Plexiglas® V045i

Polymethyl Methacrylate Acrylic

Altuglas International of Arkema Inc.

Message:

Plexiglas® V045i is a lightly impact modified thermoplastic acrylic resin formulated for extrusion applications. It is characterized by its chemical and heat resistance as well a high melt flow. It is a tougher resin than Plexiglas® V045 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.

General Information			
UL YellowCard	E39437-231436		
Additive	Impact Modifier		
Features	BPA Free		
	Good Color Stability		
	Good Dimensional Stability		
	Good Flow		
	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		
	Consumer Applications		
Agency Ratings	FDA 21 CFR 177.1010		
RoHS Compliance	RoHS Compliant		
Appearance	Clear/Transparent		
	Colors Available		
	Opaque		
	Translucent		
Forms	Pellets		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.19	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	2.1	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	2960	MPa	ASTM D638
Tensile Strength (Yield)	67.6	MPa	ASTM D638
Tensile Elongation (Break)	15	%	ASTM D638
Flexural Modulus	2930	MPa	ASTM D790
Flexural Strength (Yield)	98.6	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	92.2	°C	
1.8 MPa, Annealed	90.6	°C	
Vicat Softening Temperature			
	101	°C	ASTM D1525 ²
	92.2	°C	ASTM D1525 ³
Thermal Conductivity	0.19	W/m/K	ASTM C177
Flammability	Nominal Value		Test Method
Flame Rating	НВ		UL 94
Optical	Nominal Value	Unit	Test Method
Optical Refractive Index ⁴	Nominal Value 1.490	Unit	Test Method ASTM D542
		Unit %	
Refractive Index ⁴	1.490		ASTM D542
Refractive Index ⁴ Transmittance (3180 μm)	1.490 91.0	%	ASTM D542 ASTM D1003
Refractive Index ⁴ Transmittance (3180 μm) Haze (3180 μm)	1.490 91.0 < 1.0	%	ASTM D542 ASTM D1003 ASTM D1003
Refractive Index ⁴ Transmittance (3180 μm) Haze (3180 μm) Additional Information	1.490 91.0 < 1.0 Nominal Value	%	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2	%	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value	% % Unit	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8	% % Unit	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0	% % Unit °C hr	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time Suggested Max Moisture	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0 0.10	% % Unit °C hr	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time Suggested Max Moisture Suggested Shot Size	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0 0.10 50	% % Unit °C hr %	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time Suggested Max Moisture Suggested Shot Size Suggested Max Regrind	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0 0.10 50 20	% % Unit °C hr % %	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time Suggested Max Moisture Suggested Shot Size Suggested Max Regrind Rear Temperature	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0 0.10 50 20 216	% % Unit °C hr % % % % %	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time Suggested Max Moisture Suggested Shot Size Suggested Max Regrind Rear Temperature Middle Temperature	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0 0.10 50 20 216 221	% % Unit °C hr % % % % °C °C	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time Suggested Max Moisture Suggested Shot Size Suggested Max Regrind Rear Temperature Middle Temperature Front Temperature	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0 0.10 50 20 216 221 227	% % Unit °C hr % % % % °C °C °C	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time Suggested Max Moisture Suggested Shot Size Suggested Max Regrind Rear Temperature Middle Temperature Front Temperature Nozzle Temperature	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0 0.10 50 20 216 221 227 221	% % % Unit °C hr % % % % °C °C °C °C	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time Suggested Max Moisture Suggested Shot Size Suggested Max Regrind Rear Temperature Middle Temperature Front Temperature Nozzle Temperature Processing (Melt) Temp	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0 0.10 50 20 216 221 227 221 < 271	% % % Unit °C hr % % % % °C °C °C °C °C	ASTM D542 ASTM D1003 ASTM D1003 Test Method
Refractive Index ⁴ Transmittance (3180 µm) Haze (3180 µm) Additional Information ASTM Classification Injection Drying Temperature Drying Time Suggested Max Moisture Suggested Shot Size Suggested Max Regrind Rear Temperature Middle Temperature Front Temperature Nozzle Temperature Processing (Melt) Temp Mold Temperature	1.490 91.0 < 1.0 Nominal Value PMMA 0241V2 Nominal Value 82.2 to 87.8 4.0 0.10 50 20 216 221 227 221 < 271 65.6 to 87.8	% % % Unit °C hr % % % % °C °C °C °C °C	ASTM D542 ASTM D1003 ASTM D1003 Test Method

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 @ 17	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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