lucitelux[®] frame grade

PROTECTING YOUR PRECIOUS PRINTS, PHOTOGRAPHS, MEMORABILIA AND ARTWORKS

Our LuciteLux® Frame Grade acrylic sheet offers exceptional optical clarity and a 100% guarantee of no black specks making it the first choice for protective framing solutions in homes, schools, public buildings and private showcases. Considerably lighter and many times more impact resistant than glass, easy to fabricate and fit, it is also the safest, most economic option for protecting precious artworks, memorabilia, photographs and prints in any indoor or outdoor environment.

FEATURES & BENEFITS

- 100% guarantee of no black speck contamination
- Excellent optical clarity
- · Lighter and much more impact resistant than glass
- Easy fabrication and fitting
- Easy to clean
- Uniform thickness
- Excellent UV performance suitable for indoor and outdoor use

APPLICATIONS

- Preservation of memorabilia, photographs and prints
- Artwork protection in homes and public spaces
- Conventional and digital picture protection

FRAME GRADE ACRYLIC SHEET THICKNESSES / SIZES

Sheet Production Process	Sheet Thickensses	Sheet Sizes
Continuous cast acrylic sheet	090".098" .118".177" .220"	48" x 96" 51" x 100"
		72" x 96"

MASKING

White TufGuard w/red printing top and bottom

Film - white top, clear bottom





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FABRICATION

LuciteLux® Frame Grade continuous cast clear acrylic sheet has a high molecular weight and is available in a variety of thicknesses and sheet sizes, which can be specified according to the requirements of the protective frame application. The high molecular weight of our acrylic means fabricators can rely on uniform thickness and outstanding fabrication properties. It also exhibits long-term retention of performance characteristics such as, superior craze resistance, excellent optical clarity and impact resistance, while offering designers and fabricators the ultimate design flexibility.

Machining

Frame Grade can be cut, drilled and shaped using traditional acrylic fabricating techniques.

To avoid scratching during such procedures, masking should remain in place as long as possible.

Cementing

Frame Grade can be cemented using solvent cement, emboidied cement and two-component polymerizable cements.

Painting

Frame Grade can be decorated using standard acrylic-based paints and silk-screen inks. As with any acrylic painting or screening operation, avoid heavy coats of paint or excessive flooding of screen inks which allow solvents or thinners to remain in contact with the acrylic surface and cause crazing.

Recommended Paints:

- Grip-Flex®, Wyandotte Sign Finishes, Norcross, GA.
- Lacryl®, Spraylat Corporation, Mount Vernon, NY.

Recommended Screen Inks:

- Multi-Vac Series® Inks, Advance Excello, Chicago, IL.
- 70,000® Series Inks, Naz-Dar Company, Chicago, IL.

THERMOFORMING

Frame Grade can be thermoformed to any contour - from subtle curves to complex shapes.

Heating Methods

There are two basic heating methods utilized in forming Frame Grade:

- Vertical oven heating
- Horizontal oven heating

If a vertical oven is used, it may be necessary to trim off the edges where clamp marks are present. Clamp along the short edge, exercising great care to ensure the sheets are not exposed to temperatures above 320°F; otherwise stretching of the sheet may occur.

To prevent surface marring, sheets should be loaded onto supporting trays covered with layers of felt or similar material. Dimensional changes will occur when an acrylic sheet is heated freely in an air oven and drape molded without clamping.

The inherent strain present in continuous cast acrylic sheet is relaxed when heated, giving rise to some shrinkage. Precise shrinkage is dependent upon variables such as cycle time, heating temperature, and forming method.

Notes: (1) Based on laboratory tests conducted in a Q-Panel Company Q-U-V Accelerated Weathering Tester equipped with UVA-340 lamps.

CLEANING

To clean acrylic sheet:

- Dissolve mild liquid detergent in cool water.
- Dip soft, clean cloth in solution and wring out.
- Wipe the surface of the sheet.
- Allow surface to dry naturally, or wipe with a separate cloth slightly dampened with solution.

WARNING: Do not allow concentrated disinfectant, surgical or methylated spirits, any liquid containing alcohol or any other solvents to come in contact with LUCITELUX® FRAME GRADE acrylic sheet.

DISINFECTION

To disinfect acrylic sheet:

- Dilute an antiseptic or hospital concentrate with cool or cold water in the amount recommended on the label for general disinfection.
- Wipe the surface as described under CLEANING.

CAUTION: When using acrylic sheet in conjunction with applications where electrical units are attached, the unit must be unplugged before cleaning or disinfection. Great care must be taken to see that no water or solution enters the electrical compartment.

DUSTING

Use a soft, clean, slightly damp, cloth when dusting. Never use a dry cloth. This tends to generate a static charge, which will attract more dust.

POLISHING

If the surface of LuciteLux® Frame Grade acrylic sheet becomes scratched, it can generally be restored by using a polishing paste designed for use with acrylic or a mild abrasive metal polish applied on a soft clean cloth. If the scratches are too deep to be removed by this method, use a piece of 600 grade waterproof sandpaper (wet). When the surface is smooth, the gloss can be restored with metal polish. Power buffing is only recommended for professional fabricators.

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TECHNICAL BULLETIN

PHYSICAL PROPERTIES

		Test Method	Typical Value ^(a)
General	Specific Gravity	ASTM D792	1.19
Mechanical	Tensile Strength	ASTM D638	11,000 psi 7.6% 465,000 psi 6.0%
	Flexural Strength Flexural modulus (tangent)	ASTM D790	14,700 psi 461,000 psi
	Impact Strength Compressive strength (x-y plane) Compressive stress @ yield Compressive modulus Charpy (un-notched) Charpy (notched) Shear Strength (punch tool) Izod (procedure A)	ASTM D695 ASTM D256 ASTM D6110 ASTM D732 ASTM D256	83,300 psi 18,000 psi 279,000 psi 5.0 ft. lb./in/in 20.8 J/m 11,200 psi 0.32 ft-lb. / in.
	Rockwell Hardness	ASTM D785	M-100
	Residual Shrinkage (b) (Internal Strength)	ASTM D702	2.5 % maximum
Optical	Refractive Index	ASTM D542	1.49
	Light Transmission, Total	ASTM D1003	92%
	Haze	ASTM D1003	Less than 1%
	Yellowness index (YI)		Less than 0.3
	UV Spectral Transmission	ASTM D4802 Beckman	5% max
	Surface Abrasion Resistance (c) (Taber , CS-10)	ASTM D1044	500 cycles : < 1% 1000 cycles: <2%
Thermal	Maximum Continuous Service Temperature		175°F (d)
	Coefficient of Thermal Conductivity		1.45 Btu in./ft ² hr. °F
	Deflection Temperature under load, 264 psi	ASTM D648	200°F
	Hot Forming Temperature		280°-340°F (138°-170°C)
	Coefficient of Linear Thermal Expansion	ASTM D696	3.5 E-05 in/in/°F
	Specific Heat		0.35 Btu/ lb. (°F)
Electrical	D-C Resistance	ASTM D257	>3.912E+15 Ω /cm > 5.237E+15 Ω/sq.
	Dielectric Strength (2000v/sec)	ASTM D149	354 V/mil
			Continued on next page

	Dielectric Constant, k'		
	♦ 60 Hz		3.3
	♦ 1 KHz	ASTM D150	3.0
	↔ 1MHz		27
	Dissipation Factor, D		2.1
	↔ 60Hz		0.06
			0.00
			0.04
	 1MHz 		0.02
	Arc Resistance	ASTM D495	No tracking
Combustibility	Smoke Density Rating	ASTM D2843	13.5%
	Tunnel Test (smoke developed)		
		ASTM E84	385
	* 0.000"	A31101 E04	505
	• 0.230		530
	Rate of Flame Spread	ASTM E84	
	✤ 0.118"		140
	✤ 0.236"		110
	Fuel contribution factor	_	11 300 Btu/lb
	Ignition temperature		7500E (200°C)
	Ignition temperature	ASTIVI D1929	750°F (399 C)
	Radiant Panel, Flame spread index	ASTM E162	
	✤ 0.118"		219
	↔ 0.236"		249
	Horizontal Burn		210
			1 10 in /min
	• 0.118	ASTIVI D635	1.18 in./min.
	✤ 0.236"		0.65 in./min
	UL Horizontal Burn Rating	UL94	94 HB (f1); (f2)
Miscellaneous			
Water	24 hrs @ 23°C	ASTM D570	0.2%
Absorption	2 hrs. boiling water immersion	/.0111.20/0	0.6%
Absolption		4.0TH D570	0.078
	Soluble Matter Lost (post immersion)	ASTM D570	nii
	Odor	-	nil
	Taste	-	n/a
	Dimensional tolerances, inches		
	 Length – width 		+1/4" - 0"
	Squareness		< 1/4"
	(A in length of diagonal)		

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