

lucitelux[®] Utran[®] Technical Bulletin

Wavelength (nm)	UVT range*
UTRAN @ 280	25.6 -30.2
UTRAN @ 290	56.1 -66.0
UTRAN @ 300	70.9 -83.4
UTRAN @ 320	75.3 -88.6
UTRAN @ 340	76.0 -89.4
UTRAN @ 380	78.5 -92.3

		Test Method	Typical Value ^(a)	
General	Specific Gravity	ASTM D792	1.19	
Mechanical	Tensile Strength ❖ % Elongation @ break ❖ Modulus of elasticity ❖ % Elongation @ yield	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
	Haze Light Transmission	ASTM D1003	Less than 1% 92%	
Yellowness index (YI)		Less than 0.3		
Surface Abrasion Resistance (c) (Taber , CS-10)	ASTM D1044	500 cycles : < 1% 1000 cycles: <2%		

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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
	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 ❖ Volume Resistivity ❖ Surface Resistivity	ASTM D257	>3.912E+15 Ω/cm > 5.237E+15 Ω/sq
	Dielectric Strength (2000v/sec)	ASTM D149	354 V/mil
	Dielectric Constant, k' ❖ 60 Hz ❖ 1 KHz ❖ 1MHz Dissipation Factor, D ❖ 60Hz ❖ 1KHz ❖ 1MHz	ASTM D150	3.3 3.0 2.7 0.06 0.04 0.02
	Arc Resistance	ASTM D495	No tracking
Combustibility	Smoke Density Rating	ASTM D2843	13.5%
	Tunnel Test (smoke developed) ❖ 0.118" ❖ 0.236"	ASTM E84	385 530
	Rate of Flame Spread ❖ 0.118" ❖ 0.236"	ASTM E84	140 110
	Fuel contribution factor Ignition temperature	- ASTM D1929	11,300 Btu/lb 750°F (399°C)
	Radiant Panel, Flame spread index ❖ 0.118" ❖ 0.236"	ASTM E162	219 249
	Horizontal Burn ❖ 0.118" ❖ 0.236"	ASTM D635	1.18 in./min. 0.65 in./min
	UL Horizontal Burn Rating	UL94	94 HB (f1); (f2)
Miscellaneous			
Water Absorption	24 hrs @ 23°C 2 hrs boiling water immersion	ASTM D570	0.2% 0.6%
	Soluble Matter Lost (post immersion)	ASTM D570	nil
	Odour	-	nil
	Taste	-	n/a
	Dimensional tolerances, inches ❖ Length – width ❖ Squareness (Δ in length of diagonal)		+1/4" – 0" ≤ 1/4"

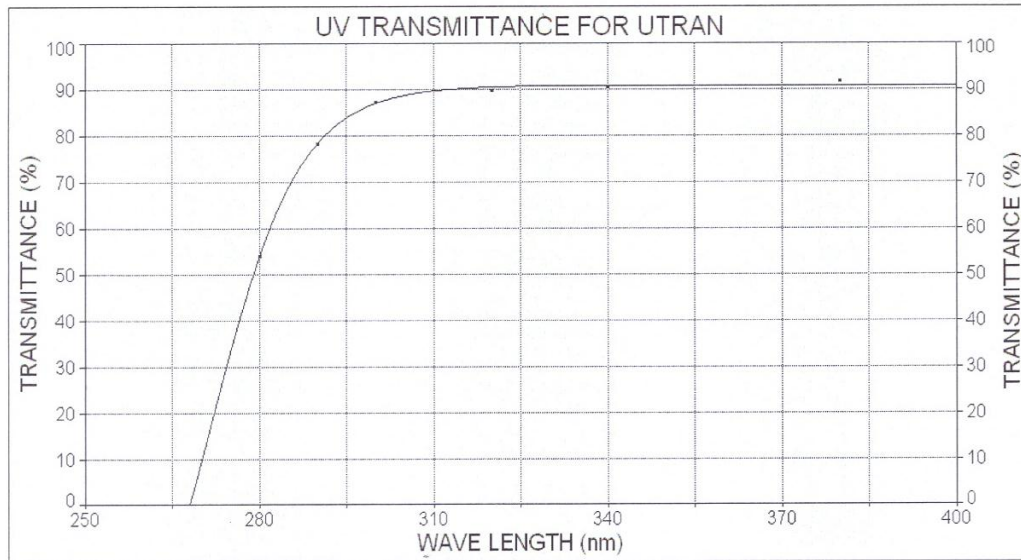
*All listed test values are on 0.236" thick Lucite™ acrylic

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Notes:

- a) Values provided should not be used for specification purposes. Some values may vary with sheet thickness.
- b) Measured at room temperature before and after heating above 300° F.
- c) Numerical values indicate % light transmission loss after indicated cycles.
- d) It is recommended that temperatures not exceed 180°F for continuous service

Warning for use: Utran® is an acrylic sheet used in such applications as sun tanning beds and allows transmission of harmful UV light. Exposure to UV light can cause cancer, cataracts, possible immune suppression, violent outbreaks of skin-related conditions such as herpes lesions, and premature aging of the skin.



(Graph depicts %UVT on .100" thick UTRAN® acrylic sheet)

Optical Advantages:

Based on product testing and historical data, Lucite International, Inc. submits that UTRAN® acrylic sheet should maintain indices values as per ASTM D1925/ E313-10 of $YI \leq \Delta E$ of 5 units for a duration of not less than 1 year of continuous service. We further state that any assurance offered would not cover loss of UVT caused by the use of oils, lotions, cosmetics, cleaners, pesticides and/or disinfectants that create yellowing, crazing, scratches, dirt, breakage, stains or other damage to the sheet. All assertions cover UTRAN® continuous cast acrylic sheet as produced and do not pertain to end-use of the product. Users should make their own tests to determine the suitability of the product for their own particular purpose.

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