

Clear Polycarbonate

Description:

This material is a polished surface, UV stabilized, transparent polycarbonate. It features outstanding impact strength, superior dimensional stability, high temperature resistance, and high clarity.

Typical Physical Properties

Physical Property	Test Method	Typical Results
Specific Gravity	ASTM D792	1.2
Refractive Index	ASTM D542	1.586
Light Transmission @ 0.118"	ASTM D1003	86%
Water Absorption, 24 hrs	ASTM D570	0.15%
Poisson's Ratio	ASTM E132	0.38
Tensile Strength, Ultimate	ASTM D638	9,500 psi
Tensile Strength, Yield	ASTM D638	9,000 psi
Tensile Modulus	ASTM D638	340,000 psi
Elongation	ASTM D638	110%
Flexural Strength	ASTM D790	13,500 psi
Flexural Modulus	ASTM D790	345,000 psi
Compressive Strength	ASTM D695	12,500 psi
Compressive Modulus	ASTM D695	345,000 psi
Izod Impact Strength, Notched @ 0.125"	ASTM D256	18 ft·lbs/in
Izod Impact Strength, Unnotched @ 0.125"	ASTM D256	60 ft·lbs/in No failure
Instrumented Impact @ 0.125"	ASTM D3763	>47 ft·lbs
Shear Strength, Ultimate	ASTM D732	10,000 psi
Shear Strength, Yield	ASTM D732	6,000 psi
Shear Modulus	ASTM D732	114,000 psi
Rockwell Hardness	ASTM D785	M70/R118
Coefficient of Thermal Expansion	ASTM D696	3.75×10^{-5} in/in/°F
Coefficient of Thermal Conductivity	ASTM C177	1.35 BTU·in/hr·ft ² ·°F
Heat Deflection Temperature @ 264 psi	ASTM D648	270°F
Heat Deflection Temperature @ 66 psi	ASTM D648	280°F
Brittleness Temperature	ASTM D746	-200°F
Shading Coefficient, clear @ 0.236"	NFRC 100-2010	0.97
U factor @ 0.236" (summer, winter)	NFRC 100-2010	0.85, 0.92 BTU/hr·ft ² ·°F
U factor @ 0.375" (summer, winter)	NFRC 100-2010	0.78, 0.85 BTU/hr·ft ² ·°F
Dielectric Constant @ 10 Hz	ASTM D150	2.96
Dielectric Constant @ 60 Hz	ASTM D150	3.17
Volume Resistivity	ASTM D257	8.2×10^{16} Ohm·cm



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Physical Property	Test Method	Typical Results
Dissipation Factor @ 60 Hz	ASTM D150	0.0009
Arc Resistance <i>Stainless Steel Strip Electrode</i> <i>Tungsten Electrodes</i>	ASTM D495	10 seconds 120 seconds
Dielectric Strength, in air @ 0.125"	ASTM D149	380 V/mil
Horizontal Burn, AEB	ASTM D635	<1 in
Ignition Temperature, Self	ASTM D1929	1022°F
Ignition Temperature, Flash	ASTM D1929	824°F
Flame Class @ 0.060" @ 0.394"	UL94	HB V-0

Regulatory Code Compliance and Certifications

ICC-ES Evaluation Report ESR-2728
Miami-Dade NOA #12-0605.05
CPSC 16 CFR 1201 Category I and Category II: Safety Standard for Architectural Glazing Materials
ANSI Z97.1-2004: American National Standard for Safety Glazing Materials Used in Buildings Safety Performance Specifications and Methods of Test. Class A
UL 972: Burglary Resistant Glazing Materials, UL File #BP2126
UL 94: Flammability, UL File #E351891

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