

# FACTS AND SPECIFICATIONS

ANTI-REFLECTIVE SINGLE-SIDED ACRYLIC FOR FACE MOUNTING AND PRINTING



## SIZE AVAILABILITY:

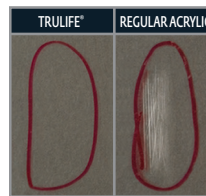
THICKNESS	SIZE	SQ FT/SHEET	APPROX WT/SHEET	PACKAGING CONFIGURATION
6.0mm (1/4")	72" x 120" (3048mm x 1829mm)	60 (5.57 sqm)	89 lbs/40.37kg, 1.5 lbs per ft <sup>2</sup> , 7.2kg per m <sup>2</sup>	1 to 20 sheets per crate
4.5mm (3/16")	72" x 96" (2438mm x 1829mm)	48 (4.46 sqm)	54 lbs/24.5kg, 1.13 lbs per ft <sup>2</sup> , 5.5kg per m <sup>2</sup>	1 to 26 sheets per crate
3.0mm (1/8")	48" x 96" (2438mm x 1219mm)	32 (2.97 sqm)	22 lbs/9.98kg, 0.7 lbs per ft <sup>2</sup> , 3.2kg per m <sup>2</sup>	25 sheets per pallet or 25 boxes per pallet/1 sheet per box

## ANTI-REFLECTIVE COATING - ON VIEWING SIDE ONLY

- Magnetron sputtered coating helps ensure maximum durability and strength.
- Utilizes hard-coated, abrasion resistant acrylic sheet.
- Patented Tru Vue® Technology.
- Thin film coatings bonded to substrate at an atomic level.
- Long-lasting antic-static protection - on viewing side only.
- Won't oxidize and degrade overtime.
- Transmitted color appears color neutral.
- This product is not anti-reflective in picture framing applications. For direct print and face mount applications only.

Coating and Visual Color Impression - Light reflection is reduced to less than 1.5% at 90 degrees when mounted/direct printed. The anti-reflective coating is designed to perform in a museum gallery setting. On works hung vertically, and it is optimized when viewed at a 90 degree angle. However, if the angle of view changes so does the amount and color of the reflection. Beyond that, reflections become visible in a subtle greenish/blue color and certain lighting conditions may make this more noticeable.

Some variation in the color and or intensity of the color of the reflection is considered acceptable as a normal and inherent characteristic of any anti-reflective product. The color and intensity of the reflection can vary within a sheet and from sheet to sheet. The amount of reflection however is significantly lower than the reflection of regular uncoated glass or acrylic and is considered normal and inherent characteristic of an anti-reflective product.



## ABRASION RESISTANT

MIL-C-14806A, PARA 4.4.7 & MIL-M13508C, PARA 4.4.5

The coating shows no signs of deterioration, other than discoloration, after being subjected to 20-alcohol soaked cheesecloth test at 2-2.5 lbs. The coating shows no damage after 600 dry cloth rubs at 2.5 lbs.

- Our coated high-performance glazing products perform like anti-reflective glass and offer up to 20 times the protection against minor scratches compared to uncoated acrylic.
- Our coated high-performance glazing products stand up to frequent cleaning and re-use from traveling/temporary exhibits.

## ELECTRICAL SURFACE RESISTIVITY (ANTI-STATIC) - ON VIEWING SIDE ONLY ASTM D257

- The surface resistivity is less than 1012 ohm/sq at 50% Relative Humidity.
- Our anti-static protection actually exceeds that of glass and is engineered to immediately dissipate static charges.
- Independent tests show that our coated high-performance glazing products are up to 2,000 times more anti-static than regular acrylic.
- Safe for friable materials.
- Does not attract dust – minimizes cleaning.

### LONG-LASTING ANTI-STATIC PROTECTION

23 C and 50% r.h.	Surface Resistivity (Ohms/square)	Static Decay(seconds)
Our coated high-performance glazing products	<1.0E+12	0.01
Uncoated acrylic	1.0E+14	Infinite

PHYSICAL CHARACTERISTICS	Substrate*	Clear, hard coat abrasion-resistant, UV filtering extruded acrylic.
	Thickness Consistency	+/- 5% (i.e., 6mm +/- 0.3mm) Most uniform consistency of acrylic substrates.
	Product Identification	Protective film masking on both sides, plus a product identification tape. The product identification tape will be on the anti-reflective side, which has blue masking, and labeled with "PRINT/MOUNT TO OPPOSITE SIDE" to identify the printable/mountable side. Please do not remove the protective film or product identification tape before determining which side to print/mount.
PERFORMANCE DATA	UV Protection 300–380nm	99%
	Light transmission, total ASTM D-1003	>94% (unmounted) / >98% (mounted/direct printed)
	Light Reflection/Double-sided Anti-Reflection Haze	<5% (unmounted) / <1.5% (mounted/direct printed)
	Outgassing Oddy Test	None – Passed
	Accelerated Aging Q-sun Xenon Arc test	Anti-reflective, anti-static, UV protection and light transmission remain unchanged after 2000 hours (estimated to be approximately 100 years) of Q-sun Xenon arc testing at exposure intensity of 100,000 Lux.

SPECIFICATIONS	Tensile Strength Modulus of Elasticity ASTM D-638	10,000 – 11,030 psi 400,000 – 490,000 psi
	Flexural Strength Modulus of Elasticity ASTM D-790	17,000 psi 480,000 – 490,000 psi
	Impact Strength – Izod Milled Notch ASTM D-256	0.28 – 0.4 ft. lbs./in of notch
	Impact Strength – Gardner – falling weight ASTM 5420-04	18.1 ft-lbs (6.0mm) Acrylic glazing products are significantly more impact-resistant than annealed glass and similar to that of tempered glass. If subject to impact beyond the limit of resistance, it does not shatter into small slivers, but breaks into larger pieces.
	Humidity Resistance MIL-C-48497A, para 4.5.3.2	No deterioration of coating after 48 hours @ 50°C, 95% RH
	Corrosion Resistance (Salt Fog) ASTM B117 & B-368-03 & B368-97	48 hr. No Deterioration 50°C, 95% RH After exposure for 7 – 24 hr cycles (168 hours), the coating shows no damage – Passed
	RoHS compliance testing	(Dangerous substance testing: presence of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Hex-Cr)) – Passed
	Photographic Activity Test ISO 18916 & ISO 18902	ISO 18916 Silver Image Interaction • Gelatin Staining • Mottling of Image • Interaction Detector Overall performance – Passed ISO 18902 Overall performance – Meet; “Photo-safe” per ISO 18902 section 3.9
	Coating Adhesion (Snap Tape) MIL-C- 48497A, para 4.5.3.1	The coating shows no damage after snap removal of tape.
	Solubility MIL-C-48497A	After a 24-hour immersion or exposure at room temperature (60°-90°F), the anti-reflection coating shows no deterioration in the following solutions: • Distilled Water • Saline Solution (170gm of NaCl per 3.8 liters of water) • Acetone • Ethyl Alcohol • Isopropyl Alcohol • Coffee • Coke
TEMPERATURE AND FLAMMABILITY	Flammability Self-Extinguish UV945VA & 5VB	No acrylic will self-extinguish, and therefore our high-performance acrylic glazing products do not meet this requirement. Our high-performance acrylic glazing products are combustible and usually burn to completion if not extinguished. Precautions should be taken to protect this material from flames and high heat sources.
	Flammability Self-Ignition Temp. ASTM-D-1929	830 – 833°F / 443 – 445°C
	Horizontal Burning Test Avg. Burn Rate ASTM D-635	1.0 – 1.019 in./min / 2.5 cm/min (3mm)
	Smoke Density ASTM D-2843	3.4 – 6.4% (3mm)
	UL 94 Rating	94HB
	Deflection Temp. (264 psi load) ASTM D-648	203 – 210°F / 95 – 99°C
	Vicat Softening Point ASTM D-1525	210 – 220°F / 99 – 105°C
	Max. Continuous Service Temp.	170 – 190°F / 77 – 88°C
	Coefficient of Thermal Expansion ASTM D-696	0.00003 – 0.00004 in/in °F / 0.000054 – 0.000072 m/m °C
	Water Vapor Transmission Rate (@ 50% R.H.)	0.014 gm/100 in <sup>2</sup> × day Optium Acrylic Glazing performs like regular uncoated acrylic in response to changes in relative humidity. The vapor transmission rate is low enough that reasonable levels of humidity can be maintained inside an acrylic enclosure by using appropriate desiccants. Optium Acrylic Glazing should not be used for applications that must be hermetically sealed.
APPLICATION RECOMMENDATIONS	Space Expansion and Contraction	For indoor applications where temperature remains fairly constant, please allow approximately 1/16" (1.6mm) per 12" (305mm) of length for each 20 degrees F (11 degree C) temperature change. In conditions of extreme humidity or temperature, greater allowances may be necessary. In outdoor use where summer and winter temperatures differ as much as 100° F (38 degrees C), a 48" (1219mm) panel will expand/contract approximately 1/4" (6mm).
	Edge Polishing	We recommend that you test any sand and buff method or edge finisher before mounting or printing to see if any crazing occurs. Flame polishing is not recommended as extreme heat can cause crazing, which may lead to delamination of the coating.

FOR MORE INFORMATION ON CUTTING, CLEANING, HANDLING, AND STORING, VISIT [TRU-VUE.COM/TRULIFE](http://TRU-VUE.COM/TRULIFE).

\*Our high-performance acrylic glazing utilizes an inherently UV stable, non-yellowing, abrasion-resistant sheet that maintains its original appearance and color despite heat, cold, sunlight and humidity. It withstands the adverse effects of outdoor weathering and has been found to experience no significant loss of light transmittance or any appreciable increase in yellowing after accelerated weathering. This should help ensure many years of trouble free performance.