

Technical Information



PLEXIGLAS® Diffuse™ V045-68207

Overview

Plexiglas® Diffuse™ V045-68207 is a thermoplastic acrylic resin formulated for injection molding and extrusion applications in the LED lighting market. It is characterized by an excellent balance of transmission and hiding performance. It exhibits a textured surface when extruded.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.19 g/cm³	1.19 g/cm³	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)	0.30 %	0.30 %	ASTM D570
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	479000 psi	3300 MPa	ASTM D638
Tensile Strength (Break)	10000 psi	69.0 MPa	ASTM D638
Tensile Elongation (Break)	15 %	15 %	ASTM D638
Flexural Modulus	435000 psi	3000 MPa	ASTM D790
Flexural Strength (Break)	14500 psi	100 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)	88	88	ASTM D785
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load ¹			ASTM D648
66 psi (0.45 MPa), Annealed	214 °F	101 °C	
264 psi (1.8 MPa), Annealed	207 °F	97.0 °C	
Vicat Softening Temperature			
--	223 °F	106 °C	ASTM D1525 ²
--	212 °F	100 °C	ASTM D1525 ³
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating	HB	HB	UL 94
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Light Transmittance (78.74 mil (2000 µm))	89.0 %	89.0 %	ASTM D1003
Haze (78.74 mil (2000 µm))	> 100 %	> 100 %	ASTM D1003
Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
ASTM Classification	PMMA 0131T1V1	PMMA 0131T1V1	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: 16 hours @ 90°C (194°F)

² Rate A (50°C/h), Loading 1 (10 N)

³ Rate A (50°C/h), Loading 2 (50 N)

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