

A chapa de Makrolon<sup>®</sup> GP é uma chapa de policarbonato transparente e resistente aos raios UV. Possui excelente resistência ao impacto, estabilidade dimensional superior, resistência a alta temperatura e alta clareza. É termoformável, leve, fácil de manusear e decorar. Também possui (5) cinco anos de garantia limitada contra quebra.

## CARACTERÍSTICAS

Incrível resistência a impacto  
Excelente estabilidade dimensional  
Resistência aos raios UV  
Resistência a alta temperatura  
Alto nível de transparência  
Baixo peso  
Termoformável  
Garantia de 5 anos contra quebra

## PRINCIPAIS APLICAÇÕES

Vidros industriais  
Guardas de máquinas  
Peças estruturais  
Componentes termoformados

## FORMATO

Chapas

## COR

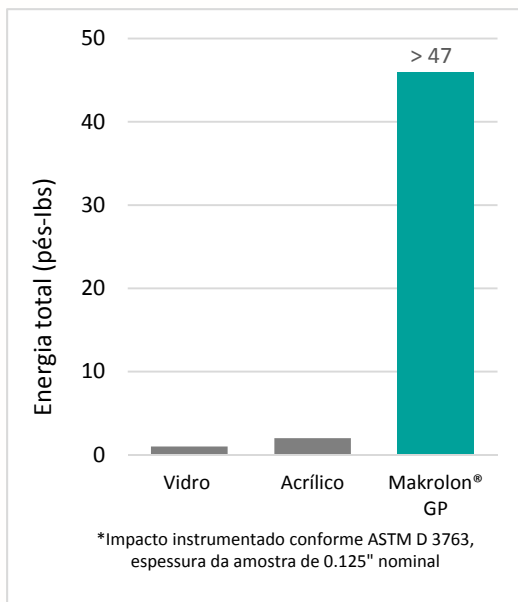
Cristal

## BOLETIM TÉCNICO

Typical Properties			
Property	Test Method	Units	Values
<b>PHYSICAL</b>			
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
<b>MECHANICAL</b>			
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	>47
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
<b>THERMAL</b>			
Coefficient of Thermal Expansion	ASTM D 696	in/in/°F	3.75 x 10 <sup>-5</sup>
Coefficient of Thermal Conductivity	ASTM C 177	BTU·in/hr·ft <sup>2</sup> ·°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 <sup>2</sup> ·°F	0.85, 0.92
U factor @ 0.375" (summer, winter)	NFRC 100-2010	BTU/hr·ft <sup>2</sup> ·°F	0.78, 0.85
<b>ELECTRICAL</b>			
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 <sup>18</sup>
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
<b>FLAMMABILITY</b>			
Horizontal Burn, AEB	ASTM D 635	in	<1
Ignition Temperature, Self	ASTM D 1929	°F	1022
Ignition Temperature, Flash	ASTM D 1929	°F	824
Flame Class @ 0.060"	UL 94	-	HB

### Resistência a impacto\*



### Resistência ao clima UV

Property		Polycarbonate	Acrylic	Glass
Impact Resistance	Drop Ball Test, 0.5 lb	No Break	1.75 ft•lbs	0.7 ft•lbs
Cold Bend	Bend Radius	100x material thickness	180x material thickness	Not possible
Sheet Weight	0.125"	0.78 lb/ft <sup>2</sup>	0.75 lb/ft <sup>2</sup>	1.60 lbs/ft <sup>2</sup>
Thermal Expansion Rate	-	3.75 x 10 <sup>-5</sup> in/in/°F	4.10 x 10 <sup>-5</sup> in/in/°F	5.0 x 10 <sup>-6</sup> in/in/°F
Shading Coefficient	0.236" clear sheet	0.97	1.01	1.03
U Factor – Summer	0.236"	0.85 BTU/hr•ft <sup>2</sup> •°F	0.83 BTU/hr•ft <sup>2</sup> •°F	0.92 BTU/hr•ft <sup>2</sup> •°F
U Factor – Winter		0.92 BTU/hr•ft <sup>2</sup> •°F	0.91 BTU/hr•ft <sup>2</sup> •°F	1.02 BTU/hr•ft <sup>2</sup> •°F
Sound Transmission Class	0.236"	29	30	27

### Regulatory code compliance and certifications:

ICC-ES Evaluation Report ESR-2728

Miami-Dade NOA #12-0605.05

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

### NOTA

\*Este boletim técnico pode ser alterado sem aviso prévio.

\*\*As informações contidas nesse documento são de responsabilidade do fabricante.