



PLEXIGLAS®  
Solid Sheet

## PLEXIGLAS® XT OA570 (UV100) and OA570 AR (UV100)

### Product

PLEXIGLAS® XT OA570 (UV100) is an extremely weather-resistant and highly transparent extruded sheet material made from acrylic (polymethylmethacrylate, PMMA).

The following grades are available:

- PLEXIGLAS® XT OA570 (UV100)
- PLEXIGLAS® XT OA570 AR (UV100)

PLEXIGLAS® Optical HC/HCM has the scratch-resistant coating of the PLEXIGLAS® XT UV100 substrate sheet.

### Properties

Besides the general properties of PLEXIGLAS® like

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

PLEXIGLAS® XT OA570 (UV100) and OA570 AR (UV100) possess the following properties:

- Highest UV-protection

### Applications

Due to these properties PLEXIGLAS® XT OA570 (UV100) and OA570 AR (UV100) are suitable for the following applications

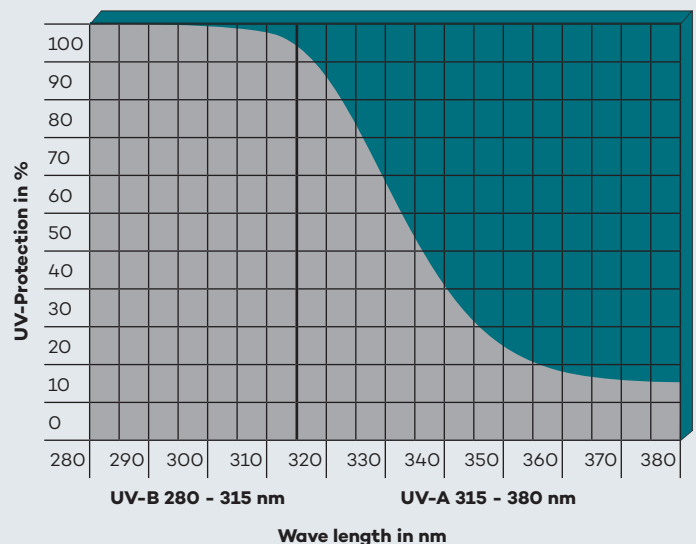
- Glazing for UV-sensitive artworks and objets d'art
- Picture glazing

### 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® XT OA570 (UV100) and OA570 AR (UV100) offer UV protection of at least 99.7 % (at a sheet thickness of 3 mm). PLEXIGLAS® XT OA570 (UV100) 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® XT OA570 (UV100) as against conventional picture glazing (float glass) in the UV-A and UV-B range (280-380 nm).

### UV-Protection in Comparison



■ Conventional Picture Glazing, UV-protection < 40 %  
 ■ PLEXIGLAS® XT OA570 (UV100) and PLEXIGLAS® XT OA570 AR (UV100), UV-protection 99.7 %



<b>Technical Data</b>				
<b>Physical Properties (clear, 3 mm thickness)</b>	<b>PLEXIGLAS® XT OA570 (UV100)</b>	<b>PLEXIGLAS® XT OA570 AR (UV100)</b>	<b>Unit</b>	<b>Test standard</b>
<b>Mechanical and thermal Properties</b>				
Density	1.19	1.19	g/cm <sup>3</sup>	ISO 1183
Elastic modulus E <sub>t</sub> (short-term value)	3300	3300	MPa	ISO 527
Impact strength (Charpy)	15	15	kJ/m <sup>2</sup>	ISO 179
Coefficient of linear thermal expansion (0 bis 50 °C)	7 • 10 <sup>-5</sup> 0.07	7 • 10 <sup>-5</sup> 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	% Haze	ISO 9352
<b>Optical properties</b>				
Transmittance τ <sub>D65</sub> (380–780 nm)	92	92	%	DIN 5036
UV-Transmission τ <sub>UV-A/UV-B</sub> (280–380 nm)	0.3	0.3	%	DIN EN 410
Absorption in the visible range	< 0.05	< 0.05	%	-
Refractive index	1.491	1.491	-	ISO 489
<b>Electrical properties</b>				
Surface resistivity	5 • 10 <sup>13</sup>	5 • 10 <sup>13</sup>	Ohm	DIN VDE 0303
Maximum charge	5000–10000	5000–10000	V/cm	-
<b>Combustion behavior</b>				
Building material class	B2, normally flammable	B2, normally flammable	-	DIN 4102
Combustion behavior	Class E	Class E	-	DIN EN 13501
Smoke gas volume	Very low	Very low	-	DIN 4102
Smoke gas toxicity	Non-toxic	Non-toxic	-	DIN 53436
Smoke gas corrosiveness	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 and 232-42 PLEXIGLAS® Optical HCM.



### Processing

PLEXIGLAS® XT OA570 (UV100) and OA570 AR (UV100) 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® XT UV100 can be treated as a substrate sheet with a scratch-resistant coating. In addition to the high UV protection, the variant with the scratch-resistant coating offers outstanding resistance to abrasion and chemicals. This variant is available as a glossy (HC) version and matte (HCM) version.

### Product range

The sheets in the PLEXIGLAS® XT OA570 (UV100) and OA570 AR (UV100) range are supplied with a PE surface masking film on both sides.

The standard size in grades PLEXIGLAS® XT OA570 (UV100) and OA570 AR (UV100) is 3050x2050 mm in thickness 3 mm. Available sheet thicknesses and further delivery information can be found in the product range.

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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[www.polyvantis.com](http://www.polyvantis.com)

® = registered trademark

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