

Technical Information



PLEXIGLAS® HT121-LPL®

Overview

Maximize Light Output Over Long Path Lengths and Reduce the Number of LEDs Required

Plexiglas® HT121-LPL® acrylic resin is a highly heat-resistant acrylic resin, formulated specifically for long path length (LPL) automotive applications such as signature lighting and thick lenses. In addition to the already robust optical properties, chemical resistance, and outdoor stability of Plexiglas® resins, Plexiglas® HT121-LPL® resin has significantly improved light transmission and heat stability, ensuring the polymer's water-white clarity is maintained after injection molding and in its end-use application.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.19 g/cm ³	1.19 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	2.0 g/10 min	2.0 g/10 min	ASTM D1238
Molding Shrinkage - Flow	2.0E-3 to 6.0E-3 in/in	0.20 to 0.60 %	ASTM D955
Water Absorption (24 hr)	0.40 %	0.40 %	ASTM D570
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Flexural Modulus	475000 psi	3280 MPa	ASTM D790
Flexural Strength (Break)	15200 psi	105 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	0.30 ft-lb/in	16 J/m	ASTM D256
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (M-Scale)	99	99	ASTM D785
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load ¹			ASTM D648
66 psi (0.45 MPa), Annealed	235 °F	113 °C	
264 psi (1.8 MPa), Annealed	226 °F	108 °C	
Vicat Softening Temperature			
--	246 °F	119 °C	ASTM D1525 ²
--	240 °F	116 °C	ASTM D1525 ³
Thermal Conductivity	1.3 Btu·in/hr/ft ² °F	0.19 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 ⁴	1.490	1.490	ASTM D542
Light Transmittance (125.0 mil (3175 µm))	92.0 %	92.0 %	ASTM D1003
Transmittance (24 in (600 mm))	105 Lumens	105 Lumens	Trinseo Method
Haze (125.0 mil (3175 µm))	< 1.00 %	< 1.00 %	ASTM D1003
Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
ASTM Classification	PMMA 0311V2	PMMA 0311V2	ASTM D788

Notes

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

¹ Annealing cycle: 4hrs @ 221°F

² Rate A (50°C/h), Loading 1 (10 N)

³ Rate A (50°C/h), Loading 2 (50 N)

⁴ Nd @ 72°F

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