

Technical Data Sheet

Acrylic Sheet/Rod/Tube

Acrylic has superior optical properties with a high gloss surface. Good impact strength and ease of fabrication combined with the availability of a comprehensive range of colours makes this popular product the ideal choice for many display applications.



product information

Name: Polymethyl methacrylate
Other names: Polycasa XT, Nudac PMMA, Perspex
Abbreviation: Acrylic

key characteristics

- Lighter and far more impact resistant than glass
- Machine and polish finish
- Solvent Cemented
- Fabrication, Formed and moulded
- Great UV resistance

applications

- Scientific
- Marine
- Light covers
- Flow meters
- Exhibition work
- Point of sale holders
- Guards
- Protection Screens
- Furniture

PLASTICS



Certificate Number: 14352
ISO 9001



Care should be taken in selecting the most suitable quality for each application. Advice is available, but final responsibility remains with the customer.

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Acrylic Sheet

Physical Properties

	Test	Unit	Result
1. Specific gravity	ISO 1183	g/cm ³	1.19
2. Water absorption	ISO 62	%	0.3
3. Maximum service temp. Upper temp limit (no stronger mechanical stress involved)	-	°C	80
Lower temp limit	-	°C	-40

Mechanical Properties

	Test	Unit	Result
1. Tensile strength at yield	ISO 527	Mpa	70
2. Elongation at yield	ISO 527	%	-
3. Tensile strength at break	ISO 527	Mpa	83
4. Elongation at break	ISO 527	%	5
5. Impact strength	ISO 179	kJ/m ²	20
6. Notch impact strength	ISO 179	kJ/m ²	2
7. Rockwell hardness	ISO 2039-1	M	92
8. Shore-D	DIN 53505	-	-
9. Flexural strength	ISO 178	Mpa	120
10. Modulus of elasticity	ISO 527	Mpa	3200

Thermal Properties

	Test Method	Unit	Result
1. Vicat-softening point VST/B/50	ISO 306	°C	107
2. Heat deflection temperature HDT/B HDT/A	ISO 75	°C	101
	-	°C	97
3. Coefficient of linear thermal expansion	ISO 75-2	(x10 ⁻⁵ /°C)	0.7
4. Thermal conductivity at 20 °C	ISO 8302	W/(m*K)	0.18

Electrical Properties

	Test Method	Unit	Result
1. Volume resistivity	VDE 0303	Ω x m	> 10 ¹⁵
2. Surface resistivity	-	Ω	> 10 ¹⁴
3. Dielectric constant at 1MHz	-	-	3.1
4. Dielectric loss factor at 1 MHz	DIN53483	-	0.02
5. Dielectric strength	VDE 0303	kV/mm	30
6. Tracking resistance (CTI)	IEC 60112	-	-

Additional Data

	Test Method	Unit	Result
1. Bondability	-	-	+
2. Food compliance	FDA	-	-
3. Flammability	UL94	-	HB

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

Key

Yes

+

Limited

0

No or no data

-



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Acrylic Rod/Tube

Physical Properties

Physical Properties	Test	Unit	Result
1. Specific gravity	ISO 1183	g/cm ³	1.19
2. Water absorption	ISO 62	%	2.1
3. Maximum service temp. Upper temp limit (no stronger mechanical stress involved)	-	°C	70
Lower temp limit	-	°C	-

Mechanical Properties

Mechanical Properties	Test	Unit	Result
1. Tensile strength at yield	ISO 527	Mpa	72
2. Elongation at yield	ISO 527	%	-
3. Tensile strength at break	ISO 527	Mpa	-
4. Elongation at break	ISO 527	%	8
5. Impact strength	ISO 179	kJ/m ²	20
6. Notch impact strength	ISO 179	kJ/m ²	-
7. Ball Indentation/Rockwell hardness	ISO 2039-1	Mpa	-
8. Shore-D	DIN 53505	-	90
9. Flexural strength	ISO 178	Mpa	-
10. Modulus of elasticity	ISO 527	Mpa	3215

Thermal Properties

Thermal Properties	Test Method	Unit	Result
1. Vicat-softening point VST/B/50	ISO 306	°C	103
2. Heat deflection temperature HDT/B HDT/A	ISO 75	°C	100
	-	°C	95
3. Coefficient of linear thermal expansion	ISO 11359	K ⁻¹ *10 ⁻⁴	0.8
4. Thermal conductivity at 20 °C	ISO 2200-4	W/(m*K)	0.19

Electrical Properties

Electrical Properties	Test Method	Unit	Result
1. Volume resistivity	IEC 60093	Ω x m	> 10 ¹³
2. Surface resistivity	IEC 60093	W	> 10 ¹³
3. Dielectric constant at 1MHz	IEC 60250	-	2.8
4. Dielectric loss factor at 1 MHz	IEC 60250	-	0.03
5. Dielectric strength	IEC 60243-1	kV/mm	30
6. Tracking resistance (CTI)	IEC 60112	V	CTI 600

Additional Data

Additional Data	Test Method	Unit	Result
1. Bondability	-	-	+
2. Food compliance	FDA	-	-
3. Flammability	UL94	-	HB

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