



## PLEXIGLAS® Optical hard coated matt (HCM)

### Product

PLEXIGLAS® Optical hard coated matt (HCM) is the matt variant of our extruded hard-coated PMMA sheet. In addition to resistance to a number of chemicals, the material offers a soft feel and anti-reflective properties, thanks to its matt surface finish. These properties make the material particularly suitable for backprinting of images and colors.

### Properties

In addition to the known and proven properties of PLEXIGLAS® such as

- outstanding light transmission
- easy processability
- high surface hardness
- low weight, only half that of glass
- high impact resistance, 11 times that of glass

PLEXIGLAS® Optical HCM has the following special features:

- silk-matt surface with excellent resistance to abrasion and chemicals
- anti-glare effect due to the matt surface
- almost complete opacity to UV

### Applications

Thanks to these properties, PLEXIGLAS® Optical HCM is particularly suitable for

- furniture making, for example as front-panel material
- shopfitting and trade-show booth construction
- large-area wall paneling
- picture glazing

### Processing

PLEXIGLAS® Optical HCM is processed as easily as standard PLEXIGLAS®.

The following guides to processing of PLEXIGLAS® are available:

- Processing of PLEXIGLAS® (no. 311-1)
- Joining of PLEXIGLAS® (no. 311-3)
- Surface treatment of PLEXIGLAS® (no. 311-4)
- Fabricating tips for PLEXIGLAS® solid sheets (no. 311-5)

Special requirements for processing of hard coated PLEXIGLAS® variants are described in Technical Information PLEXIGLAS® Optical HC (no. 232-24).

<b>Technical Data</b>				
<b>Physical properties (clear, 3 mm thickness)</b>	<b>PLEXIGLAS® Optical hard coated matt (HCM)</b>	<b>Uncoated acrylic sheet</b>	<b>Unit</b>	<b>Test standard</b>
<b>Mechanical properties</b>				
Tensile strength	67.5	72	MPa	DIN EN ISO 527
Modulus of elasticity	3450	3300	MPa	DIN EN ISO 527
Charpy impact strength	10	15	kJ/m <sup>2</sup>	DIN EN ISO 527
<b>Optical properties</b>				
Light transmission	92	92	%	DIN 5036
Yellowing	< 0.5	< 0.5	%	DIN 5036
Average roughness value Ra	0.57	-	µm	DIN EN ISO 4287 DIN EN ISO 4288
Gloss level (20° / 60° / 85°)	(6.9 / 22.9 / 54.4)	-	°	DIN EN ISO 2813
<b>Thermal properties</b>				
Vicat softening point	106	103	°C	ISO 306, Method B50
Building material class	B2	B2	-	DIN 4102
	E	E	-	DIN EN 13501
Toxicity	Requirements satisfied	Requirements satisfied	-	AITM 3.0005
Smoke density	Requirements satisfied	Requirements satisfied	-	AITM 2.0007 / FAR 25.853
<b>Abrasion resistance of coating</b>				
Abrasion resistance by the abrasive wheel method (100 cycles, 4.9 N, CS-10F)	< 3	20 - 30	% Haze	ISO 9352
Pencil hardness	5H	2H	-	DIN EN 13523-4
Micro-scratch resistance	Class 1	-	-	IHD-W-466
Adhesion	GT 0	-	-	DIN EN ISO 2409

Other typical values are listed in Technical Information PLEXIGLAS® GS/XT (211-1).

**Typical Properties -  
Chemical resistance<sup>1</sup>**

	<b>PLEXIGLAS® Optical hard coated matt (HCM)</b>
Aceton <sup>2</sup>	< 15 min
Gasoline <sup>2</sup>	< 15 min
Disinfectant	> 24 h
Ethanol (96 %) <sup>2</sup>	< 1 h
Ethyl acetate and butyl acetate (1:1) <sup>2</sup>	< 15 min
Isopropanol	> 24 h
Methanol	> 24 h
Sodium carbonate (10 %)	> 24 h
Sodium chloride (15 %)	> 24 h
Sodium hydroxide (30 %) <sup>2</sup>	< 1 h
Hydrochloric acid (32 %) <sup>2</sup>	< 1 h
Sulfuric acid (30 %)	> 24 h
Toluene <sup>2</sup>	< 15 min
Citric acid (10 %)	> 24 h

**Delivery Forms**

PLEXIGLAS® Optical HCM is available ex stock as sheets of 3050 x 2050 mm in thicknesses of 2 mm and 3 mm.

Further details are available in the PLEXIGLAS® Sales Handbook.

<sup>1</sup> Chemical resistance is tested as in DIN EN 12720. The intervals between visual inspection of the sheet surfaces are 15 minutes, 1 hour, and 24 hours. The surface shows no change even after the specified time. The test surface is indistinguishable from the area around it.

<sup>2</sup> The surface of the samples showed a visible change within the specified time after contact with the undiluted medium. The material is more glossy.

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

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