y, W	Wear resistant cover, for fine and abrasive material	Cement, gypsum, abrasive sands	NR/BR	-40	60	90
Y-30*	D	Y, W	Extremely wear resistant cover, for fine and abrasive material	Cement, gypsum, abrasive sands	NR/BR	-30	60	90
TXT	L	T, Y	Wear and heat resistant cover for coarse material	Cast iron, coke	SBR	-15	150	170
RET		T, C	Wear resistant cover with excellent heat resistance	Cement, clinker, ash	EPM	-30	190	250
RETK		T, C	Wear resistant cover with excellent heat resistance, flame resistant acc. to ISO 340	Cement, clinker, ash	EPM	-30	190	250
S	L	S	Flame resistant acc. to ISO 340	Coal, fertiliser	NR/SBR	-25	70	100
S 100	D	S, Y	Flame resistant acc. to ISO 340, for abrasive material	Coal, coke	NR/SBR	-25	70	100
GPP		G	Oil- and grease resistant cover	Woodchips, grain	NBR/SBR	-35	60	80
AQ	L	A	White, wear resistant cover, for food (FDA), not antistatic	Sugar, paper	NR/SBR	-35	60	90

* Optionally with low-energy bottom cover available (grade X).

All covers are antistatic unless specified

Pulley diameters

For the selection of the correct pulley diameter, the strength utilization has to be considered.

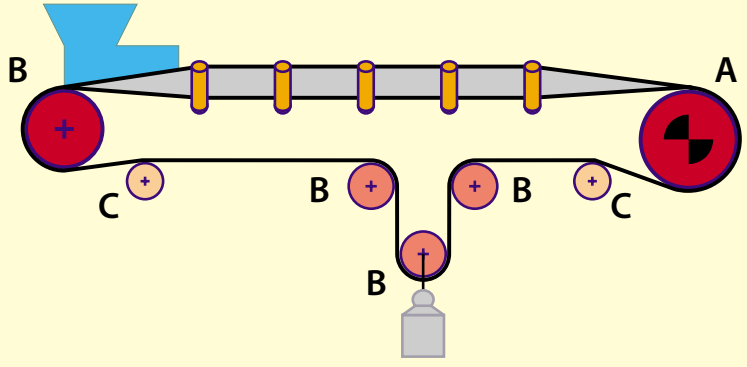
The recommended diameters also depend on the pulley group.

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

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

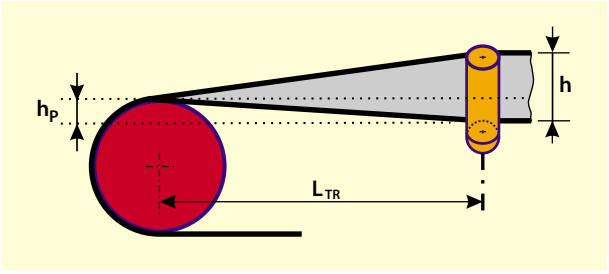
Group C Snub, deflection or other pulleys, where belt wrap angle is ≤ 45°

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



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 L_{TR} 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.

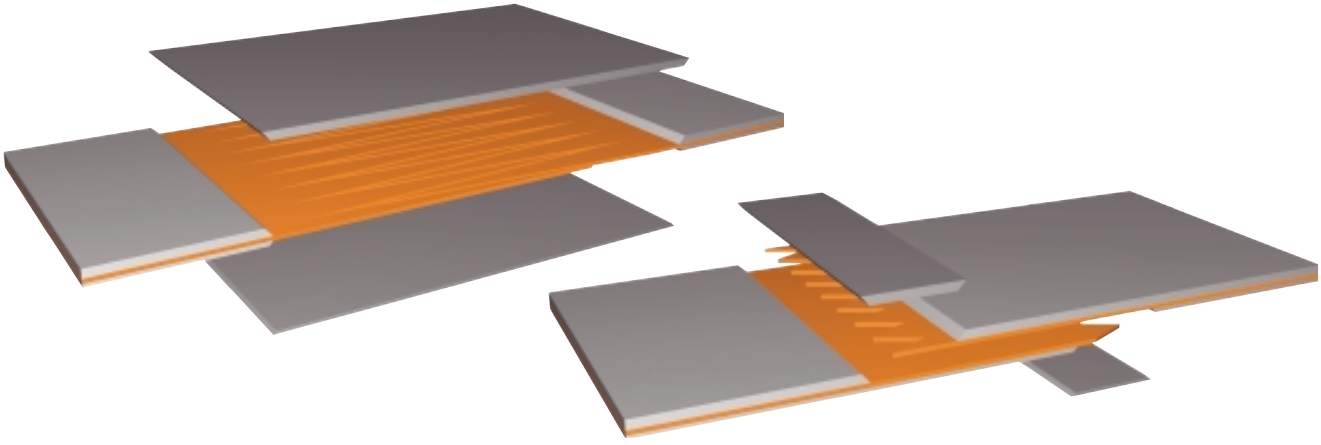


Belt type	Troughing angle / Pulley elevation	Minimum transition length 30° h_p=0	30° h_p=h/3	35° h_p=0	35° h_p=h/3	40° h_p=0	40° h_p=h/3	45° h_p=0	45° h_p=h/3
Aramid belts with Cord Fabric									
– regular elongation		1.5 x B	1.1 x B	1.8 x B	1.3 x B	2.0 x B	1.5 x B	2.2 x B	1.7 x B
– low elongation		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
Aramid belts with Straight-Warp Fabric		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

Splicing

Regular splices are always hot vulcanised. Two splicing methods are possible

Overlap splices are recommended for Aramid belts with Cord Fabric up to 1250 N/mm.



Other Aramid belt types should be joined with a finger splice. This is also 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 both overlap and finger splices are listed in the table. Exact splicing instructions are available on request.

Designation Belt strength N/mm	Overlap length mm	Finger length mm	Splice length mm
D, DP 630	550	630	750/1230
D, DP 800	650	800	850/1400
D, DP 1000	750	1000	950/1600
D, DP 1250	850	1250	1050/1850
D, DP 1350	950	1350	1150/1950
D, DP 1600	1050	1600	1250/2200
D, DP 1850	–	1850	2400
D, DP 2000	–	2000	2700

Trellex Conveyor Belts

Our range:

- Aramid conveyor belts
- Elevator belts
- Belts for closed conveying
- Cleat belts
- Flame resistant belts
- Belts for vertical conveying
- Belts with profiled surface
- Paper roll belts
- Flat transmission belts
- Heat resistant belts
- Chemical resistant belts
- Plasterboard belts
- Oil and grease resistant belts
- Multi-ply textile conveyor belts
- Endless produced belts
- Process belts
- Steelcord conveyor belts
- PVC belts
- PU belts
- Wear resistant belts

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