

PMMA General Purpose

General-Purpose Acrylic (PMMA) · Optically Clear Grade

LIGHT TRANSMISSION
92%

ASTM D1003 · optically clear, min

CHARACTERISTICS

- Optically clear — 92% light transmission
- Outstanding weather & UV resistance
- Hard, rigid surface — Rockwell M80-M100
- Lightweight — about half the weight of glass
- Easily machined, formed & polished

APPLICATIONS

- Signs, displays & point-of-purchase
- Lighting fixtures & diffusers
- Sanitary ware & baths
- Automotive & glazing
- Architectural & construction

COMPLIANCE Weather & UV Resistant · Food-Contact (select grades) · RoHS · REACH SVHC · ISO 9001:2015

TYPICAL PROPERTIES
All values are typical · ASTM methods · reference/comparison, not a specification

PROPERTY	TEST METHOD	VALUE	UNIT
MECHANICAL			
Tensile Strength	ASTM D638	55 - 76	MPa
Tensile Modulus	ASTM D638	2.4 - 3.4	GPa
Elongation @ Break	ASTM D638	2	%
Flexural Strength	ASTM D790	83 - 117	MPa
Flexural Modulus	ASTM D790	2.4 - 3.4	GPa
Compressive Strength	ASTM D695	76 - 131	MPa
HARDNESS · IMPACT			
Hardness, Rockwell	ASTM D785	M80-M100	—
Izod Notched Impact	ASTM D256	16	J/m
PHYSICAL			
Density	ASTM D792	1.18	g/cm ³
Water Absorption (24 h)	ASTM D570	0.3	%

PROPERTY	TEST METHOD	VALUE	UNIT
OPTICAL			
Light Transmission	ASTM D1003	92	%
Refractive Index	—	1.49	—
THERMAL			
HDT @ 1.8 MPa	ASTM D648	65-100	°C
Melting Temp	ASTM D3418	130-140	°C
Max Service Temp	—	65-93	°C
CLTE	ASTM D696	9 - 16	10 ⁻⁵ /°C
Thermal Conductivity	ASTM C177	On request	
ELECTRICAL			
Dielectric Strength	ASTM D149	16	kV/mm
Dielectric Constant	ASTM D150	4.0	—
Dissipation Factor	ASTM D150	0.05	—

NOTES

Acrylic (PMMA) is an amorphous, transparent, rigid thermoplastic with outstanding optical clarity and weather resistance — it retains optical and mechanical performance under prolonged sunlight. Property ranges span common cast and extruded acrylic grades; values are typical, for reference/comparison, and not a design specification. Imperial source values converted to SI: tensile 8,000–11,000 psi (55–76 MPa); flexural 12,000–17,000 psi (83–117 MPa); compressive 11,000–19,000 psi (76–131 MPa); Izod notched 0.3 ft-lb/in (16 J/m); dielectric strength 400 V/mil (16 kV/mm). Light transmission ≥92%, refractive index 1.48–1.50. PMMA is hard and scratch-resistant but notch-sensitive; easily machined, thermoformed, cemented and flame/diamond polished. Some grades are approved for food contact. Resin sourced from globally-certified suppliers. Values are typical, intended as guide only; final product suitability must be validated under actual application conditions. Flammability rating, compressive modulus and thermal conductivity available on request.

PERFORMANCE PROFILE
92% light

Optical clarity (min)

UV stable

Weather & sunlight resistant

M80+ Rockwell

Hard, rigid surface

1.18 g/cm³

≈ half the weight of glass

Optically clear, weatherable PMMA — the glass alternative for signage, lighting and glazing.

APPLICATIONS

Where PMMA General Purpose gets specified — optically clear, weatherable acrylic for signage, lighting and glazing.



Signage & Displays

Illuminated signs, POP displays and lettering. Bright, clear, colour-stable outdoors.



Lighting Diffusers

Light fixtures, diffusers and covers. High transmission with even light spread.



Sanitary Ware

Baths, basins and shower screens. Glossy, easy-clean, water- and salt-resistant.



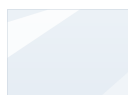
Glazing Architectural

Windows, skylights and partitions. Glass-like clarity at half the weight, shatter-safe.

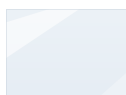
PRODUCTION SPECIFICATIONS

Sheet Thickness	1 - 12 mm	Cast & extruded gauges
Sheet Width	up to 2050 mm	Line-dependent
Sheet Length	up to 3 m	Custom cut-to-size on request
Surface	Gloss / Matte	Textured & anti-glare on request
Colour	Clear / Tint / Opal	Wide colour range
Edge Finish	Flame / diamond	Polished edges on request

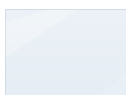
SURFACE FINISHES



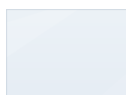
F01
Clear Gloss



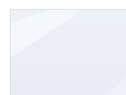
F02
Frost



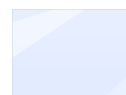
F03
Anti-Glare



F04
Matte



F05
Opal



F06
Tinted

Finish and colour options — availability on request.

HOW TO READ THESE NUMBERS

Quick reference for what each test actually tells you about how the sheet behaves.

• Tensile Strength

Force before the sheet breaks in tension.

• Elongation

How far it stretches before snapping. 2% = rigid.

• Flexural Modulus

Bending stiffness. Higher = more rigid.

• Izod Notched

Impact at a notch. Low — PMMA is notch-sensitive.

• Rockwell Hardness

Surface hardness / scratch resistance (M scale).

• Light Transmission

How much light passes through. 92% = glass-clear.

• Refractive Index

How much it bends light — 1.49, like glass.

• HDT

Heat at which it starts to sag under load.

• Weather Resistance

Holds clarity and strength in sunlight for years.

• Dielectric Strength

Voltage it withstands before breakdown.

• Water Absorption

Very low — insoluble, resists salty water.

• Density

1.18 = about half the weight of glass.

STELLAR-EX

Sheet Extrusion Excellence

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ISO 9001 : 2015

Quality Management Certified

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