



# Makrolon® UV sheet

## Extended UV resistance

Makrolon® UV sheet is a transparent polycarbonate product with an advanced UV resistance technology that assures long lasting outdoor weathering performance in flat and curved glazing applications. It has higher impact resistance than acrylic and glass, and it can be cold-formed during installation. Makrolon UV is produced with high optical quality and minimal distortion in clear, a range of standard architectural tints, or can be custom matched to any color. Makrolon UV has a ten (10) year Limited Product Warranty against breakage, yellowing, and loss of light transmission. The terms of the warranty are available upon request.

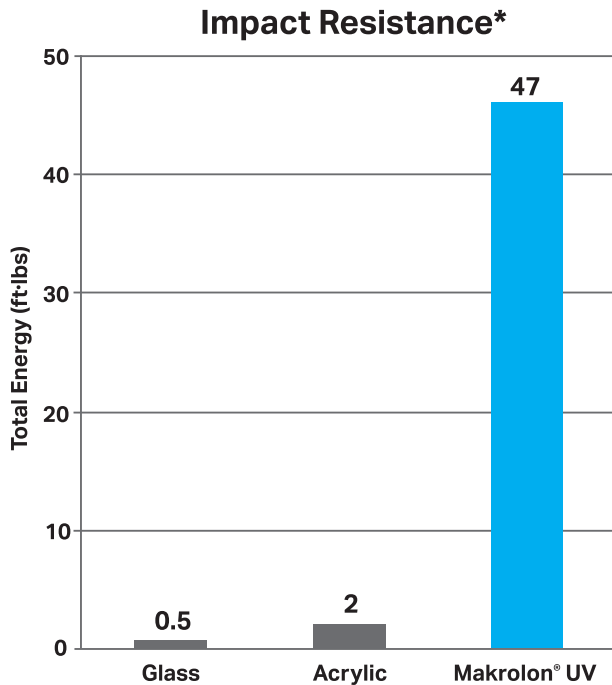
## Applications

Awnings, entryway canopies, skylights, barrel vaults, glazed archways, covered pedestrian walkways, and sloped, vertical, and curved glazing

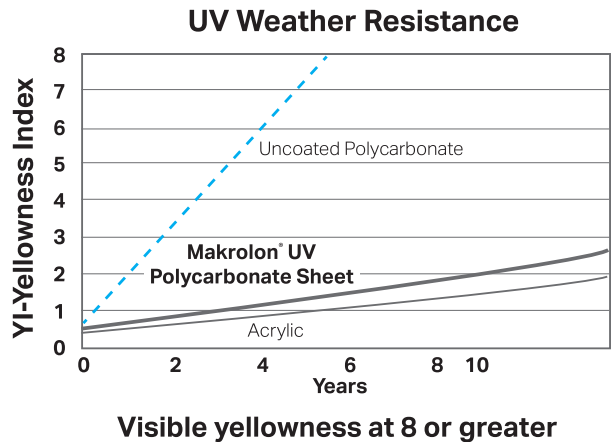
Typical Properties*			
Property	Test Method	Units	Values
<b>PHYSICAL</b>			
Specific Gravity	ASTM D 792	–	1.2
Refractive Index	ASTM D 542	–	1.586
Light Transmission, Clear @ 0.118"	ASTM D 1003	%	86
Light Transmission, I30 Gray @ 0.118"	ASTM D 1003	%	50
Light Transmission, K09 Bronze @ 0.118"	ASTM D 1003	%	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	16
Izod Impact Strength, Unnotched @ 0.125"	ASTM D 256	ft-lbs/in	60 (no break)
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>16</sup>
Dissipation Factor @ 60 Hz	ASTM D 150	–	0.0009
Arc Resistance	–	–	–
Stainless Steel Strip Electrodes	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

\*Typical properties are not intended for specification purposes

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\*Instrumented Impact per ASTM D 3763, sample thickness is 0.125" nominal



## Regulatory code compliance and certifications

ANSI Z97.1-2009: American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test, Class A, Unlimited

CPSC 16 CFR 1201 Category I and Category II: Safety Standard for Architectural Glazing Materials

Florida Building Code 2014  
High Velocity Hurricane Zone Classified  
Miami-Dade NOA No. 17-0410.01

ICC-ES Evaluation Report ESR-2728

UL 94: Flammability File #E351891

UL 972: Burglary Resistant Glazing Materials, UL File #BP2126

UL 746C: Suitability for Outdoor Use, UL File #351891



119 Salisbury Road  
Sheffield, MA 01257  
Toll Free: 800.254.1707  
Fax: 800.457.3553  
sfdinfo@covestro.com  
sheets.covestro.com

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With respect to health, safety and environment precautions, the relevant Safety Data Sheets (SDS) and product labels must be observed prior to working with our products.