Plexiglas® VH

Polymethyl Methacrylate Acrylic

Altuglas International of Arkema Inc.

Message:

Plexiglas® VH is a thermoplastic acrylic resin formulated for injection molding applications. It is characterized by its very high melt flow. Plexiglas® VH has excellent weatherability and optical properties allowing it to excel in applications requiring outdoor stability, high quality surface appearance and/or precision optics. Plexiglas® VH is easy to process due to its exceptional thermal stability, extrusion melt strength, and excellent tool surface reproduction and release properties. Supplemental moldflow simulation data is available. It has excellent resistance to many chemicals including solutions of inorganic acids, alkalis and aliphatic hydrocarbons such as VM&P naphtha and heptane. Additionally, it is virtually unaffected by a wide range of commercial products including many beverages, foodstuffs, detergent solutions and cleaners.

General Information		
UL YellowCard	E39437-231443	E39437-231444
Features	BPA Free Good Color Stability Good Dimensional Stability Good Thermal Stability Good UV Resistance Good Weather Resistance High Clarity High Flow High Scratch Resistance Low Shrinkage	
Uses	Lighting Diffusers Optical 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)	20	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.20 to 0.60	%	ASTM D955
Water Absorption (24 hr)	0.30	%	ASTM D570

Hardness	Nominal Value	Unit	Test Method

Rockwell Hardness (M-Scale)	89		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3030	MPa	ASTM D638
Tensile Strength (Yield)	66.2	MPa	ASTM D638
Tensile Elongation (Break)	4.0	%	ASTM D638
Flexural Modulus	3000	MPa	ASTM D790
Flexural Strength (Yield)	96.5	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	16	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load [1]			ASTM D648
0.45 MPa, Annealed	83.3	°C	
1.8 MPa, Annealed	77.2	°C	
Vicat Softening Temperature			
--	88.3	°C	ASTM D1525 [2]
--	82.2	°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)	92.0	%	ASTM D1003
Haze (3180 µm)	< 1.0	%	ASTM D1003
Additional Information	Nominal Value		Test Method
ASTM Classification	PMMA 0111V6		ASTM D788
Injection	Nominal Value	Unit	
Drying Temperature	73.9 to 85.0	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.10	%	
Suggested Shot Size	50	%	
Suggested Max Regrind	20	%	
Rear Temperature	193	°C	
Middle Temperature	199	°C	
Front Temperature	204	°C	
Nozzle Temperature	199	°C	
Processing (Melt) Temp	< 271	°C	
Mold Temperature	54.4 to 71.1	°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 @ 70°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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