

ALTUGLAS™ HT 121

Overview

OVERVIEW : Our pure ALTUGLAS™ acrylic resin for injection and extrusion exhibits the greatest heat resistance on the market. As light sources become more powerful and light fittings more compact, internal and external optical elements need a combination of high quality light transmission and thermal resistance. Automotive exteriors (black pillars and decorative parts) need to be resistant to heat and weathering from sun exposure.

ALTUGLAS™ HT 121 : This is the material of choice for optical and aesthetical applications requiring thermal resistance combined with outstanding UV (AMECA certification) & scratch resistance. ALTUGLAS™ HT 121 grade is typically used in automotive tail light and cluster lens designs, household appliances and displays.

MARKETS / APPLICATIONS :

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

Automotive Specifications

- FORD WSS-M4D776-B3
- GM GMW16335P-PMMA-T1
- SAE J576

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.19 g/cm ³	1.19 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	0.40 %	0.40 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Stress			ISO 527-2/5
Yield, 73°F (23°C)	10200 psi	70.0 MPa	
Break, 73°F (23°C)	11700 psi	81.0 MPa	
Tensile Strain (Break, 73°F (23°C))	5.0 %	5.0 %	ISO 527-2/5
Flexural Modulus (73°F (23°C))	500000 psi	3450 MPa	ISO 178
Flexural Stress (73°F (23°C))	14900 psi	103 MPa	ISO 178
Compressive Stress (73°F (23°C))	17000 psi	117 MPa	ISO 604
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)	102	102	ASTM D785

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Annealed	246 °F	119 °C	ISO 75-2/B
264 psi (1.8 MPa), Annealed	230 °F	110 °C	ISO 75-2/A
Vicat Softening Temperature	> 241 °F	> 116 °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
Specific Heat	0.500 Btu/lb/°F	2090 J/kg/°C	
Thermal Conductivity	1.5 Btu·in/hr/ft ² /°F	0.22 W/m/K	ASTM C177
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	0.500 %	0.500 %	ASTM D1003
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	194 to 212 °F	90 to 100 °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	176 to 194 °F	80 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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