

Technical Information



PLEXIGLAS® Granite

Overview

Plexiglas® Granite is a thermoplastic acrylic resin formulated for extrusion and injection molding. It is characterized by its granite-like, multi-color appearance.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.18 g/cm ³	1.18 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	0.80 g/10 min	0.80 g/10 min	ASTM D1238
Molding Shrinkage - Flow	3.0E-3 to 6.0E-3 in/in	0.30 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	280000 psi	1930 MPa	ASTM D638
Tensile Strength (Break)	5800 psi	40.0 MPa	ASTM D638
Tensile Elongation (Break)	12 %	12 %	ASTM D638
Flexural Modulus	280000 psi	1930 MPa	ASTM D790
Flexural Strength (Break)	8800 psi	60.7 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	0.70 ft-lb/in	37 J/m	ASTM D256
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (M-Scale)	45	45	ASTM D785
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load ¹			ASTM D648
66 psi (0.45 MPa), Annealed	206 °F	96.7 °C	
264 psi (1.8 MPa), Annealed	176 °F	80.0 °C	
Vicat Softening Temperature			
--	217 °F	103 °C	ASTM D1525 ²
--	198 °F	92.2 °C	ASTM D1525 ³
Thermal Conductivity	1.4 Btu-in/hr/ft ² /°F	0.20 W/m/K	ASTM C177
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating	HB	HB	UL 94
Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
ASTM Classification	PMMA Unspecified	PMMA Unspecified	ASTM D788
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	180 to 190 °F	82 to 88 °C	
Drying Time	4.0 hr	4.0 hr	
Suggested Max Moisture	< 0.10 %	< 0.10 %	
Suggested Shot Size	50 %	50 %	
Suggested Max Re grind	20 %	20 %	
Rear Temperature	440 °F	227 °C	
Middle Temperature	460 °F	238 °C	
Front Temperature	480 °F	249 °C	
Nozzle Temperature	480 °F	249 °C	
Processing (Melt) Temp	< 520 °F	< 271 °C	
Mold Temperature	200 °F	93 °C	
Injection Rate	Slow	Slow	

Injection	Nominal Value (English)	Nominal Value (SI)
Back Pressure	0.00 psi	0.00 MPa
Screw Speed	50 to 100 rpm	50 to 100 rpm
Screw L/D Ratio	15.0:1.0 to 20.0:1.0	15.0:1.0 to 20.0:1.0
Screw Compression Ratio	2.0:1.0 to 2.5:1.0	2.0:1.0 to 2.5:1.0
Vent Depth	2.0E-3 in	0.051 mm

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 @ 176°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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