

Makrolon® Solid Sheet UV

Polycarbonate

Covestro - Polycarbonates

Message:

Makrolon® UV sheets are made from clear-transparent polycarbonate sheets with UV protection on both sides. They are the perfect choice for a long service life owing to their good weathering resistance. These attributes are backed up by our 10-year guarantee on weathering resistance and a 10-year guarantee on retaining their mechanical properties.

Applications:

Makrolon® UV is ideal for outdoor applications:

covered walkways and bus shelters

barrel vaults and skylights (also thermoformed)

General Information			
UL YellowCard	E351891-101049033	E351891-101049034	
Features	Good weather resistance		
Appearance	White		
	Brown		
	Grey		
	Blue		
	Green		
	Clear/transparent		
Forms	Sheet		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Density	1.20	g/cm³	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/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break		ISO 179/1eU
Notched Izod Impact ⁴ (23°C, Partial Break)	90	kJ/m²	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 2099	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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