

PLEXIGLAS® Optical

Clear 0Z003

Product

PLEXIGLAS® Optical 0Z003 is a thin (0.5 – 1.5 mm) extruded sheet material that was designed for applications with very high demands in terms of optical and surface quality.

Properties

Besides the general properties of PLEXIGLAS® like

- Excellent light transmission and brilliance
- Outstanding weather resistance
- Easy to fabricate
- High surface hardness
- Light weight – half the weight of glass
- 11 times more break resistant than glass
- 100% recyclable

PLEXIGLAS® Optical 0Z003 possesses the following properties:

- PLEXIGLAS® Optical shows no light absorption or clouding and has an extremely smooth surface.
- Since it incorporates polymer chains of higher molecular weight, its resistance to chemical influences and scratching is better than that of standard materials.
- It offers greater resistance to high and low temperatures and greater impact strength.

Applications

Due to these properties PLEXIGLAS® Optical 0Z003 is suitable for the following applications

- high-quality applications in the fields of consumer electronics, automotive technology and medical devices
- display screens of all types and sizes
- light guides and high-quality cover strips that are transparent, printed or vaporized
- outstanding substrate for all kinds of coating

Processing

Routing or laser cutting provide excellent cut edges. If circular saws are used, it is advisable to use special saw blades to avoid crazing. For material thicknesses of less than 1 mm, we recommend circular saw blade XW Z120 HW from Guhdo.

All conventional printing and coating processes can be used to very good effect on PLEXIGLAS® Optical 0Z003 since its surfaces are very smooth, clean and free from residues, thanks to the use of special masking film.

PLEXIGLAS® Optical 0Z003 is especially suitable for highquality coatings, e.g. with scratch-resistant lacquers and antireflective coatings. In addition, PLEXIGLAS® Optical 0Z003 can be easily bonded using the acrylic-based adhesives specially optimized for this purpose by Evonik Industries. The entire surface can be bonded with low thickness tolerances, without inclusions or bubble formation.

Product range

PLEXIGLAS® Optical OZ003 is available in the following grades and sizes:

Standard sizes

Thickness	Length (mm)	Width (mm)
0.8/1.0/1.2	1,850	1,250

Technical Data

Properties	Value	Unit	Test Method
Mechanical Properties			
Tensile strength	78	MPa	ISO 527
Nominal strain at break	6.5	%	ISO 527
Pencil hardness	3H	-	ASTM D3363
Charpy impact strength	20	kJ/m ²	ISO 179
Weatherability			
Xenotest 1200/5000h	No change	-	-
Optical Properties			
Yellowness index	<1	-	ASTM D1925
Haze	≤0.5	%	ASTM 1003

For further typical data of PLEXIGLAS® Optical OZ003 please see the Technical Information of PLEXIGLAS® GS/XT (211-1).

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Evonik is a worldwide manufacturer of PMMA products sold under the PLEXIGLAS® trademark on the European, Asian, African and Australian continents and under the ACRYLITE® trademark in the Americas.

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Evonik Performance Materials GmbH

Acrylic Polymers

Kirschenallee, 64293 Darmstadt, Germany

info@plexiglas.net www.plexiglas.net www.evonik.com

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