

TECHNICAL DATA SHEET

Makrolon®

Makrolon® GP general purpose polycarbonate sheet is a polished surface, UV stabilized polycarbonate product for use in glazing and industrial applications, and features outstanding impact strength and superior dimensional stability. Makrolon® GP polycarbonate sheet's five year warranty against breakage, along with its UL 94 VO rating on gauges .220" and greater, make it cost effective in a wide range of industrial glazing, design, and structural applications, and thermoformed and fabricated components

Benefits

High impact resistance
 Chemical resistance
 Lightweight

Applications

Industrial glazing
 Machine guards
 Structural parts
 Thermoformed part

SHAPE AVAILABLE



*Other Grades Available (please contact us for complete manufacturers specifications)

Makrolon® MG machine grade polycarbonate engineering plate is a low stress polycarbonate ideally suited for heavily fabricated, tight tolerance parts. It features extremely high impact strength, high modulus of elasticity, outstanding dimensional stability, and good electrical properties.

Makrolon® LF low flammability polycarbonate sheet is a flame inhibiting UV stable polycarbonate sheet. It meets the stringent UL 94 V-0 rating at 0.080" thickness.

Makrolon® FD polycarbonate sheet complies with FDA requirements for food contact. This non-UV stable sheet offers excellent optical clarity, good heat resistance, and high impact strength.

Makrolon® AR abrasion resistant polycarbonate sheet offers superior abrasion resistance and glasslike surface hardness, along with the impact strength of polycarbonate. Makrolon® AR polycarbonate sheet features a proprietary hardcoat technology that offers protection against chemical and UV attack.

SEE NEXT PAGE FOR ADDITIONAL INFORMATION

*Makrolon® is a registered trademark of Bayer MaterialScience

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets.
 All values at 73°F (23°C) unless otherwise noted.



Macrolon® GP
General Purpose, Polycarbonate sheet material

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
Light Transmission, I30 Gray @ 0.118"	ASTM D 1003	%	50
Light Transmission, K09 Bronze @ 0.118"	ASTM D 1003	%	50
Light Transmission, I35 Dark Gray @ 0.118"	ASTM D 1003	%	18
Water Absorption, 24 hours	ASTM D 570	%	0.15
Poisson's Ratio	ASTM E 132	–	0.38
MECHANICAL			
Tensile Strength, Ultimate	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	18
Izod Impact Strength, Unnotched @ 0.125"	ASTM D 256	ft-lbs/in	60 (no failure)
Instrumented Impact @ 0.125"	ASTM D 3763	ft-lbs	>46
Shear Strength, Ultimate	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
Shading Coefficient, clear @ 0.236"	NFRC 100-2010	–	0.97
Shading Coefficient, Gray or Bronze @ 0.236"	NFRC 100-2010	–	0.77
U factor @ 0.236" (summer, winter)	NFRC 100-2010	BTU/hr-ft ² ·°F	0.85, 0.92
U factor @ 0.375" (summer, winter)	NFRC 100-2010	BTU/hr-ft ² ·°F	0.78, 0.85
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 electrode	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	–	HB

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