

Makrolon® Solid Sheet GP

Polycarbonate

Covestro - Polycarbonates

Message:

Solid Makrolon® sheets are clear, polished, UV-stabilized polycarbonate sheets. They offer extreme impact strength that exceeds the physical properties of other products of their class. Makrolon® sheets resist temperatures of -100 to +120°C, exhibit high optical clarity and have a good fire rating.

Makrolon® GP clear 099 is a clear transparent sheet with high light transmission.

Makrolon® NR clear 099 is a transparent sheet with a matt finish and improved UV resistance on one side.

Makrolon® GP white 130 and white 150 are translucent sheets offering good light diffusion combined with a pleasant white color.

Makrolon® GP umbra 775 sheets are brown-colored and transparent.

Makrolon® FG clear 099 is a clear transparent sheet suitable for food-contact and medical applications.

Applications:

Typical applications for Makrolon® GP sheets include machine guards, lighting fixtures, signs, wall and door partitions. The sheets offer protection against involuntary breakage and wilfull destruction. Makrolon® GP sheets can be thermoformed, cold-curved and machined with ease.

General Information			
UL YellowCard	E351891-101049031	E351891-101049032	
Additive	UV stabilizer		
Features	UV Stabilized		
	Impact resistance, high		
	Definition, high		
Uses	Lighting device		
Appearance	White		
	Brown		
	Clear/transparent		
Forms	Sheet		
Processing Method	Machining		
	Thermoforming		

Physical	Nominal Value	Unit	Test Method
Density	1.20	g/cm ³	ISO 1183
Water Absorption			ISO 62
Saturated, 23°C	0.30	%	ISO 62
Equilibrium, 23°C, 50% RH	0.12	%	ISO 62

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2350	MPa	ISO 527-2/1
Tensile Stress (Yield)	> 60.0	MPa	ISO 527-2/50
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Nominal Tensile Strain at Break	> 50	%	ISO 527-2/50
Flexural Modulus ¹	2350	MPa	ISO 178
Flexural Stress ²	90.0	MPa	ISO 178

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ³ (23°C, Partial Break)	80	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break		ISO 179/1eU
Notched Izod Impact ⁴ (23°C, Partial Break)	90	kJ/m ²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	140	°C	ISO 75-2/B
1.8 MPa, not annealed	128	°C	ISO 75-2/A
Vicat Softening Temperature	148	°C	ISO 306/B50
CLTE - Flow (23 to 55°C)	6.5E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity (23°C)	0.20	W/m/K	ISO 8302
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Dielectric Strength (1.00 mm)	34	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.10		IEC 60250
1 MHz	3.00		IEC 60250
Dissipation Factor			ASTM D150
100 Hz	5.0E-4		ASTM D150
1 MHz	9.5E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
> 1.5 mm, ALL	HB		UL 94
0.8 to 1.4mm, ALL	V-2		UL 94
> 10.0 mm, Clear 009	V-0		UL 94
Optical	Nominal Value		Test Method
Refractive Index ⁵	1.587		ISO 489
NOTE			
1.	2.0 mm/min		
2.	2.0 mm/min		
3.	3 mm		
4.	3.2 mm		
5.	Method A		

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

