Technical Information

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PLEXIGLAS® MI7T

Overview

Plexiglas® MI7T is an impact modified thermoplastic acrylic resin formulated for injection molding and extrusion applications. It has high heat resistance 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.

Automotive Specifications

- CHRYSLER MS-DB-16 CPN3267
- CHRYSLER MS-DB-16 CPN3268
- CHRYSLER MS-DB-75 CPN4236
- FORD WSB-M4D687-A
- GM GMP.PMMA.015
- GM GMW16335P-PMMA-T4
- SAE J576 Color: Various Colors

Physical	Nominal Value (English)		Nominal Value (SI)		Test Method
Density	1.17	g/cm³	1.17	g/cm³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR)					
230°C/3.8 kg	1.8	g/10 min	1.8	g/10 min	ASTM D1238
230°C/3.8 kg	2.0	g/10 min	2.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/3.8 kg)	2.1	cm³/10min	2.1	cm³/10min	ISO 1133
Molding Shrinkage					
Flow	3.0E-3 to 6.0E-3	in/in	0.30 to 0.60	%	ASTM D955
--	3.0E-3 to 6.0E-3	in/in	0.30 to 0.60	%	ISO 294-4
Water Absorption					
24 hr	0.30	%	0.30	%	ASTM D570
24 hr, 73°F (23°C)	0.30	%	0.30	%	ISO 62
Mechanical	**Nominal Value (English)**		**Nominal Value (SI)**		**Test Method**
Tensile Modulus					
--	350000	psi	2410	MPa	ASTM D638
--	363000	psi	2500	MPa	ISO 527-1/1A/1
Tensile Stress					
Yield	8700	psi	60.0	MPa	ISO 527-2/1A/5
Break	8000	psi	55.2	MPa	ASTM D638
Break	7250	psi	50.0	MPa	ISO 527-2/1A/5
Tensile Strain					
Yield	5.0	%	5.0	%	ISO 527-2/1A/5
Break	35	%	35	%	ASTM D638 ISO 527-2/1A/5
Flexural Modulus					
--	350000	psi	2410	MPa	ASTM D790
--	348000	psi	2400	MPa	ISO 178
Flexural Stress					
-- [1]	10200	psi	70.0	MPa	ISO 178
Break	12600	psi	86.9	MPa	ASTM D790

Impact	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Charpy Notched Impact Strength	1.9	ft·lb/in²	4.0	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength	19	ft·lb/in²	40	kJ/m²	ISO 179/1eU
Notched Izod Impact					
73°F (23°C)	0.60	ft·lb/in	32	J/m	ASTM D256
--	2.4	ft·lb/in²	5.0	kJ/m²	ISO 180/A
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Rockwell Hardness (M-Scale)	68		68		ASTM D785 ISO 2039-2
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					
66 psi (0.45 MPa), Annealed	208	°F	98.0	°C	ISO 75-2/B
264 psi (1.8 MPa), Annealed [2]	195	°F	90.6	°C	ASTM D648
264 psi (1.8 MPa), Annealed	199	°F	93.0	°C	ISO 75-2/A
Vicat Softening Temperature					
--	226	°F	108	°C	ASTM D1525 [3] ISO 306/A50 [3]
--	207	°F	97.2	°C	ASTM D1525 [4]
--	217	°F	103	°C	ISO 306/B50
Thermal Conductivity	1.3	Btu·in/hr/ft²/°F	0.19	W/m/K	ASTM C177
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Refractive Index [5]	1.490		1.490		ASTM D542 ISO 489
Light Transmittance (125.0 mil (3175 µm))	92.0	%	92.0	%	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 0221V1		PMMA 0221V1		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] Conventional Deflection

[2] Annealing cycle: 4hrs @ 176°F

[3] Rate A (50°C/h), Loading 1 (10 N)

[4] Rate A (50°C/h), Loading 2 (50 N)

[5] ND @ 72°F

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