Material: Scratch Resistant Polycarbonate Sheet

Notes: The table depicting the typical properties of MAXISHIELD ballistic core appears below. Note that some of the displayed properties are typical to polycarbonate (the material MAXISHIELD ballistic core is made of) while others relate to typical 3mm thick polycarbonate.
Test results are supplied by manufacturer of the material used to make MAXISHIELD
Conditions, units and values in U.S. Customary units are presented in the table within parentheses. All the results depicted in this table were obtained by following the indicated ASTM method except where another method is indicated by the appearance of this symbol (b).

Property	Conditions (U.S. Customary)	ASTM Method	Units - SI (U.S. Customary)	Value (U.S. Customary)
Physical				
Density		D-1505	g/cm^3 (lb/ft^3)	1.2 (75)
Water Absorption	24 hr. @ 23°C	D-570	%	0.15
Mechanical				
Tensile strength at yield	10 mm/min (0.4 in./min)	D-638	MPa (psi)	62 (9,000)
Tensile strength at break	10 mm/min (0.4 in./min)	D-638	MPa (psi)	65 (9500)
Elongation at yield	10 mm/min (0.4 in./min)	D-638	%	6
Elongation at break	10 mm/min (0.4 in./min)	D-638	%	110
Tensile Modulus of Elasticity	10 mm/min (0.4 in. /min)	D-638	MPa (psi)	2,378 (345,000)
Flexural Modulus	1.3 mm/min (0.05 in./min)	D-790	MPa (psi)	2,378 (345,000)
Flexural Strength at Yield	1.3 mm/min (0.05 in./min)	D-790	MPa (psi)	93 (13,500)
Notch Impact Strength Izod	23°C (73°F)	D-256	J/m (ft·lbf/in.)	800 (15)
Notch Impact Strength Charpy	23°C (73°F)	D-256	J/m (ft·lbf/in)	800 (15)
Impact Falling Weight	3 mm (0.12 in.) Sheet	ISO-6603/1b	J (ft·lbf)	158 (117)
Rockwell Hardness		D-785	R scale / M scale	125 / 70
Abrasion (Taber Process)	100 Cycles, CS-10F Wheel, 500g	D-1044	% Haze	<4.0
Compressive Strength	1.3 mm/min (.05 in./min)	D-695	MPa (psi)	86 (12,500)
Compressive Modulus	1.3 mm/min (.05 in./min)	D-695	MPa (psi)	2378 (345,000)
Shear strength at Yield	1.3 mm/min (.05 in./min)	D-732	MPa (psi)	41 (6000)
Shear strength at Break	1.3 mm/min (.05 in./min)	D-732	MPa (psi)	68 (10,000)
Shear Modulus	1.3 mm/min (.05 in./min)	D-732	MPa (psi)	786 (114,000)
Thermal				
Long Term Service Temperature			°C (°F)	-75 to +100 (-175 to +212)
Short Term Service Temperature			°C (°F)	-75 to +120 (-175 to +250)
Heat Deflection Temperature	Load: 1.82 Mpa (264 psi)	D-648	°C (°F)	132 (270)
Vicat Softening Temperature	Load: 1 kg (2.2 lb)	D-1525	°C (°F)	150 (300)
Coefficient of Linear Thermal Expansion		D-696	10^{-5}/°C (10^{-5}/°F)	6.5 (3.6)
Thermal Conductivity		C-177	W/m°K (Btu-in./hr-ft^2-°F)	0.21 (1.46)
Specific Heat Capacity		C-351	kJ/kg°K (Btu/lb°F)	1.26 (0.31)
Optical				
Haze	3 mm (0.12 in.) Clear Sheet	D-1003	%	<0.5
Light Transmission	3 mm (0.12 in.) Clear Sheet	D-1003	%	89
Refractive Index	Clear Sheet	D-542		1.59
Yellowness Index	3 mm (0.12 in.) Clear Sheet	D-1925		<1
Electrical				
Dielectric Constant	50 Hz	D-150		3
	1 MHz	D-150		2.9
Dissipation Factor	50 Hz	D-150		0.9
	1 MHz	D-150		11
Dielectric Strength Short Time	500 V/s	D-149	kV/mm (V/mil)	>30 (>770)
Surface Resistance	Ketley	D-257	Ohm	$5.1x10^{15}$
Volume Resistance	Ketley	D-257	Ohm-cm	$1.3x10^{17}$

Also complies with :
AS/NZS 1530.3-1999
Methods for Fire Tests on Building Materials, Components and Structures Part 3: Simultaneous Determination of Ignitability, Flame Propagation, Heat Release and Smoke Release

AS/NZS 2343:1997
Bullet - resistant Panels and elements
12mm thick MAXISHIELD obsorbs .22LR Calibar at 2 meters