

TUFFAK AU POLYCARBONATE SHEET

ABRASION RESISTANT ULTRA CLEAR

TUFFAK AU sheet is a one side, hard coated polycarbonate product exhibiting unsurpassed visible light transmission versus other polycarbonate sheet products. This high clarity sheet is specifically designed for use in multilayer laminates. The advanced hard coat technology significantly enhances the abrasion resistance, chemical resistance, and weathering properties of the product while maintaining the excellent impact performance of TUFFAK polycarbonate.

APPLICATIONS

Specialty laminates

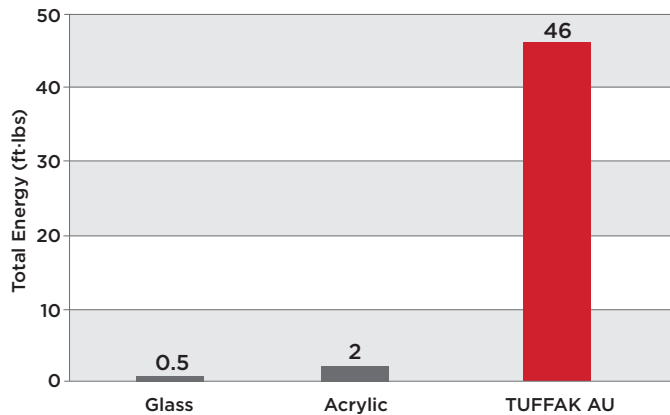
Typical Properties*

Property	Test Method	Units	Values
PHYSICAL			
Specific Gravity	ASTM D 792	-	1.2
Refractive Index @ 72°F	ASTM D 542	-	1.586
Light Transmission, Clear @ 0.125"	ASTM D 1003	%	91
Water Absorption, 24 hours @ 73°F	ASTM D 570	%	0.15
Taber Abrasion @ 100 Cycles, Delta Haze CS-10F Wheel @ 500 gm load	ASTM D 1044	%	2
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
THERMAL			
Coefficient of Thermal Expansion	ASTM D 696	in/in/°F	3.75 x 10 ⁻⁵
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

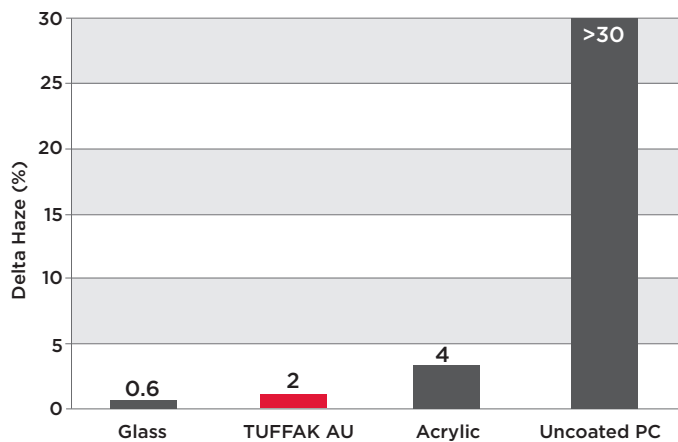
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Impact Resistance*



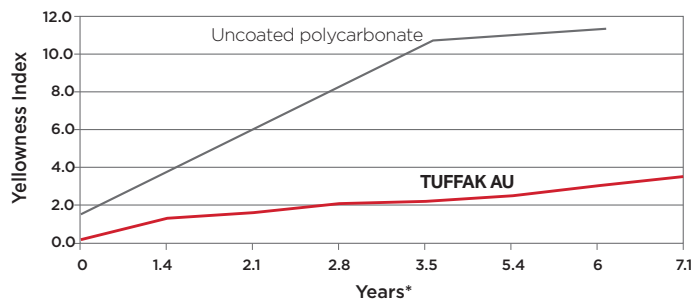
*Instrumented Impact per ASTM D 3763, sample thickness is 0.125" nominal

Abrasion Resistance*



*Taber Abrasion per ASTM D 1044, 100 cycles using CS-10F wheel

Weathering Behavior in Vertical Orientation



*Based upon Xenon WOM accelerated weathering for UV dose at mid-latitude location

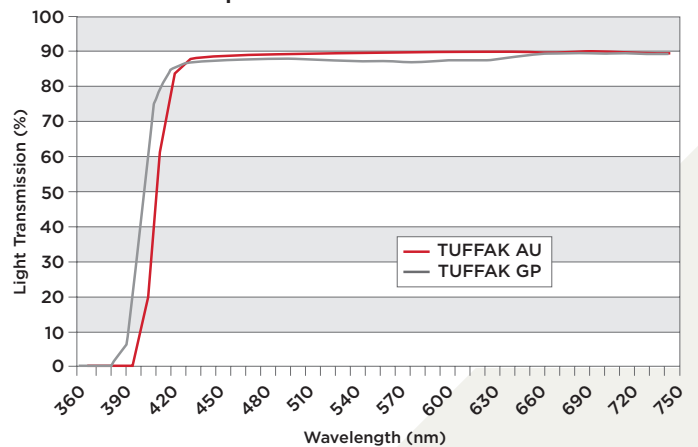
Chemical Resistance*

Chemical Tested	Resistance Time
Acetone	>24 hrs
Ammonia (10% concentration)	>24 hrs
Antifreeze (50/50)	>24 hrs
Benzene	>24 hrs
Bleach (Clorox concentrated)	>24 hrs
Chloroform	>24 hrs
Denatured Alcohol	>24 hrs
Di (2-ethylhexyl) phthalate	>24 hrs
Diesel Oil	>24 hrs
Isopropyl Alcohol (IPA)	>24 hrs
Kerosene	>24 hrs
Methyl Alcohol	>24 hrs
Methyl Butyl Ketone	>24 hrs
Methyl Ethyl Ketone	>24 hrs
Methylene Chloride	>24 hrs
Naphthalene, 1-bromo-	>24 hrs
Potassium Hydroxide - Lye (10%)	>24 hrs
Sodium Hydroxide (10%)	>24 hrs
Toluene	>24 hrs
Turpentine	>24 hrs
Unleaded Gasoline (87 Octane)	>24 hrs
Vinegar	>24 hrs
Xylene	>24 hrs
Acids:	
Hydrochloric Acid (20%)	>24 hrs
Nitric Acid (20%)	>24 hrs
Sulfuric Acid (20%)	>24 hrs

*Tested in accordance to ASTM D 1308-02

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

Spectral Transmission



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.

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