

## TUFFAK FC polycarbonate sheet

### FORMABLE HARDCOAT

TUFFAK FC is a transparent polycarbonate sheet that has a formable coating on both sides. This abrasion resistant product can be cold formed or drape formed and is suitable for exterior applications. TUFFAK FC has excellent resistance to damage from windborne debris and has outstanding impact strength. This product complies with ANSI Z26.1 Item AS-6 which covers transportation glazing applications.

### APPLICATIONS

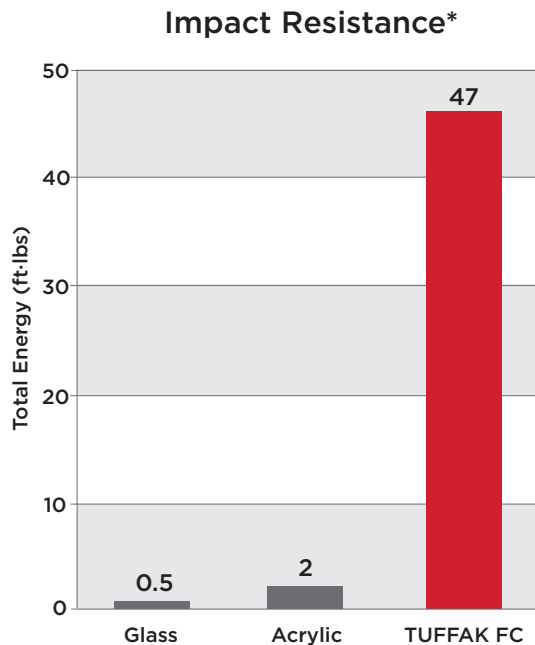
Formed industrial applications, face shields, recreational vehicle windscreens

### Typical Properties\*

Property	Test Method	Units	Values
<b>PHYSICAL</b>			
Specific Gravity	ASTM D 792	-	1.2
Light Transmission, Clear @ 0.118"	ASTM D 1003	%	86
Chemical Resistance	ANSI Z26.1	-	Pass
Taber Resistance @ 100 Cycles, Delta Haze CS-10F Wheel @ 500 gm load	ASTM D 1044	%	4
<b>MECHANICAL</b>			
Tensile Strength, Ultimate	ASTM D 638	psi	9,500
Flexural Strength	ASTM D 790	psi	13,500
Compressive Strength	ASTM D 695	psi	12,500
Flexural Modulus	ASTM D 790	psi	345,000
Instrumented Impact @ 0.125"	ASTM D 3763	ft-lbs	47
<b>THERMAL</b>			
Coefficient of Thermal Expansion	ASTM D 696	in/in/°F	3.75 x 10 <sup>-5</sup>
Heat Deflection Temperature @ 264 psi	ASTM D 648	°F	270
Heat Deflection Temperature @ 66 psi	ASTM D 648	°F	280

\*Typical properties are not intended for specification purposes

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

## Standard Products Comparison

Property		Polycarbonate	Acrylic	Glass
Impact Resistance	Drop Ball Test, 0.5 lb	No Break	1.75 ft-lbs	0.7 ft-lbs
Cold Bend	Bend Radius	100x material thickness	180x material thickness	Not possible
Sheet Weight	0.125"	0.78 lb/ft <sup>2</sup>	0.75 lb/ft <sup>2</sup>	1.60 lbs/ft <sup>2</sup>
Thermal Expansion Rate	-	3.75 x 10 <sup>-5</sup> in/in/°F	4.10 x 10 <sup>-5</sup> in/in/°F	5.0 x 10 <sup>-6</sup> in/in °F
Shading Coefficient	0.236" clear sheet	0.97	1.01	1.03
U Factor – Summer	0.236"	0.85 BTU/hr-ft <sup>2</sup> °F	0.83 BTU/hr-ft <sup>2</sup> °F	0.92 BTU/hr-ft <sup>2</sup> °F
U Factor – Winter		0.92 BTU/hr-ft <sup>2</sup> °F	0.91 BTU/hr-ft <sup>2</sup> °F	1.02 BTU/hr-ft <sup>2</sup> °F
Sound Transmission Class	0.236"	29	30	27

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 determine the suitability of our materials and suggestions before adopting them on a commercial scale.