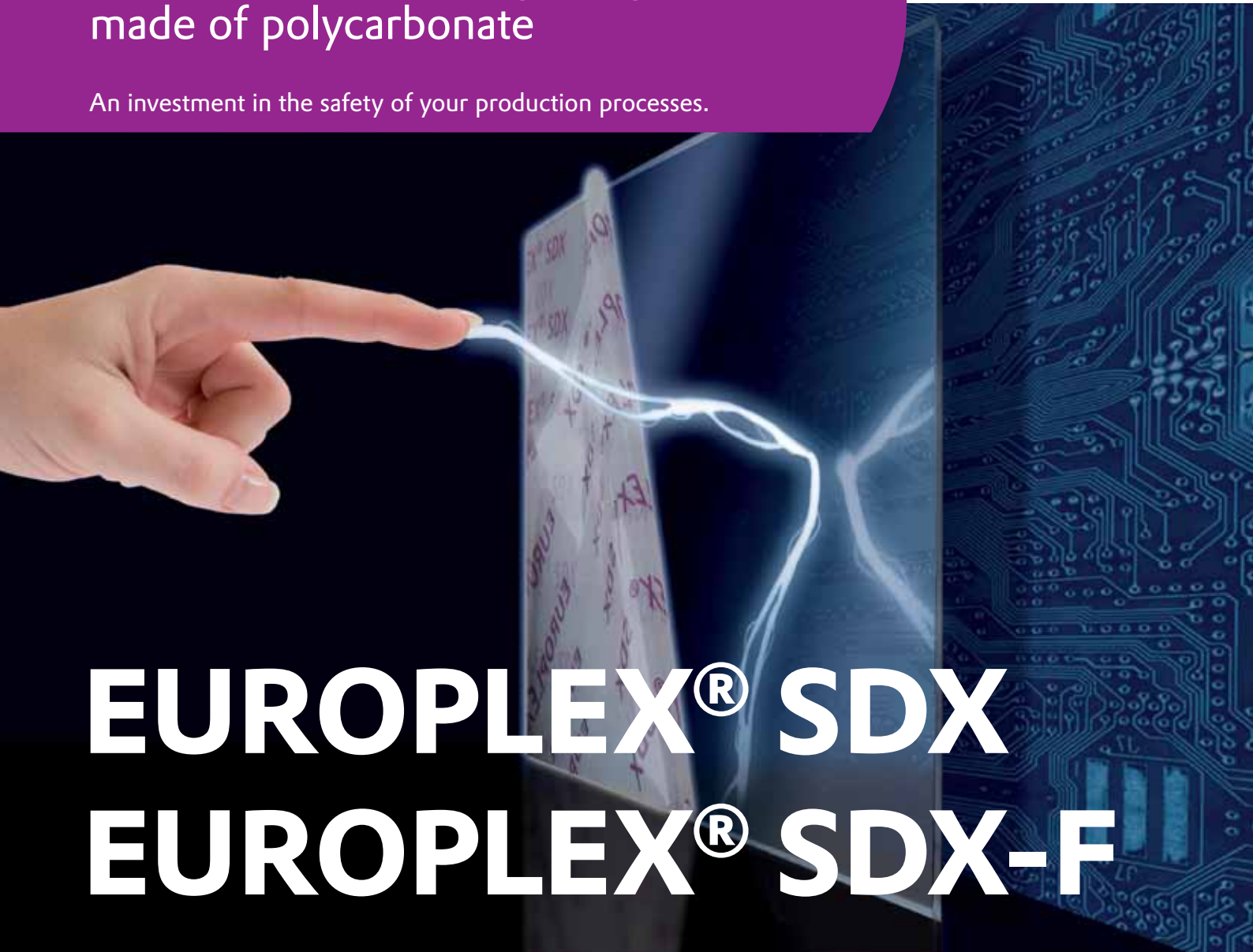


Danger averted!  
Static dissipative ESD glazing  
made of polycarbonate

An investment in the safety of your production processes.



**EUROPLEX® SDX**  
**EUROPLEX® SDX-F**

## EUROPLEX® SDX and EUROPLEX® SDX-F

### Static Dissipative XENIOS Technology

Protection against electrostatic discharge (ESD):  
 EUROPLEX® glazing materials dissipate electric charges to ground in a controlled manner.

**High Performance XENIOS Surface Technology from Evonik**  
 Transparent dissipative EUROPLEX® ESD glazing materials made of high-grade polycarbonate are manufactured using Evonik's advanced XENIOS Technology. Functional nanoparticles are distributed homogeneously in a thin coating matrix, which gives both sides of the polycarbonate sheet a surface resistivity of  $10^{5-7} \Omega/\text{sq}$ . Only the XENIOS coating provides the polycarbonate sheets with permanent electrical dissipation capacity and is therefore a process that provides significant added value.



**Protection against electrostatic discharge (ESD).**

Protective measures against electrostatic events are described in DIN EN 61340-5-1.



In an ESD-protected work environment, all materials and surfaces must dissipate electric charges to ground in a controlled manner.

**EUROPLEX® SDX** for planar installations has a highly cross-linked abrasion-proof and chemical-resistant surface. In production and assembly areas where occupational safety, operational reliability and high quality requirements are of prime importance, EUROPLEX® SDX dissipative glazing guarantees effective long-term protection against static discharge.

**EUROPLEX® SDX-F** polycarbonate sheets are particularly suitable for thermoforming to obtain curved machine housings and angled conveyor belt covers. The hot line bending process makes high demands on the performance of a dissipative coating with respect to its heat resistance and tensile strength. EUROPLEX® SDX-F meets all of the industry's technical requirements.

Transparent static dissipative EUROPLEX® ESD glazing provides:

- Protection of electronic components against electrostatic discharge
- Protection against explosions
- Protection against dust adhesion and particle contamination

# EUROPLEX® Polycarbonate Transparent and electrostatic dissipative

## Quality features

Our innovative XENIOS surface technology gives EUROPLEX® ESD glazing materials a specific combination of properties:

### Permanent static dissipation

The surface resistivity is  $10^{5-7} \Omega/\text{sq}$ . Dissipation capacity is permanent and independent of ambient humidity. Temporary ionization is not required.

### Efficient protection against static discharge in compliance with industrial standards

Correctly grounded ESD glazing dissipates electric charges in a controlled manner.

**EUROPLEX® ESD glazing materials meet the requirements of DIN EN 61340-5-1 for the protection of electronic components against electrostatic phenomena (ESD protection).**

**In the field of explosion protection, the use of EUROPLEX® ESD glazing materials ensures compliance with the ATEX Directive 94/9/EC, II 2 GD.**

**Ask for the EUROPLEX® test certificates! An exclusive service offered by Evonik.**

### Best optical transparency

The excellent light transmission always guarantees a crystal-clear view of products and processes.

### Extreme impact strength

At lower weight, the impact strength of EUROPLEX® ESD glazing materials is 250 times higher than that of glass. The polycarbonate sheets are shatter-proof. EUROPLEX® is therefore ideally suited for transparent machine glazing. Both man and machine are perfectly protected.

## Application areas and product benefits

EUROPLEX® ESD glazing materials increase the safety of your production processes: no operational faults caused by electrostatic charging!

### Lower scrap rates in electronic assembly

Uncontrolled electrostatic discharges of only a few volts are enough to damage or destroy electronic components. EUROPLEX® ESD glazing materials dissipate electric charges to ground in a controlled manner, preventing both immediate and latent defects caused by ESD. This means higher production yields and fewer customer complaints, combined with ESD protection in accordance with DIN EN 61340-5-1.

### Prevention of explosions in production areas handling explosive materials

In explosive atmospheres, static electricity causes fire and explosions due to spark formation. If properly grounded, the use of EUROPLEX® ESD glazing materials effectively safeguards industrial facilities against explosion in compliance with ATEX.

### Less machine downtime in dust-intensive production environments

EUROPLEX® ESD glazing materials protect machines and materials against local accumulations of dust and dirt particles. The functional reserve of optical sensors is significantly increased. Safety and availability of production facilities are improved.

## Examples of use

### Semi-conductor and electronic industries

- Hoods and vision panels of assembly machines, robot cells and conveyer belts
- Wafer storage containers
- Covers for conveyor belts

### Cleanroom industry

- Clean room systems (doors, windows, room partitions)
- Mini-environments, climate boxes and laminar flow-boxes

### Chemical, pharmaceutical and food industry

- Housings and inspection windows of metering, filling and packaging machines for bulk solids, solvents and fuels.

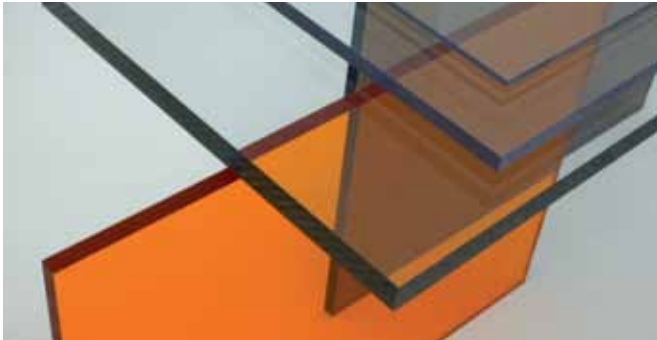
### Printing and paper industry

- Optical sensors, safety light barriers and light grids

## Our customized ESD polycarbonate glazing materials

### EUROPLEX® SDX

The wear-resistant ESD glazing material for planar installations



#### High resistance to wear provides long-term ESD protection

The abrasion resistance of EUROPLEX® SDX by far surpasses the hardness of standard polycarbonate sheet. The dissipative coating is insensitive to wear and is not rubbed off by intensive cleaning and polishing. Even after 2,000 rubbing cycles over the sheet surface with a dry brush, the ESD performance remains unchanged (Scrub resistance to DIN 53778).

#### Superior chemical resistance

Industrial cleaning agents and organic solvents such as ethyl alcohol and isopropyl alcohol are removed from EUROPLEX® SDX after a 24-hour exposure period (according to DIN EN 12720) without leaving visible marks on the sheet surface.

#### Machining and fabrication

EUROPLEX® SDX for planar installations can be machined, e.g. by sawing, drilling and routing, in the same way as standard polycarbonate. Commonly available factory tools are suitable for this purpose. The minimum bending radius corresponds to 300 times the sheet thickness. The protective film should be kept on the sheet until machining or fabrication is completed.

### EUROPLEX® SDX-F

Transparent dissipative ESD glazing for hot line bending



#### Static dissipation at the bending edge complies with ESD standard DIN EN 61340-5-1

The static dissipation at the bending edge also meets the requirements of the ESD standard after the coated EUROPLEX® SDX-F sheet has been exposed to thermal and mechanical stress due to the forming process. The surface resistivity at the bending edge is  $10^{5-7} \Omega/\text{sq}$ .

#### Excellent optical transparency

With a light transmission of 85% (3 mm sheet thickness), the line-bendable EUROPLEX® SDX-F glazing provides unsurpassed optical quality. The bending edge retains its optical transparency.

#### Forming

EUROPLEX® SDX-F is suitable for thermoforming and hot line bending. Thermoforming and hot line bending of the EUROPLEX® SDX-F polycarbonate sheets provides uniaxially formed parts. The forming process is performed in the same way as with solid polycarbonate sheets. The sheet is linearly heated in the temperature range of 150°C to 160°C on conventional machines. The heating time depends on the material thickness. After line bending, the part formed from EUROPLEX® SDX-F can be machined in the same way as uncoated polycarbonate.

#### Evonik complements its product range:

The thermoformable EUROPLEX® SDX-F polycarbonate sheet is suitable for manufacturing curved machine housings and angled conveyor belt covers.

## Product range and and technical overview

### Product range EUROPLEX® ESD glazing materials

Color	Sheet thickness	Sheet size
EUROPLEX® SDX 88100 PC C2 clear	2 – 3 – 4 – 5 – 6 – 8 – 10 mm	1980 x 3000 mm
EUROPLEX® SDX-F 88500 PC C2 clear	3 – 4 – 5 – 6 – 8 – 10 mm	1980 x 3000 mm

Short delivery times due to our extensive stock of products. Special sizes are available on request.



### Technical overview of EUROPLEX® ESD glazing materials

	EUROPLEX® SDX	EUROPLEX® SDX-F
Surface resistivity	$10^{5-7} \Omega/\text{sp.}$	$10^{5-7} \Omega/\text{sp.}$ , undiminished dissipation at the bending edge complies with ESD standard
Light transmission (3 mm sheet)	82%	85%
Abrasion resistance ASTM D 1044 - Taber Abraser, 500 g, CS10, 100 cycles	< 4% Haze	comparable to standard-polycarbonate
Thermoformability	only planar installation	bendable, machining as for standard polycarbonate
Chemical resistance	resistant against industrial cleaning agents	comparable to standard-polycarbonate
Quality assessments by approved test institutes	Test certificate ESD protection DIN EN 61340-5-1 Test certificate explosion protection ATEX Directive 94/9/EC, II 2 GD	

## Evonik – a powerful business partner

**Our edge:**

- High product quality
- Expertise in materials
- Close to customers
- Service
- Innovative research and development

Convince yourself of our performance capability.  
Contact us. We will help you.



**Evonik Industries AG**  
**Acrylic Polymers**  
Kirschenallee  
64293 Darmstadt  
Germany  
europlex@evonik.com  
www.europlex.eu  
www.evonik.com

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\* = registered trademark

EUROPLEX is a registered trademark of Evonik Röhm GmbH, Darmstadt, Germany

Certified to DIN EN ISO 9001 (Quality) and DIN EN ISO 14001 (Environment)

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