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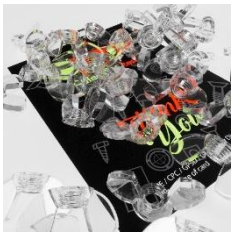
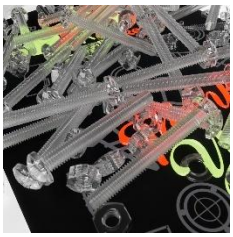
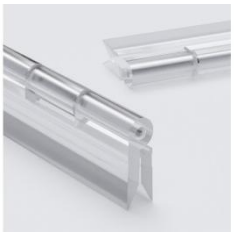
PMMA — Acrylic — General Material Datasheet






Acrylic (PMMA) is a transparent, electrically insulating thermoplastic offering good stiffness, excellent optical clarity, and resistance to many aqueous chemicals and detergents. It is not resistant to many organic solvents and should be used within the stated service temperatures.

Key specifications

Continuous Use Temperature	Flame Retardant Rating	Optical clarity	Notes
75 °C / 167 °F	UL 94 HB	Excellent (transparent grades)	UL 94 rating depends on thickness and formulation

Material properties — PMMA (typical)

Property	Test method	Typical value	Unit
Density	ISO 1183	1.18–1.20	g/cm^3
Glass transition temperature (Tg)	ISO 11357	105	°C
HDT (1.8 MPa)	ISO 75	90–100	°C
Thermal conductivity (23 °C)	—	0.18	W/(m·K)
CTE (linear)	—	70–80	µm/(m·°C)
Tensile strength (23 °C)	ISO 527	60–75	MPa
Tensile modulus (23 °C)	ISO 527	2.4–3.3	GPa
Charpy impact (notched)	ISO 179	1.5–3.5	kJ/m^2
Dielectric strength (dry)	IEC 60243-1	10–30	kV/mm
Relative permittivity (1 MHz)	IEC 60250	3.2–3.4	—
Dissipation factor (1 MHz)	IEC 60250	0.004–0.02	—
Volume resistivity (dry)	IEC 60093	1×10^{13}–1×10^{15}	Ω·cm
CTI (Comparative Tracking Index)	IEC 60112	≥ 600	—

Notes

• Values are typical reference data for guidance only and are not guaranteed.

• Performance depends on grade, conditioning and thickness. For UL 94, the rating is thickness- and formulation-dependent.

• Avoid prolonged exposure to strong solvents and high heat beyond the stated service temperature.