

Technical Information


TRINSEO

ALTUGLAS™ HFI-10

Overview

OVERVIEW : ALTUGLAS™ Impact acrylic resins have an exceptional impact resistance combined with PMMA key properties, for a higher-quality look compared to any other available impact resistant material. They offer an impact resistance from 2 to 10 times superior than standard products, keeping outstanding optical performances (90 to 92% LT / 2% max haze), and PMMA weathering and ageing resistance.

DESCRIPTION : ALTUGLAS™ HFI (High Flow and Impact) grades offer superior flow and mould release properties for excellent processability and reduced cycle times, even for the most critical injection work. HFI materials offer outstanding impact resistance and flexibility.

ALTUGLAS™ HFI-10 offers a very high impact resistance with high flow.

MARKETS / APPLICATIONS :

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.15 g/cm ³	1.15 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	3.3 g/10 min	3.3 g/10 min	ISO 1133
Molding Shrinkage - Flow	2.0E-3 to 8.0E-3 in/in	0.20 to 0.80 %	ASTM D955
Water Absorption			ISO 62
Equilibrium, 73°F (23°C), 50% RH	0.36 %	0.36 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Stress			ISO 527-2/50
Yield, 73°F (23°C)	6960 psi	48.0 MPa	
Break, 73°F (23°C)	6090 psi	42.0 MPa	
Tensile Strain			ISO 527-2/50
Yield, 73°F (23°C)	5.0 %	5.0 %	
Break, 73°F (23°C)	45 %	45 %	
Flexural Modulus (73°F (23°C))	247000 psi	1700 MPa	ISO 178
Flexural Stress (73°F (23°C))	8990 psi	62.0 MPa	ISO 178
Compressive Stress (73°F (23°C))	5950 psi	41.0 MPa	ISO 604
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	2.4 ft-lb/in ²	5.0 kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
73°F (23°C)	36 ft-lb/in ²	75 kJ/m ²	
Notched Izod Impact Strength (73°F (23°C))	2.4 ft-lb/in ²	5.0 kJ/m ²	ISO 180/1A
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (M-Scale)	38	38	ASTM D785

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Annealed	185 °F	85.0 °C	ISO 75-2/B
264 psi (1.8 MPa), Annealed	178 °F	81.0 °C	ISO 75-2/A
Vicat Softening Temperature	> 194 °F	> 90.0 °C	ISO 306/B50
CLTE - Flow (-22 to 73°F (-30 to 23°C))	5.6E-5 in/in/°F	1.0E-4 cm/cm/°C	ASTM D696
Specific Heat	0.500 Btu/lb/°F	2090 J/kg/°C	
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	1.490	1.490	ISO 489
Light Transmittance	90.0 %	90.0 %	ASTM D1003
Haze	2.00 %	2.00 %	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	167 to 185 °F	75 to 85 °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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