Plexiglas® V825-HID

Polymethyl Methacrylate Acrylic

Altuglas International of Arkema Inc.

Message:

Plexiglas® V825-HID is a thermoplastic acrylic resin formulated for injection molding and extrusion applications. It is specifically formulated for UV-emitting light or High Intensity Discharge sources up to 90C. It is characterized by its excellent ultra-violet, heat resistance and high melt flow. Plexiglas® V825-HID has excellent weatherability and optical properties allowing it to excel in applications requiring outdoor stability, high quality surface appearance and/or precision optics. Plexiglas® V825-HID is easy to process due to its exceptional thermal stability, extrusion melt strength, and excellent tool surface reproduction and release properties. 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	E39437-231432	E39437-231433
Additive	UV Stabilizer	
Features	BPA Free Good Color Stability Good Dimensional Stability Good Thermal Stability Good UV Resistance Good Weather Resistance High Clarity High Heat Resistance High Scratch Resistance Low Shrinkage	
Uses	Lighting Diffusers Optical Applications	
Agency Ratings	FDA 21 CFR 177.1010	
RoHS Compliance	RoHS Compliant	
Appearance	Clear/Transparent Translucent White	
Forms	Pellets	
Processing Method	Extrusion 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)	3.7	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)	93		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	3100	MPa	ASTM D638
Tensile Strength (Yield)	70.3	MPa	ASTM D638
Tensile Elongation (Break)	6.0	%	ASTM D638
Flexural Modulus	3100	MPa	ASTM D790
Flexural Strength (Yield)	103	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	105	°C	
1.8 MPa, Annealed	102	°C	
Vicat Softening Temperature			
--	111	°C	ASTM D1525 [2]
--	104	°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 0133V3		ASTM D788
Injection	**Nominal Value**	**Unit**	
Drying Temperature	87.8 to 93.3	°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 93.3	°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 @ 203°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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