IlluminPC™ - POLYCARBONATE MULTI-WALL SYSTEM DATA SHEET

Information for 40mm Systems

TEST DESCRIPTION	TEST METHOD	RESULTS & COMMENTS
FLAMMABILITY		
Flame Spread/Smoke Development		
40mm Polycarbonate Multi-wall Sheet	ASTM E-84 UL 723, ANSI/NFPA #255	Flame Spread: <25 Smoke Development: <450
2015 INTERNATIONAL BLDG. CODE REQUIREMENTS	Section 2606.4 Section 2606.4	Flame Spread: No Requirement Smoke Development: <450
Burn Extent		
40mm Polycarbonate Multi-wall Sheet	ASTM D-635	CC1 - less than 1.0 inch
2015 INTERNATIONAL BLDG. CODE REQUIREMENTS	Section 2606.4	Material shall have a CC1 or CC2 classification
Self-Ignition		
40mm Polycarbonate Multi-wall Sheet	ASTM D-1929	Flash Ignition: 986°F (530°C)
2015 INTERNATIONAL BLDG. CODE REQUIREMENTS	Section 2606.4	Self-ignition temperature greater than 650°F
Surface Burning Characteristics		
40mm Polycarbonate Multi-wall Sheet **NATIONAL BUILDING CODE OF CANADA**	CAN/ULC S102.2-10	Flame Spread Rating: 25 Smoke Developed Classification: 300
IMPACT & LOADING		
Impact Strength – 40mm Polycarbonate Multi-wall Sheet		
Izod Impact Strength	ASTM D-256	.937-18.3 ft lb/in/in (0.5-9.77 J/cm) of notch
Tensile Strength – Yield / Ultimate	ASTM D-638	8,500-10,200 psi / 7,830-10,400 psi
Tensile Modulus	ASTM D-638	232-348 ksi
Flexural Yield Strength	ASTM D-790	10,900-16,000 psi
Flexural Modulus	ASTM D-790	261-600 ksi
Wall System	ASTM E-330	Combined Max Deflection: <1”
AAMA/WDMA/CSA 101/I.S.2/A440-05 REQ. - Section 5.3.4.3 - There shall be no permanent deformation in excess of 0.2% for Architectural Class Products.		
AIR / WATER TESTING		
Air Infiltration		
Wall System	ASTM E-283	0.02 cfm/ft^2 @ 6.24psf
AAMA/WDMA/CSA 101/I.S.2/A440-05 REQ. - Section 5.3.2.1 & Table 6 - Maximum allowable air leakage rate no greater than 0.1 cfm/ft^2.		
Water Penetration		
Wall System	ASTM E-331	No Water Penetration @ 12psf
AAMA/WDMA/CSA 101/I.S.2/A440-05 REQ. - Section 5.3.3.2 - At no time during the duration of test shall water penetrate the inner plane of the test specimen.		
WEATHERING		
Color Difference		
40mm Polycarbonate Multi-wall Sheet	ASTM D-1925	ΔE = 10 after 10 years
** The exterior surface of the panel is co-extruded with high-performance UV-absorbing polycarbonate to ensure excellent protection against ultra-violet rays, hail and accidental impacts even after prolonged exposure to sunlight.		

LIGHT TRANSMISSION & THERMAL PERFORMANCE DATA - SHEET COLOR

Light Transmission (%)	**Crystal**	**Opal (White)**
40mm Polycarbonate Multi-wall (%)	67	44
Solar Heat Gain Coefficient – Center of Panel / Thermally Broken System		
40mm Polycarbonate Multi-wall	.68 / .35	.45 / .31
SHGC values are for comparative analysis and are determined using NFRC 200-2014 methods and standards.		
***Additional sheet colors available, including dual-color panels. Please contact Major Industries, Inc. for details.*		

U-factor – Panel Value
40mm Polycarbonate Multi-wall Panel - .19
U-factor – Thermally Broken System Value
40mm System - .34
CRF / CR – System Value
40mm Polycarbonate Multi-wall (CRF / CR) – 64 / 50

NOTE: All information is based on testing as reported by independent test agencies. Major Industries, Inc. strives to create the most advanced product in the daylighting industry. As a result, products, materials and test results are subject to change without notice. Values may also vary with custom system configurations. Please contact Major Industries, Inc. with any questions.

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