

Technical Information



ALTUGLAS™ V046

Overview

OVERVIEW : Standard clear ALTUGLAS™ PMMA resins exhibit key properties that make them the industry standard for applications needing a combination of high transparency and gloss along with UV and scratch resistance.

TRINSEO offers a wide range of grades adapted to injection molding and extrusion processes.

DESCRIPTION :

These clear thermoplastic materials offer :

- Excellent Optical properties - Very high Light Transmittance (92% LT / 0.5% haze)
- Outstanding resistance to mechanical damage and discoloration by ultraviolet rays : years outdoor exposure have no visible effect on ALTUGLAS™ PMMA.
- Very high surface hardness (Rockwell M-Scale) and therefore scratch resistance ensuring a lasting premium look.
- Higher heat resistance than impact-modified grades (Vicat B50 up to 108°C).
- Good stiffness.
- Ease of colouring (PMMA based MB required for non opaque colours to avoid optical defects).

ALTUGLAS™ PMMA V046 is an extrusion resin with high heat resistance.

MARKETS / APPLICATIONS :

Automotive & Transportation
Health, Hygiene & Beauty
Building & Construction
Composites & advanced materials
Consumer Electronics

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.18 g/cm ³	1.18 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	2.0 g/10 min	2.0 g/10 min	ISO 1133
Molding Shrinkage - Flow	2.0E-3 to 6.0E-3 in/in	0.20 to 0.60 %	ASTM D955
Water Absorption			ISO 62
Equilibrium, 73°F (23°C), 50% RH	0.30 %	0.30 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Stress (Break, 73°F (23°C))	10400 psi	72.0 MPa	ISO 527-2/5
Tensile Strain (Break, 73°F (23°C))	5.0 %	5.0 %	ISO 527-2/5
Flexural Modulus (73°F (23°C))	479000 psi	3300 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	0.95 ft-lb/in ²	2.0 kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
73°F (23°C)	9.5 ft-lb/in ²	20 kJ/m ²	
Notched Izod Impact Strength (73°F (23°C))	0.86 ft-lb/in ²	1.8 kJ/m ²	ISO 180/1A
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (M-Scale)	96	96	ASTM D785
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ISO 75-2/A
264 psi (1.8 MPa), Annealed	198 °F	92.0 °C	
Vicat Softening Temperature	> 210 °F	> 99.0 °C	ISO 306/B50
CLTE - Flow (-22 to 73°F (-30 to 23°C))	3.6E-5 in/in/°F	6.5E-5 cm/cm/°C	ASTM D696

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating	HB	HB	UL 94
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index			
--	1.490	1.490	ASTM D542
-- ¹	1.490	1.490	ISO 489
Light Transmittance	92.0 %	92.0 %	ASTM D1003
Haze	0.500 %	0.500 %	ASTM D1003
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	176 °F	80 °C	
Drying Time	4.0 to 6.0 hr	4.0 to 6.0 hr	
Rear Temperature	428 to 464 °F	220 to 240 °C	
Middle Temperature	446 to 482 °F	230 to 250 °C	
Front Temperature	464 to 500 °F	240 to 260 °C	
Nozzle Temperature	464 to 500 °F	240 to 260 °C	
Processing (Melt) Temp	464 to 500 °F	240 to 260 °C	
Mold Temperature	158 to 194 °F	70 to 90 °C	

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ Method B

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