



made of
makrolon[®]
High-tech plastic from Bayer

General Purpose Product Data

MAKROLON[®] GP PRISMATIC P12

MAKROLON[®] GP Prismatic P12

polycarbonate sheet is a proprietary pattern with UV stability and UL 94 V2 rating for gauges greater than .125" in thickness. The prismatic pattern enhances the light transmission (86% ASTM D1003) and offers superb diffusion and hiding power, along with a refractive index of 1.586 (ASTM D542). MAKROLON GP Prismatic P12 polycarbonate sheet is warranted for five years against breakage.

APPLICATIONS

MAKROLON GP Prismatic P12 polycarbonate sheet is used wherever impact resistance, light diffusion, and low flammability are required.

Typical Physical Properties

Property	Test Method	Units	MAKROLON
PHYSICAL			
Specific Gravity	ASTM D792	-	1.2
Refractive Index @ 72°F	ASTM D542	-	1.586
Light Transmission, Clear 1/8"	ASTM D1003	%	86
Light Transmission, Gray/Bronze	ASTM D1003	%	50
Light Transmission, Dark Gray	ASTM D1003	%	18
Rockwell Hardness	ASTM D785	-	M70/R118
Water Absorption, Equilibrium, 24 hrs	ASTM D570	%	0.15
MECHANICAL			
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
Izod Impact Strength, Notched @ 1/8"	ASTM D256	Ft-lbs/in	12-16
Izod Impact Strength, Unnotched @ 1/8"	ASTM D256	Ft-lbs/in	60 (No failure)
Instrumented Impact, 1/8"	ASTM D3763	Ft-lbs	>45
Shear Strength, @ Yield	ASTM D732	psi	6000
Shear Strength, Ultimate	ASTM D732	psi	10000
Shear Modulus	ASTM D732	psi	114000
THERMAL			
Coefficient of Thermal Expansion	ASTM D696	In/in/F	3.75 x 10 ⁻⁵
Coefficient of Thermal Conductivity	ASTM C177	Btu-in/hr-ft ² -F	1.35
Heat Deflection Temperature, @ 264 psi	ASTM D648	F	270
Heat Deflection Temperature, @ 66 psi	ASTM D648	F	280
Brittle Temperature	ASTM D746	F	-200
Shading Coefficient, Clear 1/8"	ASHRAE	-	1.02
Shading Coefficient Gray, Bronze 1/8"	ASHRAE	-	0.7
U Value 1/4" (summer gain, winter loss)	-	-	0.90, 0.96

Sheffield Plastics Inc. will not be responsible for the use of this information relative to actual application. Users must make their own determination of its suitability for their specific application. No warranty is made for the fitness of any product, and nothing herein waives any of the seller's conditions of sale.

Product Data

MAKROLON® GP PRISMATIC 12

Typical Physical Properties			
Property	Test Method	Units	MAKROLON
ELECTRICAL			
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 ¹⁶
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
FLAMMABILITY			
Horizontal Burn, AEB	ASTM D635	Inches	<1
Ignition Temperature, Self	ASTM D1929	F	1070
Ignition Temperature, Flash	ASTM D1929	F	870
UL 94, Clear @ .060"	UL 94	-	V2
UL 94, Clear @ .220"	UL 94	-	V0

For additional information
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