

CAST IS A VERSATILE MATERIAL, USED IN CORPORATE SIGNAGE, STORE FITTINGS, CONSTRUCTION AND BESPOKE FURNITURE.

With perfect clarity for displays and vibrant deep colours for sign programmes, it can be easily fabricated into stylish and attractive articles. As well as traditional sheet, **CAST** is available in blocks up to 100 mm thick — suitable for machining, and installation into deep sea vehicles and aquaria, where the tremendous pressures involved demand the highest production quality. Choose from a wide range of standard colours or, for even more flexibility, we can colour match to your project requirements.



PRODUCT IDENTIFICATION

CAST is the brand name for cast polymethylmethacrylate sheets from **Polycasa**.

The composition of the final product is 90-95% PMMA + additives (stabilisers, plasticisers, dyes and pigments, and release agents).

CHARACTERISTICS

- Optical transparency of 93% light transmission for transparent sheets — significantly lighter and far more impact-resistant than glass of the equivalent thickness.
- Resistant to UV rays, good thermal stability and low water absorption.
- Easy to handle — most fabricating and moulding techniques are applicable to it, allowing attractive designs.

APPLICATIONS

Industry:

- Signs.
- Displays.
- Furniture.
- Sanitary fittings.
- Gift articles.
- Shopfittings.
- Solariums.
- Boat windows.
- Projection screens.

Construction:

- Skylights.
- Barrel vaults.
- Partitions.
- Doors.

PRODUCT RANGE

- A palette of colours is available in opaque, opal, transparent and translucent.
- Standard range of thickness is from 2 to 35 mm.
- Blocks are available from 40 to 100 mm, subject to special conditions.
- A range of special products are also available.
- Special thicknesses, colours and patterns can be produced to order, subject to conditions.

Please contact your local customer service centre for a complete product overview. For details see back of brochure.

TECHNICAL INFORMATION

GENERAL			
Property	Method	Units	CAST
Density	ISO 1183	g/cm ³	1.19
Rockwell Hardness	ISO 2039-2	M-scale	105
OPTICAL			
Property	Method	Units	CAST
Light Transmission	ISO 13468-1	%	93
Refractive Index	ISO 489	n _{D,20}	1.492
MECHANICAL			
Property	Method	Units	CAST
Flexural Modulus	ISO 178	MPa	3000
Flexural Strength	ISO 178	MPa	125
Tensile Modulus	ISO 527	MPa	3300
Tensile Strength	ISO 527	MPa	75
Elongation	ISO 527	%	6
THERMAL			
Property	Method	Units	CAST
Vicat Temp (VST/A 50)	ISO 306	°C	115
Heat Deflection Temp. (A)	ISO 75	°C	105
Specific Heat Capacity	ISO 3146-C-60°C	J/gK	2.16
Coefficient of linear thermal expansion	ISO 11359-2	K ⁻¹ x10 ⁻⁵	7
Thermal Conductivity	DIN 52612	W/mK	0.19
Degradation temperature		°C	>280
Max service temp. continuous use		°C	80
Max service temp. short term use		°C	90
Sheet forming temp. range		°C	160-190
IMPACT STRENGTHS			
Property	Method	Units	CAST
Izod (notched)	ISO 180	KJ/m ²	-
Charpy (notched)	ISO 179	KJ/m ²	2
Charpy (unnotched)	ISO 179	KJ/m ²	18
ELECTRICAL			
Property	Method	Units	CAST
Dielectric constant 50 HZ	DIN 53483		3.6
Volume Resistivity	DIN 53482	Ω.cm	>10 ¹⁵
Surface Resistivity	DIN 53482	Ω	>10 ¹⁴
Dielectric strength	DIN 53481	kV/mm	30
Dissipation Factor (50 HZ)	DIN 53483		0.06