



MAKROLON® AR

MAKROLON® AR polycarbonate sheet is an abrasion and enhanced UV resistant sheet that offers glass-like surface hardness coupled with the impact strength of polycarbonate. Additionally, MAKROLON AR polycarbonate sheet offers enhanced resistance from yellowing and hazing for longer service life in high profile architectural glazing.

APPLICATIONS

Typical applications for MAKROLON AR polycarbonate sheet include school, hospital and bus shelter glazing, and is also used extensively in correctional and psychiatric facilities. MAKROLON AR polycarbonate sheet also performs well for view windows and machine guards in harsh chemical environments. However, due to its abrasion-resistant coating, MAKROLON AR polycarbonate sheet cannot be formed like MAKROLON GP and SL polycarbonate sheets.

Typical Physical Properties

| Property | Test Method | Units | MAKROLON |
|--|-------------|-----------|-------------------------|
| PHYSICAL | | | |
| Specific Gravity | ASTM D792 | - | 1.2 |
| Light Transmission, Clear 1/8fl | ASTM D1003 | % | 86 |
| Light Transmission, Gray/Bronze | ASTM D1003 | % | 50 |
| Chemical Resistance | ANSI Z26.1 | - | pass |
| Taber Abrasion, 100 Cycles CS10F, Delta Haze | ASTM D1044 | % | 1-2 |
| MECHANICAL | | | |
| Tensile Strength, Ultimate | ASTM D638 | psi | 9,500 |
| Flexural Strength | ASTM D790 | psi | 13,500 |
| Compressive Strength | ASTM D695 | psi | 12,500 |
| Modulus of Elasticity | ASTM D638 | psi | 340,000 |
| Poisson's Ratio | - | - | 0.38 |
| Izod Impact Strength, Notched @ 1/8fl | ASTM D256 | Ft-lbs/in | 12-16 |
| Izod Impact Strength, Unnotched @ 1/8fl | ASTM D256 | Ft-lbs/in | 60 (No failure) |
| Instrumented Impact, 1/8fl | ASTM D3763 | Ft-lbs | >45 |
| THERMAL | | | |
| Coefficient of Thermal Expansion | ASTM D696 | In/in/F | 3.75 x 10 ⁻⁵ |
| Heat Deflection Temperature, @ 264 psi | ASTM D648 | F | 270 |
| Heat Deflection Temperature, @ 66 psi | ASTM D648 | F | 280 |
| ELECTRICAL | | | |
| Dielectric Constant, @ 10 Hz | ASTM D150 | - | 2.96 |
| Dielectric Constant, @ 60 Hz | ASTM D150 | - | 3.17 |
| Volume Resistivity | ASTM D257 | Ohm-cm | 8.2 x 10 ¹⁶ |
| Dissipation Factor, @ 60 Hz | ASTM D150 | - | 0.0009 |
| Dissipation Factor, @ 1 MHz | ASTM D150 | - | 0.01 |
| Arc Resistance | ASTM D495 | Seconds | |
| Stainless Steel Strip Electrode | | | 10-11 |
| Tungsten Electrodes | | | 120 |
| Dielectric Strength, in air, 125 mils | ASTM D149 | V/mil | 380 |
| FLAMMABILITY | | | |
| Horizontal Burn, AEB | ASTM D635 | Inches | <1 |
| Ignition Temperature, Self | ASTM D1929 | F | 1070 |
| Ignition Temperature, Flash | ASTM D1929 | F | 870 |
| UL 94, Clear @ .060fl | UL 94 | - | HB |
| UL 94, Clear @ .118fl | UL 94 | - | V1 |

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