

siegling extremultus

flat belts

Flash Star™
A firm grip on
static electricity



Polyester-fabric tension member with conductive elements

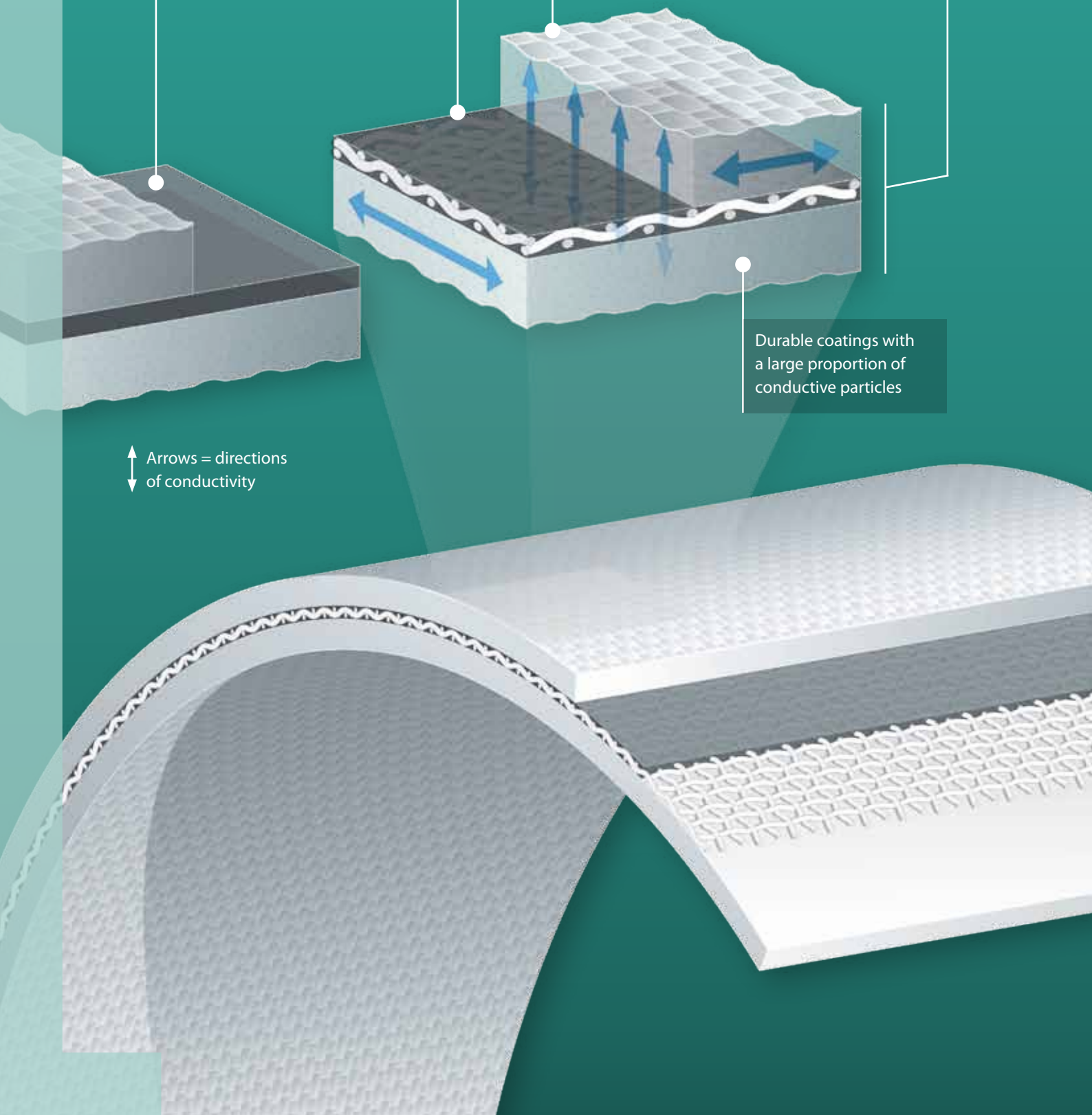
Application-driven surface patterns

Alternative tension-member material: polyamide sheet or elastic urethane

The whole belt is conductive in all three directions

Durable coatings with a large proportion of conductive particles

↑↓ Arrows = directions of conductivity



Flash Star™ – A firm grip on static electricity

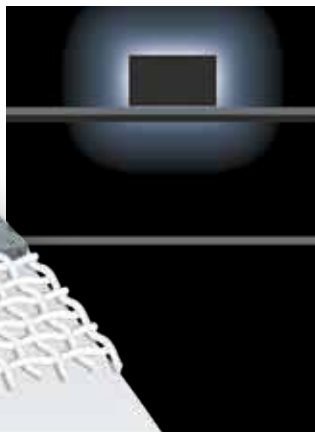
Flash Star™ flat belts play a major role in containing static electricity in power transmission and conveying systems. With excellent conductivity in all three directions, they help to ensure ESD* compliance of the machinery and to prevent unwelcome side effects.

If you use power transmission and conveyor belts, it's impossible to avoid static electricity building up. This phenomenon is called triboelectric charging. It occurs when different materials come into contact with one another and then separate again. During conveying, the products concerned can also have the same impact.

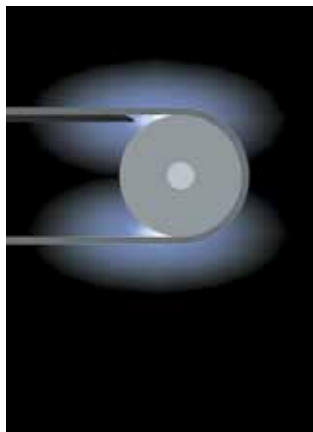
Flash Star™ flat belts make designing ESD-compliant machinery easier. Typical consequences of electrostatic build-up and uncontrolled discharge can be as follows:

- malfunctions when processing foil and paper products because they stick to one another or to the belt
- soiling due to dust, lint etc.
- electric shocks
- damage to electronic components (i.e. the products conveyed and machine components)
- fires and explosions

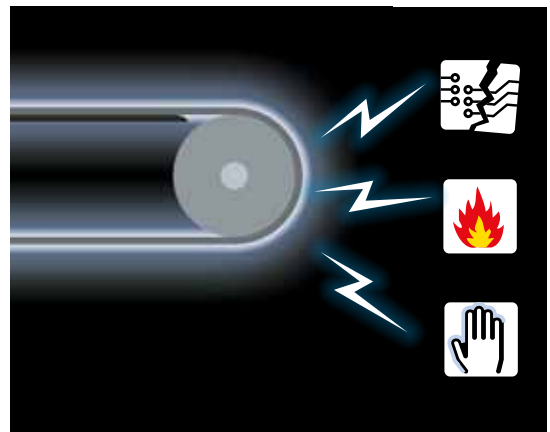
Electrostatic build-up from the products conveyed.



Electrostatic build-up due to triboelectric charging.

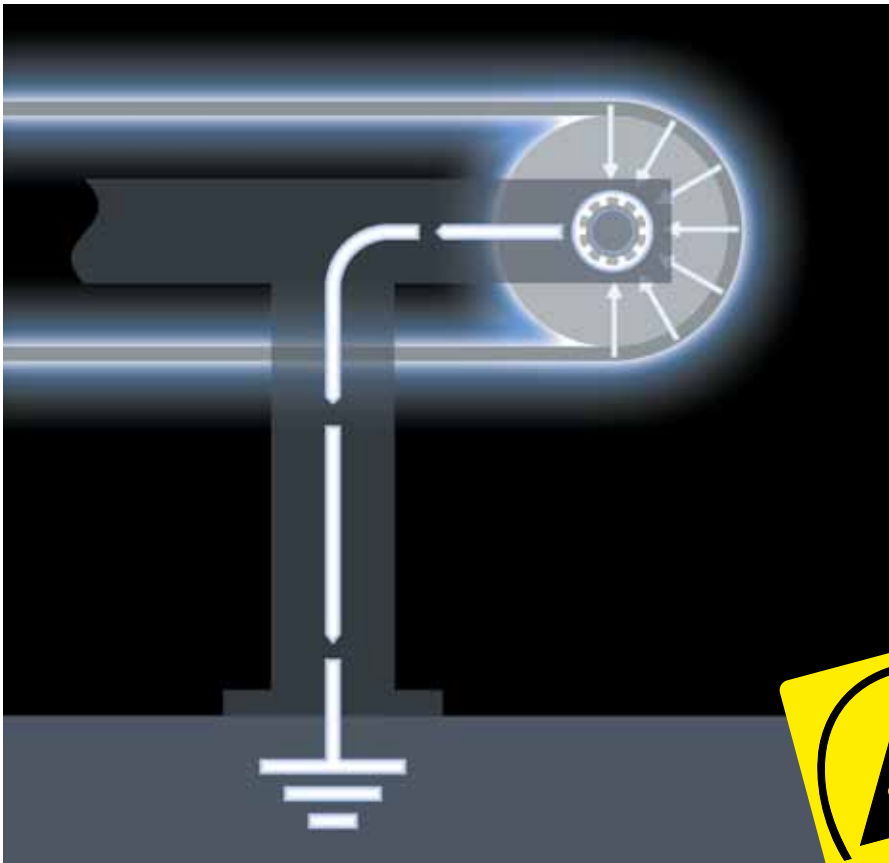


Hazards due to uncontrolled discharge of static electricity.



* ESD = Electrostatic discharge

Flash Star™ – Conductivity right through the belt too



Conductivity right through the belt significantly enhances the controlled discharge of static electricity. Electricity in the belt is discharged directly via electrically conductive components on the machinery (e.g. rollers, supports). Extra mechanical components like metallic idlers, or brushes to discharge the build-up of static electricity aren't necessary.



ESD-protected product: this product can discharge electrostatic build-up in a controlled manner. The belt's resistance is under $10^9 \Omega$ and compensates for differences in electricity potential in a short space of time.

The properties

conductive in all three directions, even through the belt

supports the controlled discharge of static electricity

minimises the risk of uncontrolled discharge

also available in High Grip and Medium Grip versions

The advantages

improves discharge, facilitates ESD-compliant machinery design

enhances process reliability and safety, e.g. for paper and foil

prevents electric shocks, sparks and damage to electronic components

a wide range of applications

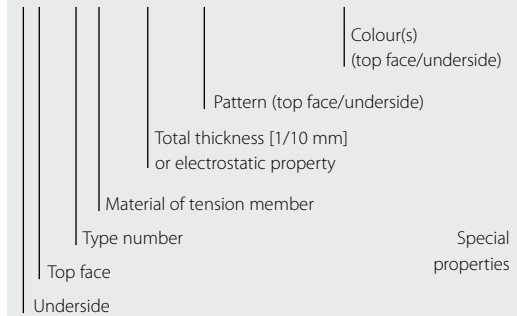
The Flash Star™ range

	Article number	Total thickness approx. [mm]	d _{min} [mm]*	Specific shaft load ** [N/mm belt width]	Elongation at fitting [% of belt length]	Weight approx. [kg/m ²]	Permitted operating temperature Td [°C] (constant temperature)	Special characteristics and applications			
								Electrostatic property	Folder gluer belts	Machine tapes	Drag belts
E line (with polyester tension member)											
RR 4E-HC+ FSTR/FSTR grey	822151	1.35	14 ¹⁾	4	0.3–2.0	1.40	-20/+70	HC+	●	●	
RR 4E-HC+ NSTR/NSTR grey	822154	1.35	14 ¹⁾	4	0.3–2.0	1.40	-20/+70	HC+		●	
UR 8E-HC+ FSTR/FSTR green/grey	822132	1.50	14	8	0.3–2.0	1.60	-20/+70	HC+		●	●
P line (with polyamide tension member)											
NN 4P-HC+ grey	855635	1.60	20	4	0.6–1.5	1.30	-20/+80	HC+	●	●	
Elastic line (with urethane tension member)											
UU 20U-HC+ FSTR/FSTR black	855631	1.10	20	0.25	0.5–8.0	1.20	-20/+60	HC+		●	●
UR 40U-HC+ GSTR/NSTR black/grey	855636	1.45	14	0.8	0.5–8.0	1.45	-20/+60	HC+	●	●	●

Please note: the values stated are nominal and can fluctuate in a belt whose width is a result of production processes. Our products are constantly adapted to market requirements. Consequently, changes in technical parameters can occasionally occur. **Therefore, please see the current product data sheets for specific information on designs and calculations.**

Type code

RR 4E - HC+ NSTR/NSTR grey
 NN 4P - HC+ grey
 UR 40U - HC+ GSTR/NSTR black/grey



Legend

The values stated were identified in standard ambient conditions (23 °C, 50% rel. humidity).

* Lower temperatures require larger diameters. This also applies to the P line when humidity is particularly low

** F_w' value: states the specific shaft load at 1% elongation at fitting and a 180° arc of contact in N/mm belt width

1) 10 mm to 2.8 m/s max

- E** = Polyester
- N** = Nonwoven polyester material
- P** = Polyamide
- R** = High or Medium Grip
- U** = Polyurethane
- HC+** = Highly conductive plus
- GSTR** = Coarse pattern
- FSTR** = Fine pattern
- NSTR** = Normal pattern

Classification of our products' electrostatic characteristics

(Measurements compliant with DIN EN ISO 21178)

Non-antistatic (NA)

Belt material with isolating properties.

Antistatic (no special abbreviation)

Belt material with electrically conductive components within the belt or on the surface.

Conductivity of the whole belt lengthways $R_{Di} < 3 \cdot 10^8 \Omega$.

Highly conductive (HC)

Conductive top face, usually conductive underside too. Must be antistatic as well.

Conductive on the surface lengthways $R_{OB} < 3 \cdot 10^8 \Omega$.

Highly conductive plus (HC+)

Conductive top face, underside and through the belt too. Has to be highly conductive on both sides.

Conductive right through the belt $R_D < 10^9 \Omega$.

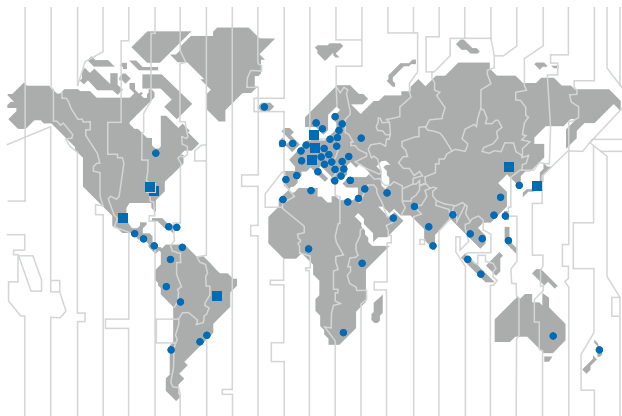
Flash Star™



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.