Technical Information

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PLEXIGLAS® Diffuse™ DR®-66151

Overview

Plexiglas® Diffuse™ DR®-66151 is a thermoplastic acrylic resin sufficiently concentrated to be used in blend formulations via extrusion to tailor lens properties in the LED lighting market. It is characterized by its outstanding hiding performance and high impact resistance.

Physical	Nominal Value (English)		Nominal Value (SI)		Test Method
Density	1.25	g/cm³	1.25	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	1.5	g/10 min	1.5	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	276000	psi	1900	MPa	ASTM D638
Tensile Strength (Break)	5660	psi	39.0	MPa	ASTM D638
Tensile Elongation (Break)	45	%	45	%	ASTM D638
Flexural Modulus	232000	psi	1600	MPa	ASTM D790
Flexural Strength (Break)	8560	psi	59.0	MPa	ASTM D790
Impact	**Nominal Value (English)**		**Nominal Value (SI)**		**Test Method**
Notched Izod Impact (73°F (23°C))	0.90	ft·lb/in	48	J/m	ASTM D256
Hardness	**Nominal Value (English)**		**Nominal Value (SI)**		**Test Method**
Rockwell Hardness (M-Scale)	38		38		ASTM D785
Thermal	**Nominal Value (English)**		**Nominal Value (SI)**		**Test Method**
Deflection Temperature Under Load [1]					ASTM D648
66 psi (0.45 MPa), Annealed	190	°F	87.8	°C	
264 psi (1.8 MPa), Annealed	201	°F	94.0	°C	
Vicat Softening Temperature					
--	225	°F	107	°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))	40.0	%	40.0	%	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 0231T0V1		PMMA 0231T0V1		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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