Plexiglas® HFI7

Polymethyl Methacrylate Acrylic

Altuglas International of Arkema Inc.

Message:

Plexiglas® HFI7 is an impact modified thermoplastic acrylic resin formulated for injection molding. It has very high melt flow, enhanced mold release properties 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.

General Information	
UL YellowCard	E39437-231420
Additive	Impact Modifier
Features	BPA Free Good Color Stability Good Dimensional Stability Good Thermal Stability Good Toughness Good UV Resistance Good Weather Resistance High Clarity High Flow Impact Modified Low Shrinkage Medium Impact Resistance Scratch Resistant
Uses	Appliances Automotive Applications Lighting Diffusers
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	1.17	g/cm³	ASTM D792

Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	10	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.30 to 0.60	%	ASTM D955
Water Absorption (24 hr)	0.30	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	65		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2450	MPa	ASTM D638
Tensile Strength (Break)	46.9	MPa	ASTM D638
Tensile Elongation (Break)	35	%	ASTM D638
Flexural Modulus	2450	MPa	ASTM D790
Flexural Strength (Yield)	85.5	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	32	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load [1]			ASTM D648
0.45 MPa, Annealed	88.3	°C	
1.8 MPa, Annealed	81.7	°C	
Vicat Softening Temperature			
--	95.0	°C	ASTM D1525 [2]
--	84.4	°C	ASTM D1525 [3]
Thermal Conductivity	0.20	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)	< 2.0	%	ASTM D1003
Additional Information	**Nominal Value**		**Test Method**
ASTM Classification	PMMA 0221V4		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	37.8 to 87.8	°C	
Injection Rate	Moderate		

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

Recommended distributors for this material

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