

Rebuffered!
Electrostatic dissipative ESD-glazing out
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 events ESD:
 EUROPLEX® Glazings dissipate electric charges in a controlled way against earth.

High Performance XENIOS Surface Technology from Evonik

The transparent dissipative EUROPLEX® ESD-Glazings out of high-grade polycarbonate are produced by applying Evonik's advanced XENIOS Technology. Functional nanoparticles are distributed homogeneously in the overall coating matrix producing on both sides of the polycarbonate sheets a surface resistivity of $10^{5-7} \Omega/\text{sq}$. Only the XENIOS coating provides the polycarbonate sheets with a permanent electrical dissipation capacity and therefore presents a significant value-added process.

EUROPLEX® SDX for planar installations has a highly-cross-linked abrasion-proof and chemical resistant surface. In production and assembly applications, in which working safety and operational reliability as well as high quality requirements are of prime importance, EUROPLEX® SDX dissipative glass guarantees an effective long term protection against static discharge events.

EUROPLEX® SDX-F polycarbonate sheets are most suitable for warm forming to manufacture bended machine housings as well as angled covers of conveyor belts. The warm bending process makes high demands on the performance of a dissipative coating with respect to its thermal resistance and non-destructive tensile strength. EUROPLEX® SDX-F meets these requirements of the industry at best.

Transparent static dissipative EUROPLEX® ESD-Glazings provide:

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



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 discharge electrostatic charges controlled against earth.

EUROPLEX® Polycarbonate Transparent and electrostatic dissipative

Quality features

Due to the use of our innovative XENIOS surface technology EUROPLEX® ESD-Glazings are characterized by a specific combination of properties:

Permanence in static dissipation

The surface resistivity is $10^{5-7} \Omega/\text{sq}$. The static charge control is permanent and independent from humidity. Temporary ionization is not needed.

Efficient protection against static discharge events in compliance with industrial standards

Connected to earth ESD-Glazings dissipate electric charges in a controlled way.

EUROPLEX® ESD-Glazings conform to the requirements of the standard 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-Glazings complies with the „ATEX“ Directive 94/9/EC, II 2 GD.

Ask for the die EUROPLEX® test certificates! An exclusive service of Evonik.

Best optical transparency

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

Extremely break-resistant

The impact strength of EUROPLEX® ESD-Glazings are 250 times higher than that of glass. The polycarbonate sheets are shatter-proof. Thus EUROPLEX® is ideally suitable as transparent machine glazing. Both man and machine are perfectly protected.

Application areas and product benefits

EUROPLEX® ESD-Glazings 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 volt are enough to damage or destroy electronic components. EUROPLEX® ESD-Glazings dissipate electric charges controlled against earth preventing both immediate and latent ESD caused defects. Higher production yields and less customer complaints are the result: ESD-Protection according to the standard 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. Properly grounded the use of EUROPLEX® ESD-Glazings safeguard industrial facilities against explosion: Explosion protection conform to ATEX.

Less machine shutdowns in dust intensive productions

EUROPLEX® ESD-Glazings protect machines and materials against local accumulations of dust and dirt particles. The operation 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 dosing, filling and packaging machines for bulk solids, solvents and fuels

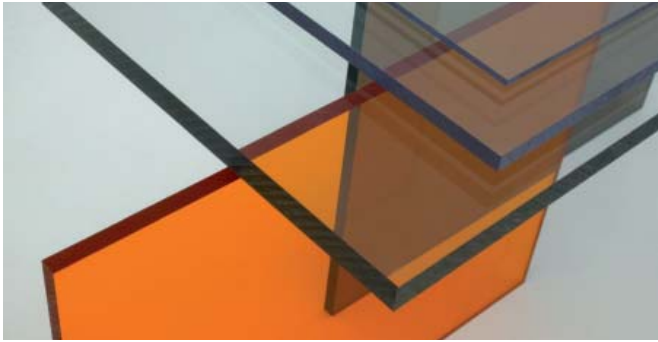
Printing and paper industry

- Optical sensors, safety light barriers and light grids

Our tailor-made ESD-Polycarbonate Glazings

EUROPLEX® SDX

The wear-resistant ESD-Glazing for planar installations.



High wear resistance grants long-term ESD-Protection

The mar resistance of EUROPLEX® SDX surpasses by far the hardness of the standard polycarbonate sheet. The dissipative coating does not wear out and is not rubbed off by intensive cleaning and polishing. Even after 2000 rubbing cycles with a dry brush over the sheet surface the ESD-Performance retains unchanged (Rubbing test DIN 53778).

Superior chemical resistance

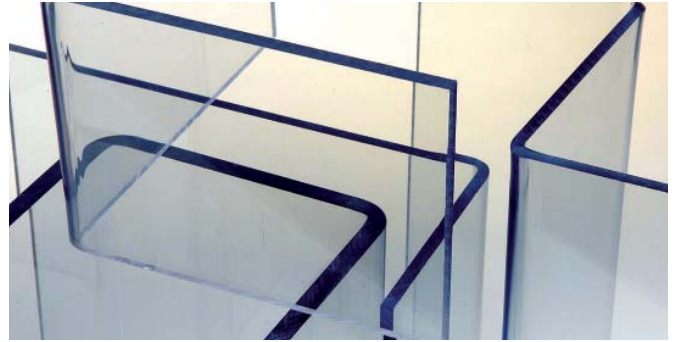
Industrial cleaning agents and organic solvents like ethanol and isopropanol are removed from EUROPLEX® SDX after an effective period of 72 hours without leaving visible marks on the sheet surface.

Processing

EUROPLEX® SDX for planar installations can be machined, e.g. sawing, drilling and milling, in the same way as standard polycarbonate. For this purpose commonly available factory tools are suitable. The minimum bending radius corresponds to 300 times the sheet thickness. The protective foil should be kept on the plate until the end of processing.

EUROPLEX® SDX-F

The transparent dissipative ESD-Glazing for hot deformation.



Static dissipation at the bending edge fulfills the ESD standard DIN EN 61340-5-1

The static dissipation at the bending edge also meets the requirements of the ESD standard after thermal and mechanical stress of the coated EUROPLEX® SDX-F by deformation. 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 bendable EUROPLEX® SDX-F provides a unique optical quality. The bending edge retains the clear transparency.

Processing

EUROPLEX® SDX-F is suitable for hot deformation. Forming and bending of the EUROPLEX® SDX-F polycarbonate sheets allow the manufacturing of one-way moulded parts. The processing is done in the same way as the handling of standard polycarbonate sheets. With commonly available factory tools the sheet is linear heated in the temperature range of 150 °C to 160 °C. The heating time depends on the material thickness. After bending the EUROPLEX® SDX-F formed part can be machined like standard polycarbonate.

Evonik complements its product range:

The warm forming EUROPLEX® SDX-F polycarbonate sheet is suitable for the manufacturing of bended machine housings and angled covers for conveyor belts.

Product range and and technical overview

Product range EUROPLEX® ESD-Glazings

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

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



Technical overview of EUROPLEX® ESD-Glazings

	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	8-times more resistant than standard-polycarbonate	comparable to standard-polycarbonate
Hot deformation	only planar installation	bendable, processing like standard-polycarbonate
Chemical resistance	resistant against industrial cleaning agents	
Quality assessments by approved test institutes	Test certificate ESD-Protection DIN EN 61340-5-1 Test certificate explosion protection ATEX-Directive 94/9/EG, II 2 GD	

Evonik – a powerful business partner

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

Call us. We will help you.



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