

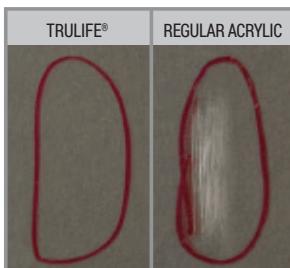
ABRASION RESISTANT

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.



CARE & HANDLING:

- TruLife® is covered with a protective film masking on both sides, plus a product identification tape.
- The product identification tape will be labeled with "PRINT/MOUNT TO OPPOSITE SIDE" to identify the printable/mountable side. Do not remove the protective film or product identification tape before determining which side to print/mount. Do not print/mount to the anti-reflective side (the side with the product identification tape).
- To remove the masking, start at one corner and pull towards the opposite side of the sheet slowly and evenly without stopping.

CUTTING:

- Many distributors offer cut-to-size services, which can eliminate this step. Contact your local Piedmont Plastics for cut-to-size availability.
- If you are cutting the acrylic on your own, make sure your cutting surface is clean and clear of debris. Using a multi-material cutter, score the sheet multiple times and then apply firm pressure to snap and break. We also recommend leaving the protective film on the sheet while cutting and fabricating.
- All available gauges can be cut using a router with a router bit specifically designed to cut acrylic. For a list of recommended router bits, contact the Tru Vue Helpline at 800-282-8788.
- Do NOT attempt to laser cut TruLife Anti-Reflective Single-Sided Acrylic. Extreme heat may cause crazing, which may lead to delamination of the coating.

CLEANING:

TruLife Anti-Reflective Single-Sided Acrylic cleans easily, just like glass. No special acrylic cleaners are needed. Here are some simple cleaning tips to follow:

- Place the acrylic on a surface clear of debris and lint particles.
- Spot-clean with a dry lint-free or micro-fiber cloth by wiping in a soft, circular motion.
- When needed, use a non-ammonia glass cleaner or make cleaning solution with 1 part water / 1 part isopropyl alcohol. Apply cleaner onto cloth and then wipe.
- Do NOT use an acrylic cleaner or polishing agent. Do NOT try to hand polish or buff scratches in this product as it may cause damage to the coating.

STORAGE:

- Avoid storing in areas where condensation might occur.
- The masking should be left on the sheet during storage and fabrication to prevent damage. If the protective film masking has been removed, use 2-ply rag board or pH neutral paper for interleaf during storage. Proper interleafing during storage enables reuse.
- If the acrylic sheets are stored vertically, care must be taken to avoid warping. Sheets must stand with an angle of no more than 10 degrees from the vertical and fully supported to prevent bowing or falling.
- If storing sheets horizontally, stack the larger sheets at the bottom to prevent bowing
- Acrylic glazing is not affected by standard environments or normal warehouse temperatures, and can withstand extreme temperatures of -30 degrees F (-34 degrees C) to 140 degrees F (60 degrees C) when shipping. Excessive temperatures are not recommended for long-term storage.

APPLICATION RECOMMENDATIONS

Space Expansion and Contraction

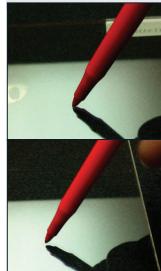
For indoor applications where temperature remains fairly constant, please allow approximately 1/16" (1.6mm) per 12" (305mm) of length for each 20 degrees F (11 degree C) temperature change. In conditions of extreme humidity or temperature, greater allowances may be necessary. In outdoor use where summer and winter temperatures differ as much as 100° F (38 degrees C), a 48" (1219mm) panel will expand/contract approximately 1/4" (6mm)

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

- The surface resistivity is less than 10^{12} 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

TO IDENTIFY THE PRINT/MOUNT SIDE IF THE MASKING OR PRODUCT IDENTIFICATION TAPE HAS BEEN REMOVED:



PRINT/MOUNT SIDE:

Place the pen point directly on the surface of the acrylic. Pen points meet in reflection.

COATED ANTI-REFLECTIVE SIDE:

Place the pen point directly on the surface of the acrylic. The pen points do not meet in reflection; there is a gap.

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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 Modification	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 ² x day TruLife® Acrylic 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. TruLife® Acrylic should not be used for applications that must be hermetically sealed.

*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.