

Technical Data Sheet PMMA-XT (extruded)

PMMA-XT transparent

PMMA-XT, acrylic glass (extruded), Plexiglas® XT, Acrylite®, Perspex®

Typical Properties

- High light transmission (~92 %)
- Very good weathering and UV resistance
- High stiffness and surface hardness
- High-gloss surface
- Good laser-cutting (glossy edge)
- Good machinability, thermoformable and bondable
- Low weight (density 1.19 g/cm³)
- Suitable for food contact

Typical Industries

- Advertising and display technology (POS)
- Lighting and illumination technology
- Mechanical and plant engineering (guards)
- Furniture and shop fitting
- Building and architectural glazing
- Food industry (protective / sneeze guards)

	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm ³	1.19
Water absorption (24 h)	DIN EN ISO 62	%	0.2
Flammability	UL 94		HB
Building material class	DIN 4102		B2 (normally flammable)
Optical Properties			
Light transmission (3 mm)	DIN 5036-3	%	~ 92
Refractive index n _D ²⁰	DIN EN ISO 489		1.49
Mechanical Properties			
Tensile strength (23 °C)	DIN EN ISO 527	MPa	72
Elongation at break	DIN EN ISO 527	%	4.5
Tensile modulus	DIN EN ISO 527	MPa	3300
Flexural strength	DIN EN ISO 178	MPa	105
Impact strength (Charpy, unnotched)	DIN EN ISO 179	kJ / m ²	15
Notched impact strength (Charpy)	DIN EN ISO 179	kJ / m ²	1.6
Ball indentation hardness	DIN EN ISO 2039-1	MPa	175
Thermal Properties			

	Test Method	Unit	Value
Glass transition temperature	ISO 11357	°C	~ 105
Vicat softening temperature	DIN EN ISO 306, Vicat B 50	°C	103
Heat deflection temperature	DIN EN ISO 75, method A, HDT	°C	95
Service temperature, long-term	Average	°C	-40 ... 70
Service temperature, short-term (max.)	Average	°C	90
Coefficient of linear thermal expansion	DIN 53752	10 ⁻⁶ / K	70
Thermal conductivity	DIN 52612-1	W / (m * K)	0.19

Electrical Properties

Volume resistivity	DIN EN 62631-3-1	Ω * cm	>10 ¹⁵
Surface resistivity	DIN EN 62631-3-2	Ω	5 · 10 ¹³
Dielectric strength	IEC 60243	kV / mm	~ 30

The values stated are typical average values for transparent, extruded PMMA (PMMA-XT); they serve as an aid to material selection and are not a legally binding warranty of specific properties. PMMA is an amorphous thermoplastic and has no defined melting point. Extruded PMMA (XT) offers tighter thickness tolerance and better suitability for laser cutting and thermoforming than cast PMMA (GS), but is somewhat more sensitive to stress cracking caused by solvents. PMMA is resistant to dilute acids and alkalis but is attacked by many solvents, alcohols and esters – media resistance must be verified case by case. As the properties also depend on grade, dimension and processing, the actual property values of a specific product may deviate somewhat from the data.