

CLEANING

CLEANING SUPPLIES NEEDED

- 2 Micro-fiber cloths – one for wet cleaning, one for drying. If micro-fiber cloths need to be laundered, do not use fabric softener
- Isopropyl alcohol
- Distilled water
- Gloves (optional)

WET METHOD CLEANING

- Mix water and isopropyl alcohol 1:1
- Spray on micro-fiber cloth
- Use cloth to clean glazing
- Optional: dry off with second cloth

DRY METHOD CLEANING

- Spot-clean any finger prints with the dry micro-fiber cloth by wiping in a soft, circular motion

ALTERNATIVE METHOD OF CLEANING

- UltraVue® Laminated Glass is easy to clean with commercially available, ammonia-free glass cleaner

OPTIONAL

- Mix a couple drops of detergent with distilled water
- Use on micro-fiber cloth to clean surface of glazing
- Rinse with distilled water to ensure removal of any detergent residue and dry off with second cloth

CUTTING SUPPLIES NEEDED

- Straight edge
- Manual glass cutter
- Propane torch or hot air blower
- Safety glasses and gloves

CUTTING

- Score first side with straight edge or T-square
- Apply light, even pressure to snap/break
- Turn the laminated glass over
- Score directly over first side score with straight edge or T-square
- Apply light, even pressure to snap/break
- Heat score with small propane torch (OSHA recommends a hot air blower) along score until PVB interlayer softens
- Cut PVB interlayer with a thin utility blade
- Separate
- Keep the glass cutter clean of glass chips by brushing away fragments frequently with a horse hair brush

CUTTING

STORAGE

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- Avoid storing in areas where condensation might occur
- Use 2-ply rag board or pH neutral paper for interleaf during storage. Proper interleaving during storage enables reuse

SHIPPING

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- Works glazed with laminated glass need no film/glass skin when shipping
- Allow 24 hours for climatizing before exhibiting condensation will leave water spots on the coatings

FOR MORE INFORMATION VISIT TRU-VUE.COM/MUSEUMS-COLLECTIONS

FACTS & SPECIFICATIONS

ANTI-REFLECTIVE • CRYSTAL CLEAR • 99% UV PROTECTION • SAFETY & SECURITY

UltraVue®
Laminated Glass
A TRU VUE PRODUCT

SIZE AVAILABILITY

SIZE	THICKNESS		APPROX WT/LITE		AREA/LITE		CRATE QTY	APPROX WT/CRATE		APPROX AREA/CRATE	
	mm	in	lbs	kgs	sq ft	sq m		lbs	kgs	sq ft	sq m
63" x 85" (2159 x 1600 mm)	4.4	0.18	100	45	37.2	3.46	20	2000	907	744	69
72" x 120" (3048 x 1829 mm)	8.8	0.35	260	118	60	5.57	5	1850	839	300	28

PRODUCT INFORMATION

PHYSICAL TRAITS	Substrate	Water white, low iron glass
	Thickness Tolerances	+/- 0.3 mm (0.012")
	Border Area	Each sheet contains a 15mm (0.6") perimeter border (Border Area) that is subject to inherent processing conditions which may cause the optical and cosmetic performance to be non-conforming in that area
	Interlayer	PVB
SPECIFICATIONS	UV Protection 300-380 nm ISO 18902, ASTM E169-04	(300 - 380 nm): ≥ 99%
	Light Transmission MIL-C-14806A, MIL-C-675C	≥ 98%
	Light Reflection/Double sided MIL-C-14806A, MIL-C-675C	≤ 1.0%
PERFORMANCE DATA	Tensile Strength (ASTM D-412)	3220 psi
	Humidity Resistance MIL-C-48497A para 4.5.3.2	No deterioration of coating after 48 hours @ 50°C (122°F), 95% RH
	Corrosion Resistance (Salt Fog) ASTM B117-03	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
	RoHS Compliance 2011/65/EU	Dangerous substance testing: presence of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Hex-Cr) - Passed
	Photographic Activity Test (PAT) 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) ASTM D3359-08	The coating shows no damage after snap removal of tape
	Solubility MIL-C-48497A	After a 24-hour immersion of 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 (170 gm of NaCl per 3.8 liters of water) • Acetone • Ethyl Alcohol • Isopropyl Alcohol • Coffee • Coke
	Outgassing Oddy Test	Passed
	Accelerated Aging (Q Sun Xenon Arc Test) ASTM G155-05, ISO 105-B02	Anti-reflective, 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
	IMPACT TESTING - Swinging Punch Bag Test (ANSI Z97.1-2015, CAN/CGSB 12.1-2017, & CPSC 16 CFR 1201)	Both 4.4mm and 8.8mm meets the impact and boil test requirements for ANSI Class B and CPSC Category I rating. (18 inch/457mm impactor drop height) 8.8mm meets the impact and boil test requirements for ANSI & CGSB Class A and CPSC Category II rating. (48 inch/1200mm impactor drop height)
	IMPACT TESTING - Pendulum Tire Drop Test (EN 12600:2002)	4.4mm meets Classification 2(B)2 (450mm/17.7inches impactor drop height); 8.8mm meets Classification 1(B)1 (1200mm/47.2inches impactor drop height)
	Resistance to Manual Attack (EN 356)	8.8mm meets P2A (Hard Body Drop Test 3 times from 3000mm)
	Moh's Hardness	6
	Coefficient of Thermal Expansion ASTM D-696	8.9 x 10 ⁻⁶ mm/mm / °C (4.9 x 10 ⁻⁶ in/in / °F)
TEMPERATURE & FLAMMABILITY	Flammability Self-Ignition Temp (ASTM D1929)	750 °F / 399 °C
	Max Continuous Service Temp	170 °F / 77 °C
	Min Continuous Service Temp	-20 °F / -29 °C
	Softening Point	720-730 °C (1328 - 1346 °F)

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