Technical Information

TRINSEO™

ALTUGLAS™ HFI-7

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-7 offers a high impact resistance with very high flow and excellent processability.

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	1.17	g/cm³	1.17	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	10	g/10 min	10	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	0.33	%	0.33	%	
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Stress (Break, 73°F (23°C))	6960	psi	48.0	MPa	ISO 527-2/50
Tensile Strain					ISO 527-2/50
Yield, 73°F (23°C)	4.0	%	4.0	%	
Break, 73°F (23°C)	33	%	33	%	
Flexural Modulus (73°F (23°C))	334000	psi	2300	MPa	ISO 178
Flexural Stress (73°F (23°C))	10400	psi	72.0	MPa	ISO 178
Compressive Stress (73°F (23°C))	10400	psi	72.0	MPa	ISO 604
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Charpy Notched Impact Strength (73°F (23°C))	1.4	ft·lb/in²	3.0	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength					ISO 179/1eU
73°F (23°C)	19	ft·lb/in²	40	kJ/m²	
Notched Izod Impact Strength (73°F (23°C))	1.5	ft·lb/in²	3.2	kJ/m²	ISO 180/1A
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Rockwell Hardness (M-Scale)	65		65		ASTM D785
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					
66 psi (0.45 MPa), Annealed	190	°F	88.0	°C	ISO 75-2/B
264 psi (1.8 MPa), Annealed	181	°F	83.0	°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))	4.4E-5	in/in/°F	8.0E-5	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	92.0 %	92.0 %	ASTM D1003
Haze	1.50 %	1.50 %	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 176 °F	70 to 80 °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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