

PLEXIGLAS® Optical

PLEXIGLAS® Optical 0Z024

Product

PLEXIGLAS® Optical 0Z024 meets extremely high optical requirements. Its high light transmission – especially over long light paths – makes it the ideal acrylic for light guides and edge lighting.

PLEXIGLAS® Optical 0Z024 is a clear, highly transparent solid sheet made of extruded acrylic (polymethyl methacrylate, PMMA). With the appropriate printing, laser-cutting or routing, PLEXIGLAS® Optical ensures that the input light is emitted towards the viewer with almost no losses. Compared with conventional acrylic, PLEXIGLAS® Optical 0Z024 makes it possible to produce energy-saving installations with the same luminance.

Properties

In addition to the well-known, tried and tested properties of PLEXIGLAS®, such as

- excellent light transmission and brilliance
- very high weather resistance
- ease of fabrication
- high surface hardness
- light weight – half the weight of glass
- 11 times the impact strength of glass
- 100% recyclability,

PLEXIGLAS® Optical 0Z024 offers the following special features:

- high luminous efficiency even if large areas are to be illuminated: transmission is $\geq 91\%$ at lengths of 150mm, which is 5% higher than for typical extruded acrylic
- extremely high purity and clarity

- absolute colorlessness

Applications

Owing to these properties, PLEXIGLAS® Optical 0Z024 is particularly suitable for manufacturing large or medium-sized edge-lit light guide panels

- for illuminated signs
- and for display applications.

Fabrication

PLEXIGLAS® Optical 0Z024 can be fabricated just like standard PLEXIGLAS®. The following Guidelines for Workshop Practice are available for working with PLEXIGLAS®:

- Machining PLEXIGLAS® (No. 311-1)
- Forming PLEXIGLAS® (No. 311-2)
- Joining PLEXIGLAS® (No. 311-3)
- Surface Treatment of PLEXIGLAS® (No. 311-4)
- Fabricating Tips for PLEXIGLAS® Solid Sheets (No. 311-5)

Physical forms

PLEXIGLAS® Optical 0Z024 is available in the standard size 3050 mm x 2050 mm in thicknesses of 4 and 6. Other lengths and thicknesses are available on request.

Properties/Typical Values

Mechanical properties	PLEXIGLAS® Optical OZ024	Unit	Test standard
Density	1.19	g/cm ³	ISO 1183
Charpy impact strength	15	kJ/m ²	ISO 179/1 fu
Thermal properties			
Vicat softening temperature	104	°C	ISO 306
Optical properties			
Transmittance 3mm thickness	92	%	DIN 5036-3
Transmittance 150mm rod	91	%	Evonik test method
Refractive index	1.49		ISO 489
Haze	<1	%	ASTM D 1003
Behavior towards water			
Max. increase in weight after water storage	2.1	%	ISO 62, Method 1

For further typical values, please see Technical Information PLEXIGLAS® GS/XT (211-1).

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

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.de www.plexiglas.de www.evonik.de

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