



Makrolon® GP-V Prismatic sheet

Prismatic textured

Makrolon® GP-V Prismatic sheet is a translucent, UV stabilized, polycarbonate product with a prismatic texture on one side. This prismatic pattern has been optimized for light diffusion and light transmission, making it an excellent choice for most conventional lighting applications. The textured product features outstanding impact strength, high temperature resistance, superior dimensional stability, and is easy to fabricate. Makrolon GP-V Prismatic sheet is offered with a five (5) year Limited Product Warranty against breakage. The terms of the warranty are available upon request.

Applications

Lighting lenses and covers

Typical Properties*			
Property	Test Method	Units	Values
PHYSICAL			
Specific Gravity	ASTM D 792	–	1.2
Refractive Index	ASTM D 542	–	1.586
Light Transmission, Clear @ 0.118"	ASTM D 1003	%	86
Water Absorption, 24 hours @ 73°F	ASTM D 570	%	0.15
Poisson's Ratio	ASTM E 132	–	0.38
MECHANICAL**			
Tensile Strength, Break	ASTM D 638	psi	9,500
Tensile Strength, Yield	ASTM D 638	psi	9,000
Tensile Modulus	ASTM D 638	psi	340,000
Elongation	ASTM D 638	%	110
Flexural Strength	ASTM D 790	psi	13,500
Flexural Modulus	ASTM D 790	psi	345,000
Compressive Strength	ASTM D 695	psi	12,500
Compressive Modulus	ASTM D 695	psi	345,000
Izod Impact Strength, Notched @ 0.125"	ASTM D 256	ft-lbs/in	16
Izod Impact Strength, Unnotched @ 0.125"	ASTM D 256	ft-lbs/in	60 (No Break)
Instrumented Impact @ 0.125"	ASTM D 3763	ft-lbs	>47
Shear Strength, Break	ASTM D 732	psi	10,000
Shear Strength, Yield	ASTM D 732	psi	6,000
Shear Modulus	ASTM D 732	psi	114,000
Rockwell Hardness	ASTM D 785	–	M70 / R118
THERMAL			
Coefficient of Thermal Expansion	ASTM D 696	in/in/°F	3.75 x 10 ⁻⁵
Coefficient of Thermal Conductivity	ASTM C 177	BTU-in/hr-ft ² -°F	1.35
Heat Deflection Temperature @ 264 psi	ASTM D 648	°F	270
Heat Deflection Temperature @ 66 psi	ASTM D 648	°F	280
Brittleness Temperature	ASTM D 746	°F	-200
ELECTRICAL			
Dielectric Constant @ 10 Hz	ASTM D 150	–	2.96
Dielectric Constant @ 60 Hz	ASTM D 150	–	3.17
Volume Resistivity	ASTM D 257	Ohm-cm	8.2 x 10 ¹⁶
Dissipation Factor @ 60 Hz	ASTM D 150	–	0.0009
Arc Resistance	–	–	–
Stainless Steel Strip Electrodes	ASTM D 495	Seconds	10
Tungsten Electrodes	ASTM D 495	Seconds	120
Dielectric Strength, in air @ 0.125"	ASTM D 149	V/mil	380
FLAMMABILITY			
Horizontal Burn, AEB	ASTM D 635	in	<1
Ignition Temperature, Self	ASTM D 1929	°F	1070
Ignition Temperature, Flash	ASTM D 1929	°F	870
Flame Class @ 0.060"	UL 94	–	V-2
Flame Class @ 0.236"	UL 94	–	V-0
Building Materials, surface-burning 0.060" - 0.250"	UL 723	Flame Spread Smoke Developed	5*** 75***

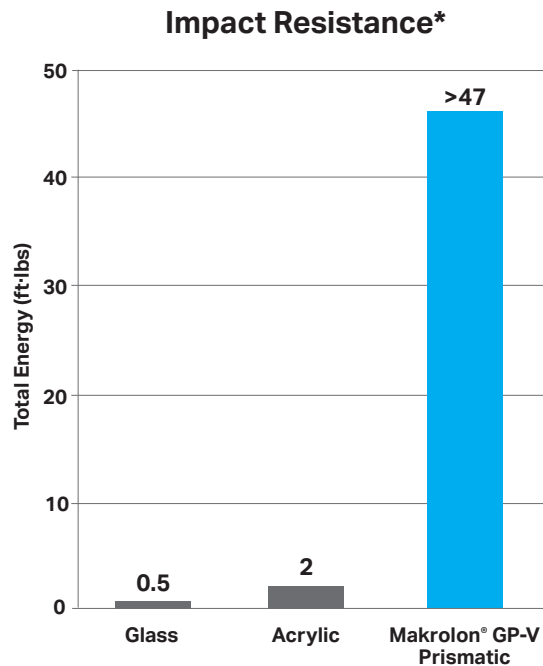
*Typical properties are not intended for specification purposes.

**Some properties characterized using non-textured sheet.

***Flame spread and smoke developed data recorded while material remained in original test position. Ignition of molten residue on the furnace floor resulted in higher values. See UL File #R21646 for more information.



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*Instrumented Impact per ASTM D 3763, sample thickness is 0.125" nominal

Regulatory code compliance and certifications

CPSC 16 CFR 1201 Category I and Category II: Safety Standard for Architectural Glazing Materials

ANSI Z97.1-2004: American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test. Class A

UL 972: Burglary Resistant Glazing Materials, UL File #BP2126

UL 94: Flammability, UL File #E351891

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