



Makrolon® AL sheet

Automotive lamination

Makrolon AL sheet is a one side hard coated polycarbonate product designed to meet the high optical quality requirements of automotive laminates. State-of-the-art manufacturing and inspection processes ensure minimal inclusions and surface defects. The advanced hard coat technology significantly enhances the abrasion resistance, chemical resistance, and weathering properties of the product while maintaining the excellent impact performance of Makrolon polycarbonate.

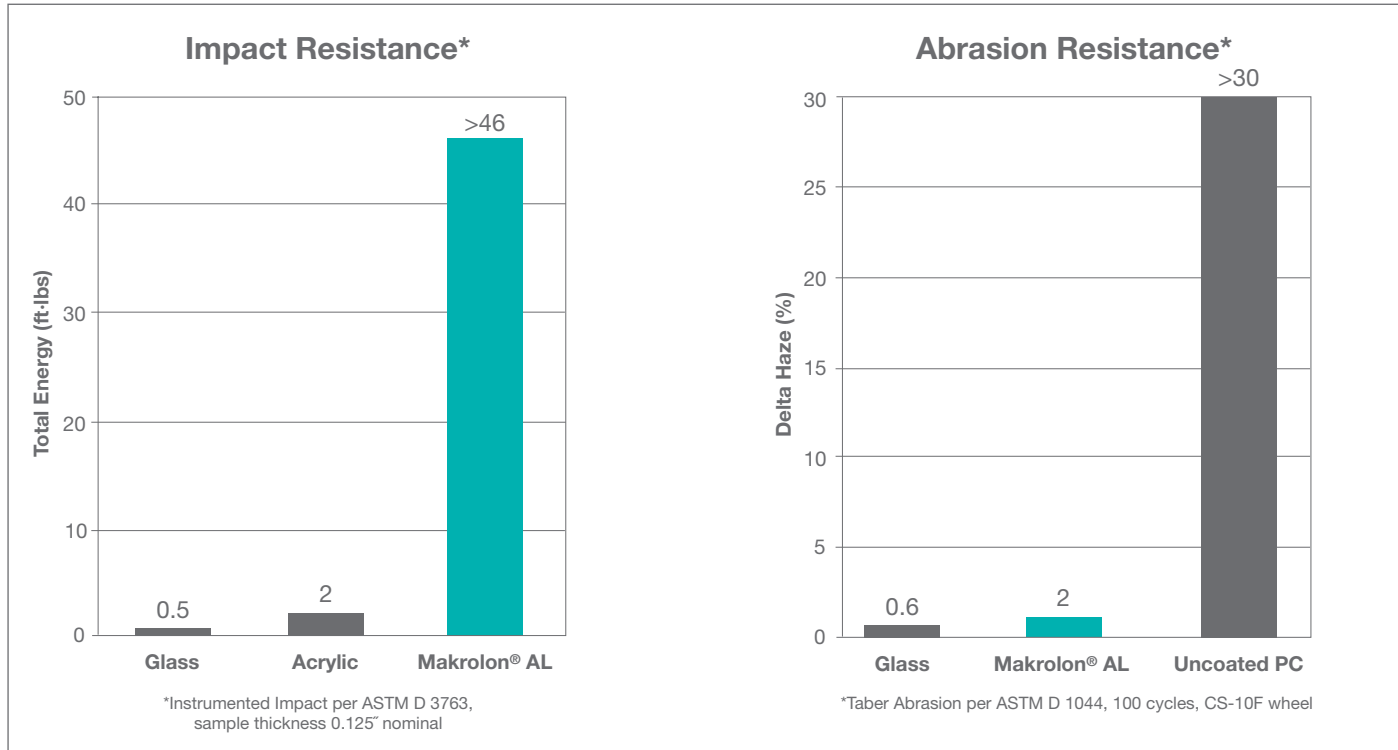
Applications

Automotive laminates

Typical Properties*				
Property	Test Method	Units	Values	
PHYSICAL				
Specific Gravity	ASTM D 792	-	1.2	
Refractive Index	ASTM D 542	-	1.586	
Light Transmission, Clear @ 0.125"	ASTM D 1003	%	86	
Water Absorption, 24 hours	ASTM D 570	%	0.15	
Poisson's Ratio	ASTM E 132	-	0.38	
MECHANICAL				
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	>46	
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	
THERMAL				
Coefficient of Thermal Expansion	ASTM D 696	in/in/°F	3.75 x 10 ⁻⁵	
Coefficient of Thermal Conductivity	ASTM C 177	BTU·in/hr·ft ² ·°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	

*Typical properties are not intended for specification purposes.

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Bayer MaterialScience

Bayer MaterialScience
119 Salisbury Road
Sheffield, MA 01257
Toll Free: 800.254.1707
Fax: 800.457.3553
info@sheffieldplastics.com
www.sheffieldplastics.com

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