

TUFFAK AR500 polycarbonate sheet

CONTAINMENT GLAZING

TUFFAK AR500 monolithic polycarbonate sheet has been tested to ASTM F 1233, ASTM F 1915, and HPW TP 0500 standards for containment and forced entry applications. This specific TUFFAK grade is produced for high optical quality in thick gauge security glazing. Its proprietary hardcoat facilitates cleaning and resists marring, chemical, and graffiti attack. TUFFAK AR500 has a seven (7) year Limited Product Warranty against coating failure, hazing, and yellowing.

APPLICATIONS

Security doors and windows

Typical Properties*

Property	Values
Gauge / Tolerance	0.500 in ± 5%
Weight	3.12 lbs / sq ft
Shading Coefficient	0.90
U-Value	0.82
Light Transmission	83%

*Typical properties are not intended for specification purposes

Product Performance Ratings

FORCED ENTRY & CONTAINMENT

ASTM F 1233 Class 2.0 Body Passage
 ASTM F 1233 Class 1.4 Contraband Passage
 ASTM F 1915 Grade 3
 H.P. White TP 0500 Level 1 Sequence 8

AGENCY INFORMATION

Combustibility Class CC1

Regulatory code compliance and certifications

ANSI Z97.1-2009, 2015: American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test, Class A, Unlimited

CPSC 16 CFR 1201 Category I and Category II: Safety Standard for Architectural Glazing Materials

Florida Building Code 2017, 6th Ed.
 High Velocity Hurricane Zone Classified
 Miami-Dade NOA: NOA

ICC-ES Evaluation Report ESR-2728

UL 94: Flammability File #E87887

UL 972: Burglary Resistant Glazing Materials, UL File #BP2126

UL 746C: Suitability for Outdoor Use, UL File #351891

AAMA 501.8: Resistance to Human Impact of Windows Systems Intended for Use in Psychiatric Applications

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Glazing Information

- » Structural security framing systems with equal or greater forced entry and/or ballistics ratings as the selected TUFFAK AR500 sheet are recommended.
- » TUFFAK AR500 sheet should be cut to allow for a minimum of one(1) inch edge engagement in the frame, with sufficient rabbet depth for material expansion (approx. 1/16"/ft.).
- » Use wet or dry sealants/gaskets that are compatible with polycarbonate.
- » Remove protective masking after glazing operations are completed and before prolonged exposure to direct sunlight, moisture, or high temperature.

Standard sheet size

48" x 96", 60" x 96", 72" x 96"

Product specification for TUFFAK AR500 polycarbonate sheet

One-ply, clear TUFFAK polycarbonate sheet constructed as follows:

.500 TUFFAK AR-2 abrasion resistant surface

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

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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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