Plexiglas® VS

Polymethyl Methacrylate Acrylic

Altuglas International of Arkema Inc.

Message:

Plexiglas® VS is a thermoplastic acrylic resin formulated for injection molding applications. It is characterized by its very high melt flow. Plexiglas® VS has excellent weatherability and optical properties allowing it to excel in applications requiring outdoor stability, high quality surface appearance and/or precision optics. Plexiglas® VS 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	E39437-231445	E39437-231446	
Features	BPA Free Good Dimensional Stability Good Thermal Stability Good UV Resistance Good Weather Resistance High Clarity High Flow High Scratch Resistance Low Shrinkage		
Uses	Bathroom Accessories Household Goods		
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)	27	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)	84		ASTM D785

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2900	MPa	ASTM D638
Tensile Strength (Yield)	64.8	MPa	ASTM D638
Tensile Elongation (Break)	3.0	%	ASTM D638
Flexural Modulus	2960	MPa	ASTM D790
Flexural Strength	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	80.6	°C	
1.8 MPa, Annealed	76.1	°C	
Vicat Softening Temperature			
--	87.2	°C	ASTM D1525 [2]
--	81.1	°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 0111V7		ASTM D788
Injection	**Nominal Value**	**Unit**	
Drying Temperature	65.6 to 76.7	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.10	%	
Suggested Shot Size	50	%	
Suggested Max Regrind	20	%	
Rear Temperature	182	°C	
Middle Temperature	188	°C	
Front Temperature	193	°C	
Nozzle Temperature	188	°C	
Processing (Melt) Temp	< 271	°C	
Mold Temperature	48.9 to 65.6	°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 @ 158°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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