PLEXIGLAS®
THE ORIGINAL BY RÖHM

PLEXIGLAS®
Solid Sheet

PLEXIGLAS® UV 100, UV 100 AR, UV 100 HC

Product

PLEXIGLAS® UV 100 is an extremely weather-resistant and highly transparent extruded sheet material made from acrylic (polymethylmethacrylate, PMMA).

The following grades are available:

- PLEXIGLAS® UV 100
- PLEXIGLAS® UV 100 AR (Anti-Glare)
- PLEXIGLAS® UV 100 HC (Hard-Coated)

Properties

Besides the general properties of PLEXIGLAS® like

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

PLEXIGLAS® UV 100 possesses the following properties:

- Highest UV-protection

Applications

Due to these properties PLEXIGLAS® UV 100 is suitable for the following applications

- Glazing for UV-sensitive artworks and objets d'art
- Picture glazing

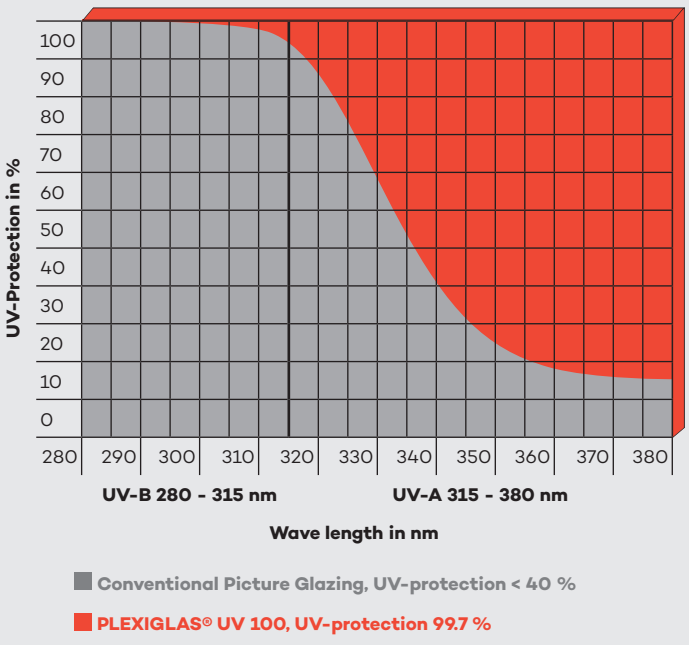
UV-Protection

Aggressive UV radiation (from sunlight or halogen light) is the main cause of color fading or aging and embrittlement of all kinds of materials.

PLEXIGLAS® UV 100 offers UV protection of at least 99.7 % (at a sheet thickness of 3 mm). PLEXIGLAS® UV 100 therefore offers major benefits for glazing UV-sensitive artworks and objets d'art as compared with conventional picture glazing (UV protection < 40 %).

The graph below illustrates the almost complete UV protection offered by PLEXIGLAS® UV 100 as against conventional picture glazing (float glass) in the UV-A and UV-B range (280-380 nm).

UV-Protection in Comparison



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Technical Data					
Physical Properties (clear, 3 mm thickness)	**PLEXIGLAS® UV 100**	**PLEXIGLAS® UV 100 AR**	**PLEXIGLAS® UV 100 HC**	**Unit**	**Test standard**
Mechanical and thermical Properties					
Density	1.19	1.19	1.19	g/cm^3	ISO 1183
Elastic modulus E_t (short-term value)	3300	3300	3300	MPa	ISO 527
Impact strength (Charpy)	15	15	10	kj/m^2	ISO 179
Coefficient of linear thermal expansion (0 bis 50 °C)	$7 \cdot 10^{-5}$ 0,07	$7 \cdot 10^{-5}$ 0,07	$7 \cdot 10^{-5}$ 0,07	1/K mm/m°C	DIN 53752
Abrasion resistance in the Taber Abrader test (100 U.; 5.4 N; CS-10 F)	20...30	20...30	< 3	% Haze	ISO 9352
Optical properties					
Transmittance τ_{D65} (380 - 780 nm)	92	92	92	%	DIN 5036
UV–transmission t_{UV}	0.3	0.3	0.3	%	DIN EN 410
Absorption in the visible range	< 0,05	< 0,05	< 0,05	%	-
Refractive index	1.491	1.491	1.491	-	ISO 489
Electrical properties					
Surface resistivity	$5 \cdot 10^{13}$	$5 \cdot 10^{13}$	$5 \cdot 10^{13}$	Ohm	DIN VDE 0303
Maximum charge	5,000-10,000	5,000-10,000	5,000-10,000	V/cm	-
Combustion behavior					
Building material class (according to Baustoffklasse DIN 4102)	B2, normally flammable	B2, normally flammable	B2, normally flammable	-	DIN 4102
Combustion behavior	Class E	Class E	Class E	-	DIN EN 13501
Smoke gas volume	Very low	Very low	Very low		DIN 4102
Smoke gas toxicity	Non-toxic	Non-toxic	Non-toxic	-	DIN 53436
Smoke gas corrosiveness	Non-corrosive	Non-corrosive	Non-corrosive	-	DIN VDE 0482-267

Detailed information on scratch resistance can be found in the technical information 232-24 PLEXIGLAS® Optical HC.

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Processing

PLEXIGLAS® UV 100 can be machined with the same parameters and equipment as standard PLEXIGLAS®. 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)

Special Surface Properties According to Grade

Anti-glare surface
PLEXIGLAS® UV 100 AR has a slightly matted anti-glare surface on one side, which diffuses reflections from windows or lamps, for example.

Hard-coated surface
PLEXIGLAS® UV 100 has the highest surface hardness of all transparent plastics, even without surface treatment. However, as with all plastics, incorrect cleaning may produce minor scratches on its surface. Because of a one-side coating PLEXIGLAS® UV 100 HC offers additionally to the high UV- protection excellent resistance to abrasion and chemicals.

Product range

The sheets in the PLEXIGLAS® UV 100 range are supplied with a PE surface masking film on both sides. The standard size in grades UV 100, UV 100 AR and UV 100 HC is 3050 x 2050 mm in thickness 3 mm.

Grade UV 100 AR is available in 1.5, 2 and 3 mm thickness as well. We will be pleased to inform you about other sizes (e. g. greater lengths), sizes of cut-to-size sections, thicknesses and further terms on request.

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