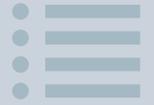
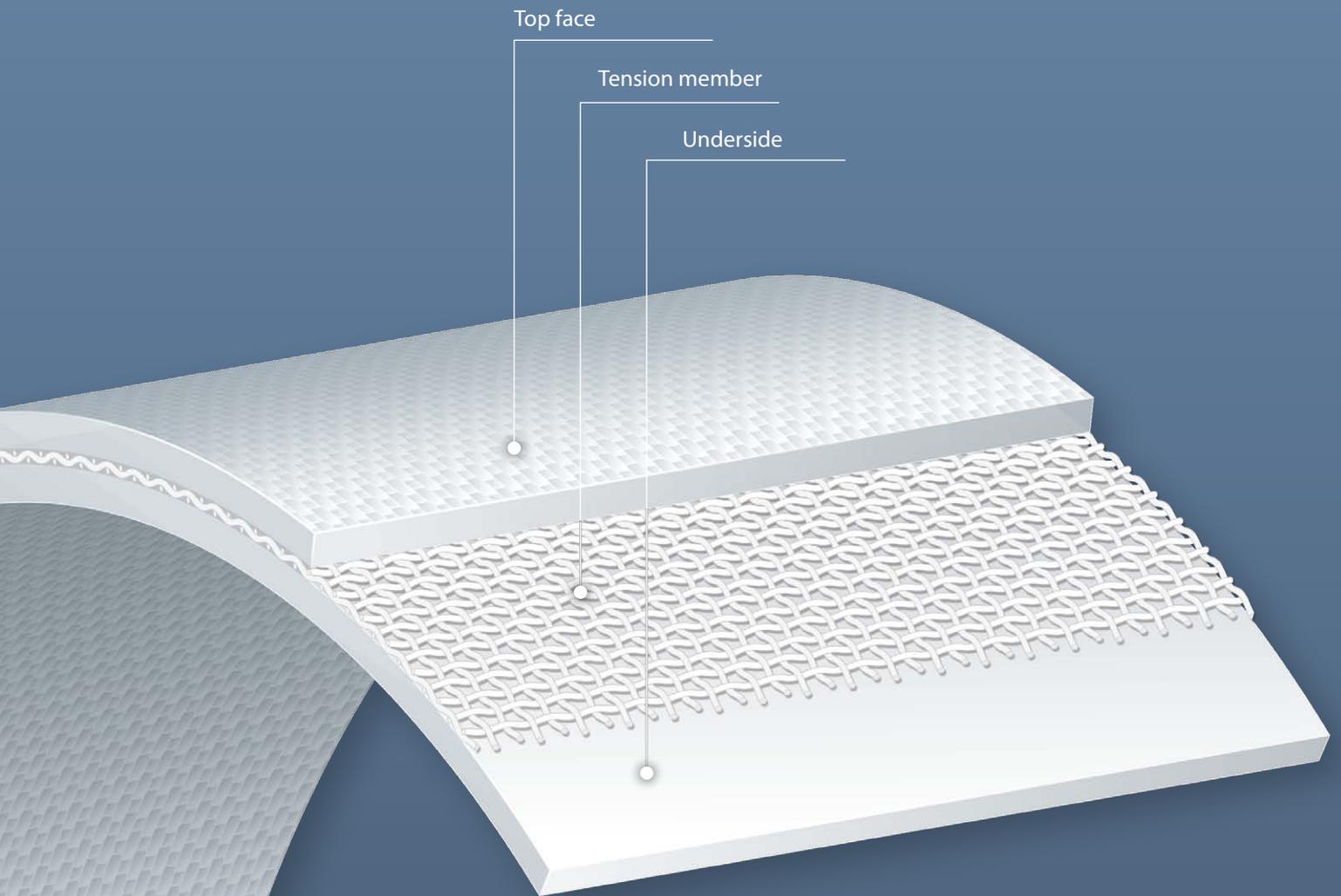


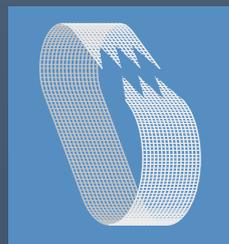
2.2 DESIGN AND MATERIALS



Structural diagram of a flat belt



Tension member design



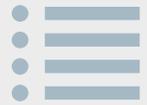
Fabric in warp and weft



Sheet (highly oriented)
or Foil (elastic)



Truly endless cord



The diagram (page 16) depicts the construction of a flat belt made up of a tension member as well as coatings on the top face and the underside. Depending on the choice of material and the sub-type etc., flat belts have very different properties, making them suitable for a wide variety of applications.

Tension member

The technical properties of a flat belt are primarily determined by its tension member. For this reason, Siegling Extremultus flat belts with the same tension member materials are grouped in product lines.

Tension member materials

- A = Aramide line
- E = Polyester line
- P = Polyamide line
- U = Polyurethane line

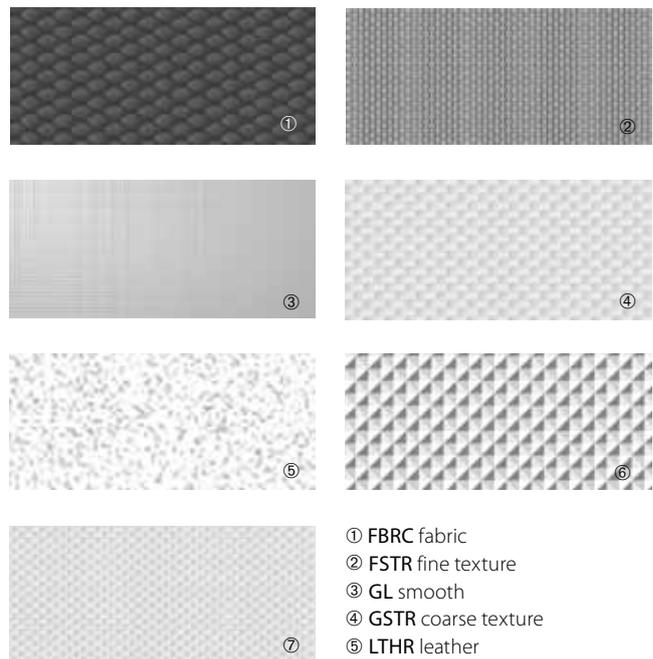
Coating

The coatings are in direct contact with the drive pulleys (generally the underside of the belt) and, where necessary, with the product to be conveyed (generally the top face of the belt). Skillful selection of the material and surface pattern make it possible to determine contact-specific properties such as grip, chemical resistance, electrostatic properties and food compliance.

Coating materials

- G = G elastomer
- L = Chrome leather
- N = Novo (nonwoven polyester material)
- P = Polyamide
- R = High/Medium grip
- T = Fabric (Polyamide, Polyester, mixed)
- U = Polyurethane

Surface pattern

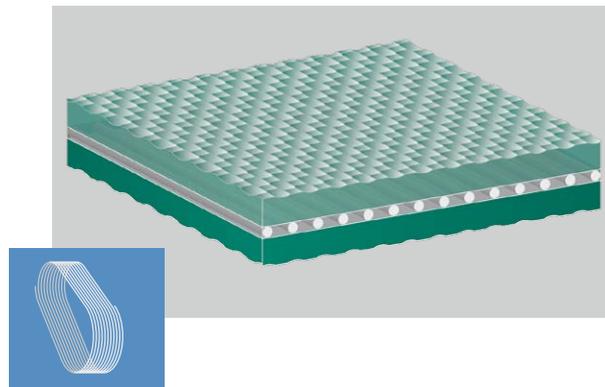
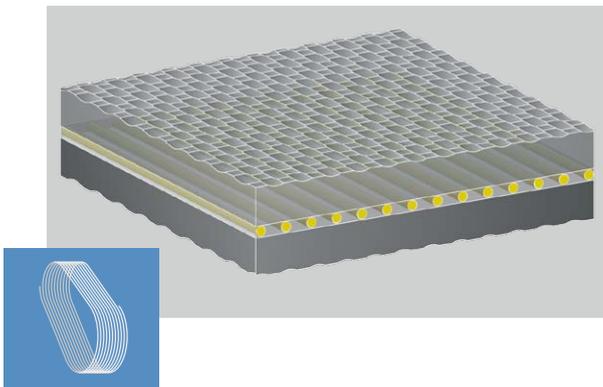
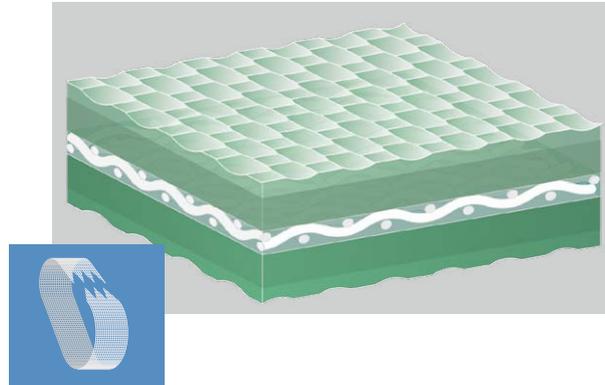
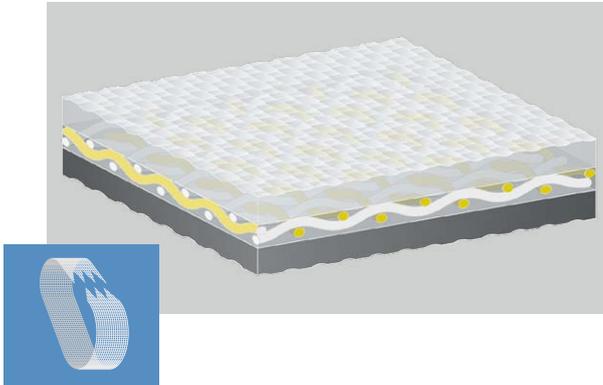
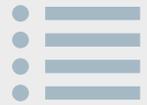


- ① FBRC fabric
- ② FSTR fine texture
- ③ GL smooth
- ④ GSTR coarse texture
- ⑤ LTHR leather
- ⑥ NP inverted pyramid texture
- ⑦ NSTR normal texture

Typical combinations

Not all combinations of tension members and coating materials are practical. Years of experience with the use of flat belts in a variety of applications have led us to offer the current combinations seen below:

Abbreviation	Product line	Tension member design	Coating
A	Aramide line	Fabric	G, U
		Cord	G, L, T
E	Polyester line	Fabric	G, N, P, R, T, U
		Cord	G, L, T, U
P	Polyamide line	Fabric	G, N, T, U
		Sheet	G, L, N, R, T, U
U	Polyurethane line	Foil	G, R, U



Aramide line

Flat belts with a **tension member made from mixed fabric with aramide yarn** in the direction of tension are especially flexible and extremely strong. They can be spliced directly on the machinery.

Flat belts with a **tension member made from truly endless aramide cord** have no splice to ensure particularly smooth tracking.

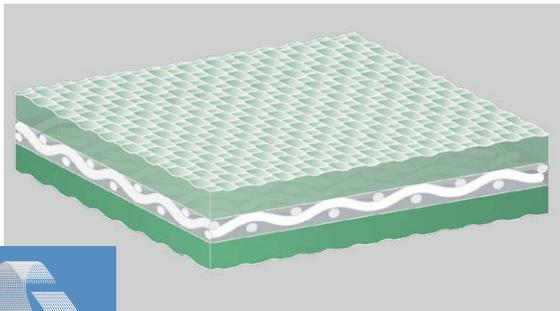
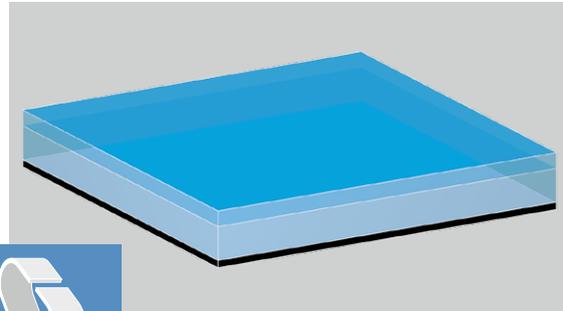
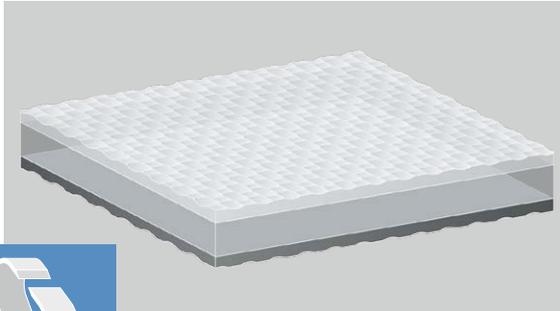
Siegling Extremultus flat belts of the Aramide line are designed for extremely high effective pull and extremely short take-up ranges. The aramide line must be handled with great care as the aramide fibres can easily be bent.

Polyester line

Flat belts featuring a **polyester fabric tension member** are the best choice for many applications. They are particularly flexible and strong at the same time and can be spliced on the machinery.

Flat belts with a **tension member made from truly endless polyester cord** have no splice to ensure particularly smooth tracking.

Polyester line Siegling Extremultus flat belts can transmit high circumferential forces with simultaneously short take-up ranges. In addition, they are shock-resistant and not susceptible to fluctuations in climate.



Polyamide line

Flat belts with a **tension member made from highly orientated polyamide sheet** boast particularly strong edges, are laterally stiff and durable.

Flat belts with a **polyamide fabric tension member** are especially flexible and feature relatively high tensile strength.

Polyamide is characterized by its outstanding damping capabilities. The hygroscopic properties of the polyamide material make it important to take into account extreme climatic fluctuations during storage and use.

Polyurethane line

Flat belts with a **tension member made of highly elastic polyurethane foil** are elastic, highly flexible and boast excellent damping capabilities. Due to their flexibility, Siegling Extremultus flat belts in the polyurethane line have good tracking characteristics and are particularly well suited for machinery with short center distances, manual take-up units and small drum diameters.

In addition, the polyurethane flat belts are 100% fray free and very easy to clean. That makes them perfect for use in areas where hygiene is vital.