TUFFAK®

PLASKOLITE

TUFFAK OP polycarbonate sheet

OPTICAL QUALITY

TUFFAK OP sheet is a polished surface, UV stabilized, transparent polycarbonate product. Designed for use in applications requiring improved optical quality, it features outstanding impact strength, superior dimensional stability, high temperature resistance, and high clarity. This lightweight thermoformable sheet is also easy to fabricate and decorate. TUFFAK OP sheet is offered with a five (5) year Limited Product Warranty against breakage. The terms of the warranty are available upon request.

APPLICATIONS

Recreational vehicle windscreens, face shields, 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 @ 0.118″	ASTM D 1003	%	88
Light Transmission, I30 Gray @ 0.118″	ASTM D 1003	%	50
Light Transmission, K09 Bronze @ 0.118″	ASTM D 1003	%	50
Light Transmission, I35 Dark Gray @ 0.118″	ASTM D 1003	%	18
Water Absorption, 24 hours @ 73°F	ASTM D 570	%	0.15
Poisson's Ratio	ASTM E 132	–	0.38
MECHANICAL			
Tensile Strength, Break	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 break)
Instrumented Impact @ 0.125″	ASTM D 3763	ft·lbs	47
Shear Strength, Break	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·ft2·°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
Shading Coefficient, Clear @ 0.236″	NFRC 100-2010	–	0.97
Shading Coefficient, Gray or Bronze @ 0.236″	NFRC 100-2010	–	0.77
U factor @ 0.236″ (summer, winter)	NFRC 100-2010	BTU/hr·ft2·°F	0.85, 0.92
U factor @ 0.375″ (summer, winter)	NFRC 100-2010	BTU/hr·ft2·°F	0.78, 0.85
FLAMMABILITY			
Ignition Temperature, Self	ASTM D 1929	°F	1022
Ignition Temperature, Flash	ASTM D 1929	°F	824
Flame Class @ 0.060″	UL 94	–	HB
Flame Class @ 0.394″	UL 94	–	V-0

*Typical properties are not intended for specification purposes

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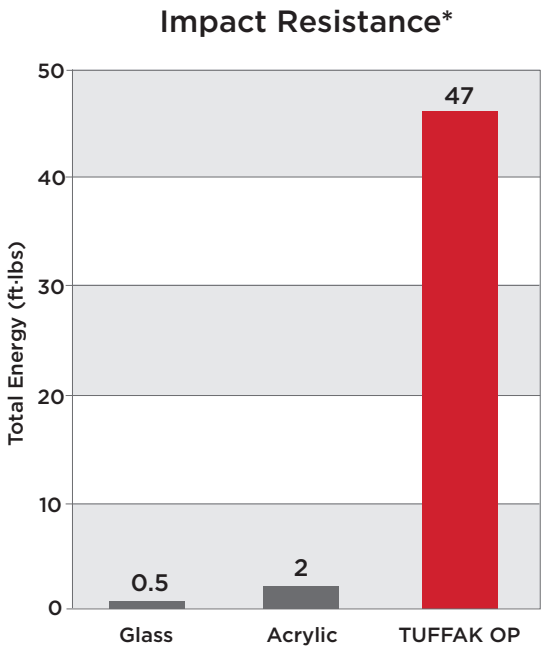

*Instrumented Impact per ASTM D 3763, sample thickness 0.125˝ nominal

Agency and specification compliance

Architectural Flat Glass Clad polycarbonate	ASTM C 1349	Appendix X1 Type 1
Polycarbonate sheet classification	A-A-59502	Type 1 Class 1
Polycarbonate resin classification	ATSM D 3935	PC0136
Flammability - Plastic component	UL 94	UL File #E351891
Suitability - Plastic component	UL 746C	UL File #E351891

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