

# TUFFAK NR-C polycarbonate sheet

TUFFAK NR-C sheet is an enhanced UV resistant, non-reflective, one side hard-coated polycarbonate sheet product with a textured hard coat surface which reduces glare normally associated with flat sheet. This hard coating also adds abrasion and chemical resistance to polycarbonate's inherent performance benefits of high impact strength and dimensional stability.

## APPLICATIONS

Display and screen protectors, fuel dispensing systems, signage, lenses, menu boards and other applications requiring a non-reflective surface for improved viewing with reduced glare combined with improved mar and chemical resistance.

## Regulatory code compliance and certifications

UL 94: Flammability File #E87887

UL 746C: Suitability for Outdoor Use, UL File #E351891

UL 879: Electric Sign Components, UL File #E146154

TUFFAK NR and NR-C complies with ADA standards for non-glare signage.

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	%	86
Specular Gloss at 60°	ASTM D 523	-	37
Water Absorption, 24 hours	ASTM D 570	%	0.15
Poisson's Ratio	ASTM E 132	-	0.38
Chemical Resistance	ASTM D 1308	-	Pass
<b>MECHANICAL</b>			
Tensile Strength, Ultimate	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
Instrumented Impact @ 0.125"	ASTM D 3763	ft-lbs	47
Shear Strength, Ultimate	ASTM D 732	psi	10,000
Shear Strength, Yield	ASTM D 732	psi	6,000
Shear Modulus	ASTM D 732	psi	114,000
<b>THERMAL</b>			
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
<b>FLAMMABILITY</b>			
Horizontal Burn, AEB	ASTM D 635	in	<1
Ignition Temperature, Self	ASTM D 1929	°F	1022
Ignition Temperature, Flash	ASTM D 1929	°F	824
Flame Class @ 0.060"	UL 94	-	HB

\*Typical properties are not intended for specification purposes

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## Chemical Resistance\*

Chemical Tested	Resistance Time
Antifreeze (50/50)	>24 hrs
Benzene	>24 hrs
Diesel Oil	>24 hrs
Fuel C	>24 hrs
Gasoline	>24 hrs
IPA	>24 hrs
Kerosene	>24 hrs
MIBK	>24 hrs
Toluene	>24 hrs
Xylene	>24 hrs

\*Tested in accordance to ASTM D 1308-02

Always keep hazardous chemicals away from uncoated edge of Tuffak Polycarbonate Sheet

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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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