

Acrylic Cast

Material Information



Acrylic Cast

Product full identity:

Polymethyl Methacrylate (PMMA) Cast

Acrylic is the alternative to glass with the added advantages of being lighter and many times stronger. Acrylic can be used in a diverse range of applications due to its excellent optical and hard-wearing properties. Casting creates a harder, sturdier, and greater chemical resistant product over the extrusion process. Cast acrylic is less likely to bend, chip, or melt during milling. Because extruded material is limited in thickness, cast acrylic is a better option for larger structures, installations, etc

Properties

- Excellent optical clarity
- Six times stronger than glass
- Good temperature resistance (+70°C to -40°C)
- High UV resistance
- Easily machined and thermoformed
- Easily glued and polished

Applications

- Signage
- Glazing
- Displays
- Lighting Fixtures

Forms



Sheet

Acrylic Cast

Technical Properties

Physical	Unit	Test Method	Result
Specific gravity	g/cm ³	ISO 1183	1.19
Water absorption until saturation at 23°C	%	ISO 62	0.20
Maximum service temp. Upper temp limit – short term	°C	-	90
Maximum service temp. Upper temp limit – long term	°C	-	80
Lower temp limit	°C	-	-
Mechanical	Unit	Test Method	Result
Tensile strength	MPa	ISO 527	75
Elongation at yield	%	ISO 527-2	6
Tensile strength at break	MPa	-	-
Unnotched impact strength	kJ/m ²	ISO 179	18
Notch impact strength	kJ/m ²	ISO 179-1	2
Ball indentation / Rockwell hardness	MPa	ISO 2039-1	105
Shore-D		-	-
Flexural modulus of elasticity	MPa	ISO 178	3000
Tensile modulus of elasticity	MPa	ISO 527-2	3300
Thermal	Unit	Test Method	Result
Vicat-softening point VST/B/50	°C	ISO 306	110
Heat deflection temperature HDT/B	°C	ISO 75-2	105
Coefficient of linear thermal expansion 23 – 100°C	m/(m.K)	ISO 11359-2	0.07
Thermal conductivity at 23°C	W/mK	DIN 52612	0.19
Electrical	Unit	Test Method	Result
Volume resistivity	Ω x m	IEC 60093	>10 ¹⁵
Surface resistivity	Ω	IEC 60093	>10 ¹⁴
Insulation resistivity	Ω . cm	-	-
Dielectric constant at 1MHz		-	-
Dielectric loss factor at 1MHz		DIN 53483-2	0.02
Dielectric strength	kV/mm	IEC 60243-1	30
Comparative tracking index (CTI)		-	-
Additional Data	Unit	Test Method	Result
Bondability		-	-
Food compliance – FDA		FDA	Yes
Food compliance – EU		EU 10/2011	Yes
Antistatic		-	-
Flammability	Unit	Test Method	Result
Fire performance		UNE EN 13501	E d0
Optical	Unit	Test Method	Result
Light transmission	%	ISO 13468-1	92
Refractive index	nD 20	ISO 489	1.492

All information provided in this Product Datasheet is for guide purposes only. The data has been taken from standard test results provided by our manufacturers.