

## TUFFAK SQ POLYCARBONATE SHEET

### SPECIFIED QUALITY

TUFFAK SQ sheet is a polished surface, UV stabilized, transparent polycarbonate product. Targeted optical quality is achieved through state-of-the-art extrusion and inspection processes. Quality limits for distortion, inclusions, and surface defects are set for each customer to meet their specific application requirements.

### APPLICATIONS

Optically critical end uses

### Regulatory code compliance and certifications

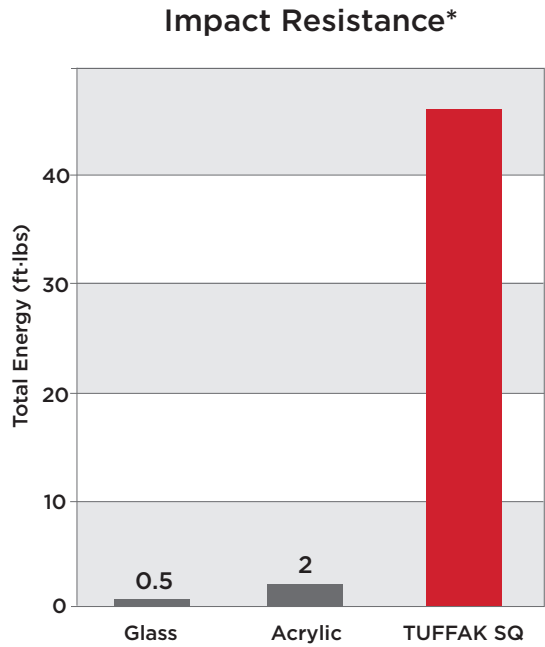
UL 94: Flammability File #E87887

### Typical Properties\*

Property	Test Method	Units	Values
<b>PHYSICAL</b>			
Specific Gravity	ASTM D 792	-	1.2
Refractive Index	ASTM D 542	-	1.586
Light Transmission, Clear @ 0.118"	ASTM D 1003	%	88
Water Absorption, 24 hours @ 73°F	ASTM D 570	%	0.15
Poisson's Ratio	ASTM E 132	-	0.38
<b>MECHANICAL</b>			
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
<b>THERMAL</b>			
Coefficient of Thermal Expansion	ASTM D 696	in/in/°F	3.75 x 10 <sup>-5</sup>
Coefficient of Thermal Conductivity	ASTM C 177	BTU-in/hr-ft <sup>2</sup> -°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
U factor @ 0.236" (summer, winter)	NFRC 100-2010	BTU/hr-ft <sup>2</sup> -°F	0.85, 0.92
U factor @ 0.375" (summer, winter)	NFRC 100-2010	BTU/hr-ft <sup>2</sup> -°F	0.78, 0.85

\*Typical properties are not intended for specification purposes

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

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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