Mehler

FOR HEAVY-DUTY CONVEYOR BELTS

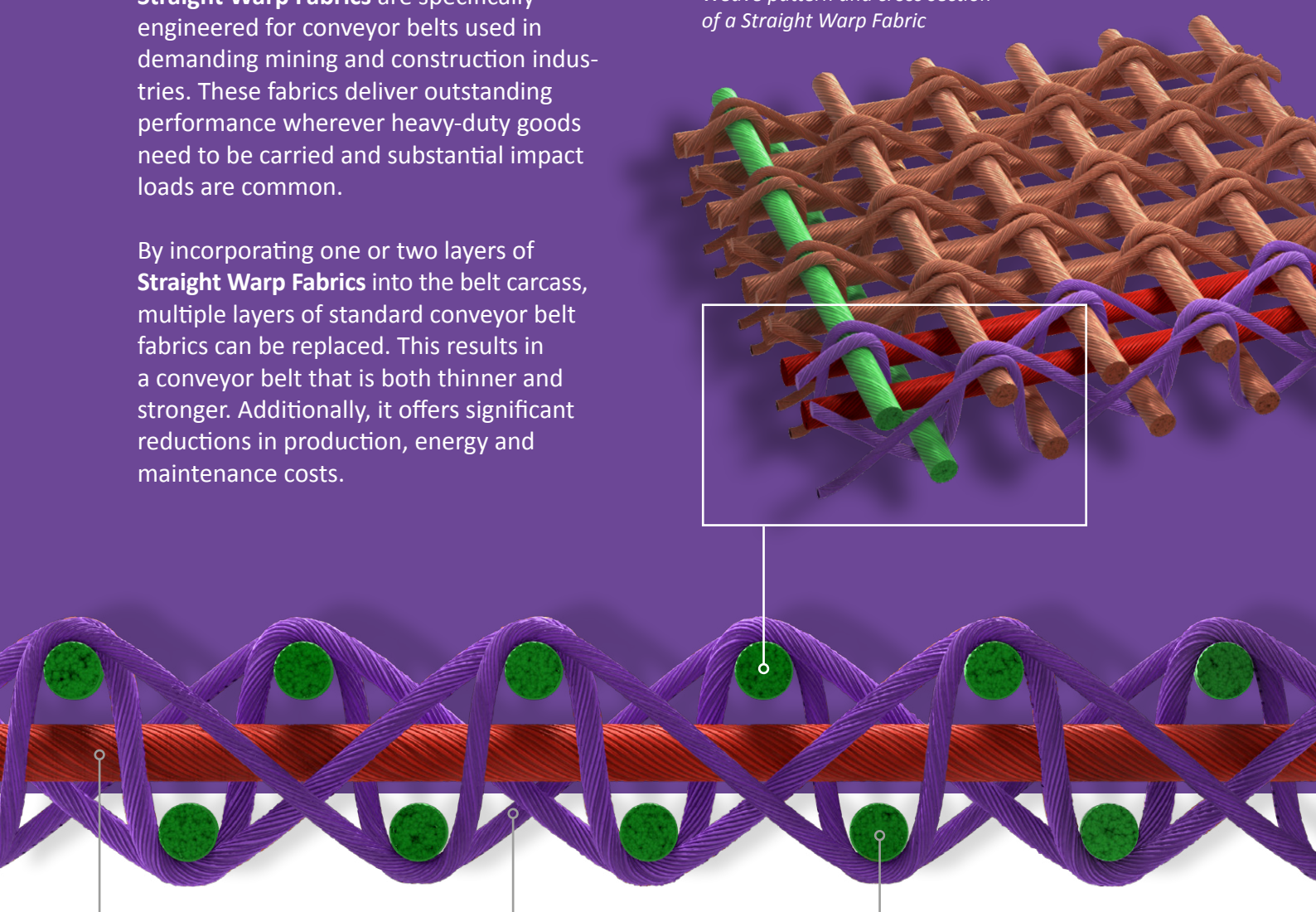
STRAIGHT WARP FABRICS

for extreme conveying

Straight Warp Fabrics are specifically engineered for conveyor belts used in demanding mining and construction industries. These fabrics deliver outstanding performance wherever heavy-duty goods need to be carried and substantial impact loads are common.

By incorporating one or two layers of **Straight Warp Fabrics** into the belt carcass, multiple layers of standard conveyor belt fabrics can be replaced. This results in a conveyor belt that is both thinner and stronger. Additionally, it offers significant reductions in production, energy and maintenance costs.

Weave pattern and cross section of a Straight Warp Fabric



STRAIGHT WARP FABRICS ARE COMPOSED OF:

STRAIGHT WARP
These are the primary threads running lengthwise in the fabric. They provide the fundamental structure and high tensile strength of the fabric.

BINDING WARP
Interlacing with the straight warp and the weft, those additional warp threads reinforce the fabric and maintain its integrity under heavy loads and impact.

WEFT
The weft threads run horizontally across the fabric and contribute to its overall appearance, width and texture.

THE COMBINATION OF ALL THREE COMPONENTS ENHANCE THE STRAIGHT WARP FABRIC'S PERFORMANCE & DURABILITY.

STRAIGHT WARP FABRICS VS. STANDARD FABRICS

Characteristics & Benefits

// Thinner belt carcass → less rubber needed
// Lower belt weight → energy saving costs
// Superior rip, tear and impact resistance
// Higher strength efficiency and low stretch
// Longer belt lifetime
// Lower carbon footprint

Comparison of standard EP 200 fabric vs. Straight Warp EPP 800 Fabric:

		EP 200	EPP 800 SW
tensile strength, warp	N/mm	250	985
EASL at 10 % nominal strength	%	0,86 at 1000 N 2,30 at 2000 N	1,02 at 2000 N
weight, dipped	g/m²	657	2148
thickness	mm	1,00	2,90

Comparison of belt carcass EP 200/4 vs. EPP 800/1:

		EP 200	EPP 800 SW
construction	plies	800/4	800/1
fabric weight	g/m²	2628	2148
weight saving	%		19

By using one layer of EPP 800 Straight Warp Fabric instead of 4 layers of EP 200 standard fabric, the fabric weight reduction in the belt carcass amounts to approx. 19 % by same strength.

DPP ARAMID STRAIGHT WARP FABRICS VS. STANDARD EP FABRICS VS. STEEL

Comparison and Benefits of Aramid Straight Warp Fabrics in a Conveyor Belt:

	Aramid	EP	Steel
Tensile Strength	+ + +	+	+ + +
Lower Elongation	+ +	+	+ + +
Flexibility	+ +	+ + +	+
Lighter Weight	+ + +	+	+ +
Less Thickness	+ + +	+	+ +
Flame and Heat resistance	+ +	+	+ + +
Corrosion resistance	+ + +	+ +	+

Using **Aramid** in a **Straight Warp Fabric** results in an ultra-strong belt by keeping a low elongation, a great belt troughability and high impact resistance, a thin belt carcass, a very low belt weight and a high resistance against corrosion.

+ + + Excellent | + + Good | + Satisfactory

TECHNICAL DATA
ENGINEERED FABRICS – STRAIGHT WARP FABRICS

Fabric Type	Class Range	Tensile Strength Range		Weight Range (g/m²)	Gauge Range (mm)	Width Range (mm)
		Warp (N/mm)	Weft (N/mm)			
PES Straight Warp EPP / EEP / EEE	315 – 2000	370 – 2300	50 – 460	1040 – 5230	1,80 – 5,80	800 – 2400
Aramid Straight Warp DPP / DEP	315 – 3500	400 – 3850	150 – 460	820 – 3600	1,75 – 4,70	800 – 2400

Different treatments are possible to enable outstanding adhesion to appropriate rubber compounds like CR, EPDM, NR, NBR, SBR.

VULCANIZED VS. MECHANICAL SPLICING

Straight Warp Fabrics are designed for different belt splicing: Vulcanized or mechanical splicing.

// **Vulcanized splicing:** This process chemically bonds two conveyor belt ends together through the application of heat and pressure, creating a seamless joint.

// **Mechanical splicing:** This fastening system joins belt ends using metal hinges or plates.

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