

PRODUCT COMPARISON CHART:

		Optium [®] Museum Acrylic	Optium [®] Acrylic	Conservation Clear [®] Acrylic
PHYSICAL CHARACTERISTICS	Substrate*	Clear, hard coat abrasion-resistant, UV filtering extruded acrylic	Clear, hard coat abrasion-resistant extruded acrylic	Crystal Clear UV filtering extruded acrylic
	Thickness Consistency	+/- 5% (i.e., 6mm +/- 0.3mm) Most uniform consistency of acrylic substrates.		
	Product Identification	Protective film with product identification label. (Please e-mail info@tru-vue.com with questions regarding product identification)		
PERFORMANCE DATA	UV Protection 300–380nm	99%	≤93%	99%
	Light transmission, total ASTM D-1003	>98%	>98%	>92%
	Light Reflection/Double-sided Anti-Reflection Haze	<1.5%	<1.5%	8%
	Oddy Test	Passed		
	Living Building Challenge (LBC)	Coatings and/or substrate do not contain any ingredients listed on the LBC Red List.		
	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 exposure in indoor environment) 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 (122°F), 95% RH		NA
	Corrosion Resistance (Salt Fog) ASTM B117 & B-368-03 & B368-97	48 hr. No Deterioration 50°C (122°F), 95% RH After exposure for 7 – 24 hr cycles (168 hours), the coating shows no damage – Passed		NA
	RoHS compliance testing	(Dangerous substance testing: presence of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Hex-Cr)) – Passed		NA
	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.		NA
	Solubility MIL-C-48497A	After a 24-hour immersion or exposure at room temperature (60°-90°F; 16°-32°C), 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		NA

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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 in2 x 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.	
	Rabbit size	When estimating the rabbit size, allow for the applicable glazing thickness and add to it the thickness of each of the other components used. Insuring the proper rabbit size is essential in supporting the framing components and helps guard against bowing.	
	Max. # of Mats	Any number of mats can be used with our high-performance acrylic glazing products.	
	Application	Pastels • Charcoal • Static Sensitive Pieces • Custom display cases • Shadowboxes • B&W and Bright Colored Pictures • Posters • Vitrines • Large Pieces • Shipping • Earthquake Zones • Safety Areas • Pieces requiring Maximum UV protection • Can be fabricated and cemented for museum quality, bubble-free joints	
	Large Framing Practices 40" x 60" (1524mm x 1016mm) and larger acrylic sheets	To prevent bowing, twisting, and/or warping during framing, provide reinforcing support of the acrylic sheet. When working with a spacer to separate the object from the glazing, allow sufficient depth of the spacer at least 1" (25.4mm) of clearance for 60" x 60" (1524 x 1524) frames, and 2" to 2.5" (50mm x 60mm) for a full 6mm, 72" x 120" (3048mm x 1829mm) frames, to protect the object from flexing of the acrylic sheet. Surface deflection will vary by frame size and glazing thickness used. Please contact Tru Vue for additional estimates if needed.	
	Silkscreen Printing	Yes; however, the acrylic requires a low temperature process, so the completed silkscreen is fairly soft.	

PLEASE VISIT TRU-VUE.COM/MUSEUMS FOR GUIDELINES FOR CASE FABRICATION, HANDLING, AND STORAGE.

*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 in indoor applications. It has been found to experience no significant loss of light transmittance or any appreciable increase in yellowing after accelerated aging. This should help ensure many years of trouble free performance.

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