PROTOLABS
Manufacturing. Accelerated.

PMMA (Acrylic)

Polymethyl methacrylate is a hard material sometimes referred to as Plexiglas™ and acrylic. It is often used as a lighter, shatter-resistant alternative to glass for its transparent appearance.

Applications

Common applications of PMMA (Acrylic) consist of light pipes, lenses, light shades, optical fibers, and sings.

Key Product Benefits

- UV Resistance
- Translucent
- Machinability
- Lightweight
- Durability

Properties

Property	Test Method	Value
Density	ISO 1183/ASTM D792	1.19 g/cm^3
Water Absorption @ 24 hours	ISO 62/ASTM D570	0.2-0.3%
Tensile Strength	ISO 527/ASTM D638	10,150-11,600 psi
Tensile Modulus	ISO 527/ASTM D638	420,600-464,120 psi
Elongation @ Break	ISO 527/ASTM D638	4-6.4%
Flexural Strength	ISO 178/ASTM D790	15,230-17,985 psi
Flexural Modulus	ISO 178/ASTM D790	420,600-478,625 psi
Rockwell Hardness (M Scale)	ISO 2039-2/ASTM D785	95-100
Coefficient of Linear Thermal Expansion	ASTM D696	4.2-7 1/K x 10^{-5}
Light Transmission	ASTM D1003	>92%
Refractive Index	ISO 489 A/ ASTM D542-50	1.49
Surface Resistivity	IEC 93/ASTM D257	>10^{14} ohm