

Evonik Corporation Plexiglas® 99560 MR2R Superclear Extruded, Mar Resistant PMMA Sheet

Category : Polymer , Thermoplastic , Acrylic (PMMA) , Acrylic, Extruded

Material Notes:

Description: PLEXIGLAS® Superclear 99560 MR2R is an extruded PMMA sheet with a mar resistant coating on both surfaces. The product has been developed for applications with highest demands on optical and surface quality. It has no observable haze, a very smooth surface, no light absorption and a very tight thickness tolerance. Information provided by degussa.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Evonik-Corporation-Plexiglas-99560-MR2R-Superclear-Extruded-Mar-Resistant-PMMA-Sheet.php

Physical Properties	Metric	English	Comments
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	175 MPa	25400 psi	H_{961/30}; ISO 2039-1
Tensile Strength at Break	72.0 MPa	10400 psi	ISO 527-2/1B/5
	100 MPa	14500 psi	ISO 527-2/1B/5
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Tensile Strength, Ultimate	35.0 MPa	5080 psi	ISO 527-2/1B/5
	@Temperature 70.0 °C	@Temperature 158 °F	
Elongation at Break	4.5 %	4.5 %	ISO 527-2/1B/5
Modulus of Elasticity	3.30 GPa	479 ksi	Short Term Value; ISO 527-2/1B/1
Flexural Strength	105 MPa	15200 psi	80x10x4 mm; ISO 178
Compressive Yield Strength	103 MPa	14900 psi	ISO 604
Izod Impact, Notched (ISO)	1.60 kJ/m ²	0.761 ft-lb/in ²	ISO 180/1A
Charpy Impact Unnotched	1.50 J/cm ²	7.14 ft-lb/in ²	ISO 179/1fu
Abrasion	<= 1.0	<= 1.0	% Haze, Abrasion resistance in Taber abrader test (100 rev.;5.4 N; CS-10F); ISO 9352

Thermal Properties	Metric	English	Comments
CTE, linear	70.0 µm/m-°C	38.9 µin/in-°F	DIN 53752A
	@Temperature 0.000 - 50.0 °C	@Temperature 32.0 - 122 °F	

Specific Heat Capacity Thermal Properties	1.47 J/g-°C Metric	0.351 BTU/lb-°F English	Comments
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ft ² -°F	DIN 52612
Maximum Service Temperature, Air	70.0 °C	158 °F	
Deflection Temperature at 0.46 MPa (66 psi)	95.0 °C	203 °F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	90.0 °C	194 °F	ISO 75
Vicat Softening Point	102 °C	216 °F	ISO 306, Method B 50
Flammability, UL94	HB @Thickness 1.60 mm	HB @Thickness 0.0630 in	
Flash Point	430 °C	806 °F	Ignition Temperature; DIN 51794

Optical Properties	Metric	English	Comments
Refractive Index	1.491	1.491	ISO 483
Haze	<= 0.50 %	<= 0.50 %	ASTM D1003
Transmission, Visible	>= 93 %	>= 93 %	DIN 5036, Part 3
UV Transmittance	<= 1.0 %	<= 1.0 %	
Reflection Coefficient, Visible (0-1)	0.033	0.033	Reflection loss in the visible range (for each surface)

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	DIN VDE 0303/3
Surface Resistance	>= 1.00e+12 ohm	>= 1.00e+12 ohm	DIN VDE 0303/3
Dielectric Constant	2.8 @Frequency 100000 Hz	2.8 @Frequency 100000 Hz	DIN VDE 0303, Part 4
	3.7 @Frequency 50 Hz	3.7 @Frequency 50 Hz	DIN VDE 0303, Part 4
Dielectric Strength	30.0 kV/mm	762 kV/in	DIN VDE 0303, Part 2
Dissipation Factor	0.030 @Frequency 100000 Hz	0.030 @Frequency 100000 Hz	DIN VDE 0303, Part 4
	0.060 @Frequency 50 Hz	0.060 @Frequency 50 Hz	DIN VDE 0303, Part 4

Descriptive Properties	Value	Comments
Absorption in the Visible Range	Max 0.05%	
Number of Inclusions (0.1 mm to 0.25 mm)	Max 30 per m ²	Magnification Lens
Number of Inclusions (0.25 mm to 0.65 mm)	Max 7 per m ²	Magnification Lens
Number of Inclusions (0.65 mm to 1.65 mm)	Max 1 per m ²	Magnification Lens
Pencil Hardness	6H	ASTM D3363, ISO 15184, KSD6711:1992 (Results may vary with different pencil sets.)
Sound Velocity	2700-2800 m/s	at room temperature
U Value for 1mm	5.8 W/m ² K	DIN 4701
U Value for 2mm	5.6 W/m ² K	DIN 4701

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