Plexiglas® V052i

Polymethyl Methacrylate Acrylic

Altuglas International of Arkema Inc.

Message:

Plexiglas® V052i is a lightly impact modified thermoplastic acrylic resin formulated for injection molding. It is characterized by its chemical and heat resistance as well a good melt flow and excellent mold release properties. It is a tougher resin than Plexiglas® V052 allowing improved fabrication. 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. Moldflow simulation data is available.

General Information			
UL YellowCard	E39437-231437		
Additive	Impact Modifier		
Features	BPA Free Good Color Stability Good Dimensional Stability Good Mold Release Good Thermal Stability Good Toughness Good UV Resistance Good Weather Resistance High Clarity Impact Modified Low Shrinkage Scratch Resistant		
Uses	Automotive Applications		
Agency Ratings	FDA 21 CFR 177.1010		
RoHS Compliance	RoHS Compliant		
Appearance	Clear/Transparent Colors Available Opaque Translucent		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.18	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	3.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.20 to 0.60	%	ASTM D955
Water Absorption (24 hr)	0.40	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**

Rockwell Hardness (M-Scale)	84		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2830	MPa	ASTM D638
Tensile Strength (Yield)	63.4	MPa	ASTM D638
Tensile Elongation (Break)	22	%	ASTM D638
Flexural Modulus	2900	MPa	ASTM D790
Flexural Strength (Yield)	96.5	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	21	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load [1]			ASTM D648
0.45 MPa, Annealed	103	°C	
1.8 MPa, Annealed	97.2	°C	
Vicat Softening Temperature			
--	110	°C	ASTM D1525 [2]
--	102	°C	ASTM D1525 [3]
Thermal Conductivity	0.19	W/m/K	ASTM C177
Flammability	Nominal Value		Test Method
Flame Rating	HB		UL 94
Optical	Nominal Value	Unit	Test Method
Refractive Index [4]	1.490		ASTM D542
Transmittance (3180 µm)	91.0	%	ASTM D1003
Haze (3180 µm)	< 1.0	%	ASTM D1003
Additional Information	Nominal Value		Test Method
ASTM Classification	PMMA 0211V3		ASTM D788
Injection	Nominal Value	Unit	
Drying Temperature	82.2 to 87.8	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.10	%	
Suggested Shot Size	50	%	
Suggested Max Regrind	20	%	
Rear Temperature	216	°C	
Middle Temperature	221	°C	
Front Temperature	227	°C	
Nozzle Temperature	221	°C	
Processing (Melt) Temp	< 271	°C	
Mold Temperature	65.6 to 87.8	°C	
Injection Rate	Fast		
Back Pressure	0.689	MPa	
Screw Speed	50 to 100	rpm	
Screw L/D Ratio	15.0:1.0 to 20.0:1.0		
Screw Compression Ratio	2.0:1.0 to 2.5:1.0		

Vent Depth	0.051	mm

NOTE	
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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