



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).

Technical Data				
Physical properties (clear, 3 mm thickness)	PLEXIGLAS® Optical hard coated matt (HCM)	Uncoated acrylic sheet	Unit	Test standard
Mechanical properties				
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 ²	DIN EN ISO 527
Optical properties				
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
Thermal properties				
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
Abrasion resistance of coating				
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 resistance¹**

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

¹ 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.

² 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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® = registered trademark
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Certified to DIN EN ISO 9001 (Quality) and DIN EN ISO 14001 (Environment)

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