PLEXIGLAS®
THE ORIGINAL BY RÖHM

PLEXIGLAS®
Solid Sheet

PLEXIGLAS® Reflections

Product

PLEXIGLAS® Reflections are extruded polymethyl metacrylate (PMMA) sheets, with a one-side reflective mirror surface coating. An opaque back paint protects the coating.

PLEXIGLAS® Reflections is available as a classic silver mirror and also in a variant with one-sided scratch-proof coating. The coated surface displays outstanding resistance to abrasion and chemicals.

Properties

Besides the general properties of PLEXIGLAS® like

- Easy to fabricate
- High surface hardness
- Light weight – halb the weight of glass
- 11 times more impact resistant than glass

PLEXIGLAS® Reflections possesses the following property:

- Highest brilliance and clarity comparable to glass mirrors (due to the high transmission of PMMA)

The hard coated PLEXIGLAS® Reflections possesses the following additional property:

- Excellent resistance to abrasion and chemicals

Applications

Applications for PLEXIGLAS® Reflections are as wide as its product range:

- Elegant retail displays and exhibitions
- POP displays, especially perfume, cosmetics, jewelry and other high value products
- Attractive interior designs in hotels, lobbies, etc.
- Mirrors in cars, RV's, boats and planes
- Mirrors in schools, hospitals, hotels and other public areas
- Corner dome mirrors for intersecting pathways, in warehouses, factories or department stores

PLEXIGLAS® Reflections is intended for indoor use, but not in bathrooms, indoor swimming pools or saunas. It has only limited resistance to humidity and outdoor exposure. Outdoor use can be improved by covering the coated side with a clear PLEXIGLAS® sheet and carefully sealing the edges.

PLEXIGLAS® Reflections sheets are normally flammable with a B2 rating to DIN 4102 and Class E according to DIN EN 13501.

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Processing

PLEXIGLAS® Reflections can be machined with the same parameters and equipment as standard acrylic sheet. However, in some instances better results can be obtained if the orientation of the decorative surface is taken into account during fabrication. Make sure the cutting tools used for sawing, drilling, routing and edge treatment enter the clear surface and exit through the reflecting surface.

The following fabricating guidelines are available:

- Machining of PLEXIGLAS® (No. 311-1)
- Forming of PLEXIGLAS® (No. 311-2)
- Joining of PLEXIGLAS® (No. 311-3)
- Surface treatment of PLEXIGLAS® (No. 311-4)
- Fabricating tips of PLEXIGLAS® solid sheets (No. 311-5)

Bonding

When bonding PLEXIGLAS® Reflections on the clear side, the same methods and adhesives commonly used for PLEXIGLAS® can be applied. If bonding the reflective surface, the adhesives may attack and destroy the reflective coating.

To avoid delamination, the clear side of PLEXIGLAS® Reflections mirror should be treated with the same care as any other mirror. This means tapes, films, foams and adhesives used for fastening must be compatible with the protective lacquer.

The surface on the hard coated side must be prepared for bonding. First of all, the coating must be wet-sanded or routed off on the side to be bonded. After removing the coating, it should be ensured that the area to be bonded is flat, clean and free from stress.

Flame polishing

Flame polishing should be refrained from as there is a risk of the flame being applied to the main surface instead of just the edge, potentially causing ruptures and cracks in the surface.

Installation

Because of its elasticity, PLEXIGLAS® Reflections readily adapts to any unevenness. The substrate is the first condition for obtaining a good optical appearance with PLEXIGLAS® Reflections. Correct fastening also plays a crucial role.

PLEXIGLAS® Reflections can be fastened for example on all sides in clamping profile systems, by **linear fastening in a clamping system** along the top edge, by double-sided **adhesive** foam tapes **applied as strips**, or by double-sided adhesive films or foams **across the entire surface of the material**.

The use of adhesive tapes to fasten PLEXIGLAS® Mirror XT may lead to slight optical distortions depending on the product used. These are not obtrusive when viewed close up, however.

Bonding across the entire surface is recommended especially for large mirrors where a good optical effect (low distortion) is important. It should be borne in mind that the intermediate layer of the surfaces to be bonded must allow for differences in expansion due to heat and humidity.

Bonding should be performed on a clean, flat surface. Paint runs, pimples and similar irregularities should be sanded down and the resulting dust wiped off with a damp cloth.

Forming

PLEXIGLAS® Reflections can be cold-curved in two dimensions. The following minimum bending radii are to be observed: 330mm x sheet thickness in mm.

Spherical forming of PLEXIGLAS® Reflections is only conditionally possible by installation under constraint (cold forming).

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Line-Bending and thermoforming

Hot line bending and thermoforming of PLEXIGLAS® Reflections mirror is not recommended since the mirror surface may become dull and the protective coating at the back may chip off. Moreover the surface of the hard coated sheet can be destroyed when thermoformed.

Storage

Store PLEXIGLAS® Reflections horizontally on a perfectly flat surface. Sheets should not be stored vertically, or stored near heat sources.

Cleaning

Clean PLEXIGLAS® Reflections with a mild soap solution or cleaning agent and lukewarm water. Use a soft, clean cloth applying only light pressure (no rubbing).

Product range

PLEXIGLAS® Reflections is available in the following grades and sizes:

PLEXIGLAS® Reflections		
Color and grade	**Thickness**	**Size**
Clear 0Z025	2 - 3 mm	3050 x 2050 mm
Clear 0Z025 HC	2 - 3 mm	3050 x 2050 mm

For details please refer to the PLEXIGLAS® Sales Handbook.

Technical data

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

For further details on the hard coated surface please see the Technical Information PLEXIGLAS® Optical hard coated (232-24).

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