TRINSEO™

PLEXIGLAS® MI7G

Overview

Plexiglas® MI7G 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 MI7. It is heat resistant, has high melt flow and provides 7 times the impact resistance of standard acrylics while maintaining excellent optical properties. It offers an excellent balance between melt flow and increased resistance to breakage, while providing weatherability superior to that provided by other high-impact plastics. Supplemental moldflow simulation data is available.

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.17	g/cm³	1.17	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	3.2	g/10 min	3.2	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	365000	psi	2520	MPa	ASTM D638
Tensile Strength (Break)	7000	psi	48.3	MPa	ASTM D638
Tensile Elongation (Break)	35	%	35	%	ASTM D638
Flexural Modulus	345000	psi	2380	MPa	ASTM D790
Flexural Strength (Break)	11200	psi	77.2	MPa	ASTM D790
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Notched Izod Impact (73°F (23°C))	0.60	ft·lb/in	32	J/m	ASTM D256
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Rockwell Hardness (M-Scale)	68		68		ASTM D785
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load [1]					ASTM D648
66 psi (0.45 MPa), Annealed	196	°F	91.1	°C	
264 psi (1.8 MPa), Annealed	185	°F	85.0	°C	
Vicat Softening Temperature					
--	210	°F	98.9	°C	ASTM D1525 [2]
--	194	°F	90.0	°C	ASTM D1525 [3]
Thermal Conductivity	1.4	Btu·in/hr/ft²/°F	0.20	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))	91.0	%	91.0	%	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 0221V3		PMMA 0221V3		ASTM D788

Injection	Nominal Value	(English)	Nominal Value	(SI)
Drying Temperature	185	°F	85	°C
Drying Time	4.0	hr	4.0	hr
Suggested Max Moisture	0.30	%	0.30	%
Suggested Max Regrind	25	%	25	%
Rear Temperature	420 to 460	°F	216 to 238	°C
Middle Temperature	420 to 460	°F	216 to 238	°C

Injection	Nominal Value	(English)	Nominal Value	(SI)
Front Temperature	420 to 460	°F	216 to 238	°C
Nozzle Temperature	420 to 460	°F	216 to 238	°C
Processing (Melt) Temp	460	°F	238	°C
Mold Temperature	100 to 190	°F	38 to 88	°C
Back Pressure	50.0 to 100	psi	0.345 to 0.689	MPa
Screw Speed	50 to 100	rpm	50 to 100	rpm
Screw L/D Ratio	16.0:1.0		16.0:1.0	
Screw Compression Ratio	2.0:1.0 to 3.0:1.0		2.0:1.0 to 3.0:1.0	