

TUFFAK FI POLYCARBONATE SHEET

FLAME INHIBITING

TUFFAK FI sheet is a flame retardant, non-UV stabilized, clear polycarbonate product with a UL 94 V-0 rating at 1.52 mm and UL 94 5VA rating at 3.0mm. It features high impact strength, superior dimensional stability, high temperature resistance, and high clarity. This lightweight thermoformable sheet is also easy to fabricate and decorate.

APPLICATIONS

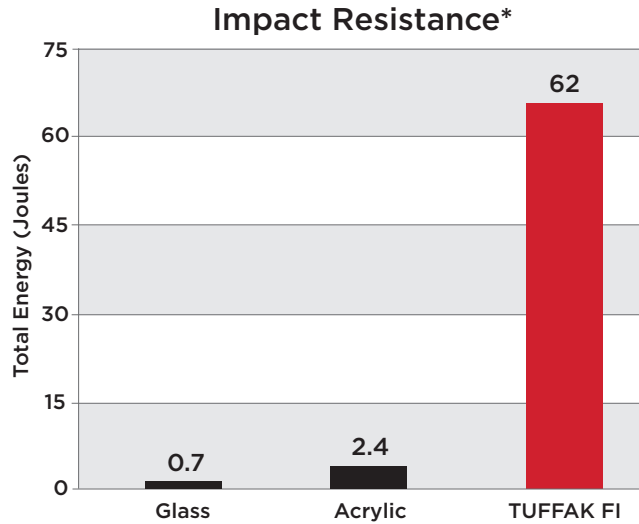
Electrical devices, equipment housings, switchgear covers, light fixtures

TYPICAL METRIC PROPERTIES*

Property	Test Method	Units	Values
PHYSICAL			
Specific Gravity	ASTM D 792	-	1.25
Light Transmission, Clear @ 3.0mm	ASTM D 1003	%	86
Water Absorption, 24 hours @ 23°C	ASTM D 570	%	0.15
Poisson's Ratio	ASTM E 132	-	0.38
MECHANICAL			
Tensile Strength, Break	ASTM D 638	MPa	66
Tensile Strength, Yield	ASTM D 638i	MPa	62
Tensile Modulus	ASTM D 638	MPa	2340
Flexural Strength	ASTM D 790	MPa	93
Compressive Strength	ASTM D 695	MPa	86
Izod Impact Strength, Notched @ 3.18mm	ASTM D 256	J/cm	1.07
Izod Impact Strength, Unnotched @ 3.18mm	ASTM D 256	J/cm	32 (no break)
Instrumented Impact @ 3.18mm	ASTM D 3763	J	62
THERMAL			
Coefficient of Thermal Expansion	ASTM D 696	cm/cm/°C	6.8 x 10 ⁻⁵
Heat Deflection Temperature @ 1.82 MPa	ASTM D 648	°C	132
Heat Deflection Temperature @ 0.46 MPa	ASTM D 648	°C	139
ELECTRICAL			
Dielectric Constant @ 10 Hz	ASTM D 150	-	2.96
Dielectric Constant @ 60 Hz	ASTM D 150	-	3.17
Volume Resistivity	ASTM D 257	Ohm-cm	8.2 x 10 ¹⁶
Dissipation Factor @ 60 Hz	ASTM D 150	-	0.0009
Arc Resistance	-	-	-
Stainless Steel Strip electrode	ASTM D 495	Seconds	10
Tungsten Electrodes	ASTM D 495	Seconds	120
Dielectric Strength, in air @ 3.18mm	ASTM D 149	V/mm	15000
FLAMMABILITY			
Flame Class @ 1.52mm	UL 94	-	V-0
Flame Class @ 3.0mm	UL 94	-	5VA
FAA Flammability	FAR 25.853		
@ 1.52mm - 3.18mm	Part 1, a (i) - 60 sec	-	Pass
@ 1.52mm - 3.18mm	Part 1, a (ii) - 12 sec	-	Pass

*Typical properties are not intended for specification purposes

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*Instrumented Impact per ASTM D 3763, sample thickness 3.2mm nominal

Regulatory code compliance and certifications

Polycarbonate sheet classification	A-A-59502	Type II Class 2
Polycarbonate resin classification	ASTM D 3935	PC0120
Flammability - Plastic component	UL 94	UL File #E87887
Flammability - FAA	FAR 25.853	Part 1 60-second and 12-second

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These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determines the suitability of our materials and suggestions before adopting them on a commercial scale.

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PDS331_TUF_FI_Metric