



# LEHIGH VALLEY PLASTICS

We Shape The Industry

## MAKROLON® MG

MAKROLON® MG (Machine Grade) polycarbonate engineering plate is an amorphous thermoplastic material made from Bayer's MAKROLON polycarbonate sheet. This "None Tougher" polycarbonate offers extremely high impact strength, high modulus of elasticity, outstanding dimensional stability and good mechanical and electrical properties. MAKROLON MG polycarbonate sheet has a 270°F (132°C) heat deflection temperature at 264 psi.

### APPLICATIONS

MAKROLON MG polycarbonate sheet is ideal for use in a wide range of applications where clarity and impact strength is essential. Typical applications for MAKROLON MG polycarbonate sheet include sight glasses, manifolds, insulators, diaphragms, and other machined parts. The product can be used in the medical, electrical, semiconductor, military/government, and other industrial markets.

Typical Physical Properties			
Property	Test Method	Units	MAKROLON
<b>PHYSICAL</b>			
Specific Gravity	ASTM D792	-	1.2
Rockwell Hardness	ASTM D785	-	M70/R118
Water Absorption, Equilibrium, 24 hrs	ASTM D570	%	0.15
<b>MECHANICAL</b>			
Tensile Strength, Yield	ASTM D638	psi	9000
Tensile Strength, Ultimate	ASTM D638	psi	9500
Tensile Modulus	ASTM D638	psi	345000
Flexural Strength	ASTM D790	psi	13500
Flexural Modulus	ASTM D790	psi	345000
Compressive Strength	ASTM D695	psi	12500
Compressive Modulus	ASTM D695	psi	345000
Elongation	ASTM D638	%	110
Poisson's Ratio	-	-	0.38
Shear Strength, @ Yield	ASTM D732	psi	6000
Shear Strength, Ultimate	ASTM D732	psi	10000
Shear Modulus	ASTM D732	psi	114000
<b>THERMAL</b>			
Coefficient of Thermal Expansion	ASTM D696	In/in/F	3.75 x 10 <sup>-5</sup>
Coefficient of Thermal Conductivity	ASTM C177	Btu-in/hr-ft <sup>2</sup> -F	1.35
Heat Deflection Temperature, @ 264 psi	ASTM D648	F	270
Heat Deflection Temperature, @ 66 psi	ASTM D648	F	280
<b>ELECTRICAL</b>			
Dielectric Constant, @ 10 Hz	ASTM D150	-	2.96
Dielectric Constant, @ 60 Hz	ASTM D150	-	3.17
Volume Resistivity	ASTM D257	Ohm-cm	8.2 x 10 <sup>16</sup>
Dissipation Factor, @ 60 Hz	ASTM D150	-	0.0009
Dissipation Factor, @ 1 MHz	ASTM D150	-	0.01
Arc Resistance	ASTM D495	Seconds	
Stainless Steel Strip Electrode			10-11
Tungsten Electrodes			120
Dielectric Strength, in air, 125 mils	ASTM D149	V/mil	380
<b>FLAMMABILITY</b>			
UL 94 @ > or = .375fl	UL 94	-	V0

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