

Technical Information



PLEXIGLAS® DRG-100

Overview

Plexiglas® DRG-100 is an impact modified thermoplastic acrylic resin formulated for injection molding and extrusion applications. This grade is formulated for approved medical applications and has improved gamma resistance compared to DR-100G. It is a heat resistant resin with minimal edge color and provides 10 times the impact resistance of standard acrylics. It is an all-acrylic resin that combines the toughness associated with other impact plastics and the outstanding transparency and UV resistance of conventional acrylic materials. Moldflow simulation data is available.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.15 g/cm ³	1.15 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	1.0 g/10 min	1.0 g/10 min	ASTM D1238
Molding Shrinkage - Flow	3.0E-3 to 8.0E-3 in/in	0.30 to 0.80 %	ASTM D955
Water Absorption (24 hr)	0.40 %	0.40 %	ASTM D570
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	270000 psi	1860 MPa	ASTM D638
Tensile Strength (Break)	5500 psi	37.9 MPa	ASTM D638
Tensile Elongation (Break)	50 %	50 %	ASTM D638
Flexural Modulus	270000 psi	1860 MPa	ASTM D790
Flexural Strength (Break)	10300 psi	71.0 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	1.1 ft-lb/in	59 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	192 °F	88.9 °C	
264 psi (1.8 MPa), Annealed	175 °F	79.4 °C	
Vicat Softening Temperature			
--	208 °F	97.8 °C	ASTM D1525 ²
--	187 °F	86.1 °C	ASTM D1525 ³
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 ⁴	1.490	1.490	ASTM D542
Light Transmittance (125.0 mil (3175 µm))	90.0 %	90.0 %	ASTM D1003
Haze (125.0 mil (3175 µm))	< 2.00 %	< 2.00 %	ASTM D1003
Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
ASTM Classification	PMMA 0231V1	PMMA 0231V1	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 @ 176°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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