

## OPTIX<sup>®</sup> L UTRAN

### UV-A AND UV-B ULTRAVIOLET LIGHT

Optix L UTRAN is a continuous cast acrylic sheet that transmits UV light down to 280nm and can be formed into shapes. The high gloss surface is easy to clean and keep sterile. OPTIX L UTRAN also is half the weight of, and more impact resistant than glass.

### APPLICATIONS

Indoor tanning beds, animal habitats, greenhouses

### Typical Properties\*

Property	Test Method	Units	Values (a)
<b>PHYSICAL</b>			
Specific Gravity	ASTM D792	-	1.19
Water Absorption 24 hrs @ 23°C	ASTM D570	%	0.2
2 hrs boiling water immersion		%	0.6
<b>MECHANICAL</b>			
Tensile Strength	ASTM D638	psi	11,000
% Elongation @ Break		%	7.6
Modulus of Elasticity		psi	465,000
% Elongation @ Yield		%	6.0
Flexural Strength		psi	14,700
Flexural Modulus	ASTM D790	psi	461,000
Impact Strength			
Compressive Strength (x-y plane)	ASTM D695	psi	83,300
Compressive Stress @ Yield		psi	18,000
Compressive Modulus		psi	279,000
Charpy (un-notched)	ASTM D256	ft-lb/in/in	5.0
Charpy (notched)	ASTM D6110	J/m	20.8
Shear Strength (punch tool)	ASTM D732	psi	11,200
Izod (procedure A)	ASTM D256	ft-lb/in	0.32
Rockwell Hardness	ASTM D785		M-100
Residual Shrinkage (b) (Internal Strength)	ASTM D702	%	2.5 maximum
<b>OPTICAL</b>			
Refractive Index	ASTM D542	-	1.49
Haze	ASTM D1003	%	< 1
Light Transmission	ASTM D1003	%	92
Yellowness Index (YI)		-	< 0.3
<b>THERMAL</b>			
Maximum Continuous Service Temperature	-	°F	175 (d)
Coefficient of Thermal Conductivity	-	Btu-in/ft <sup>2</sup> /hr/°F	1.45
Deflection Temperature Under Load, 264 psi	ASTM D648	°F	200
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F	3.5 E-05
Specific Heat	-	Btu/lb/°F	0.35
Smoke Density Rating	ASTM D2843	%	13.5
Smoke Developed Index	ASTM E84	-	750
Flame Spread Index	ASTM E84	-	95
Specific Energy	-	Btu/lb	11,300
Self Ignition Temperature	ASTM D1929	°F	750
Radiant Panel, Flame Spread index	ASTM E162	-	155
Horizontal Burn	ASTM D635	in./min.	0.71
UL Horizontal Burn Rating	UL94	-	HB
<b>ELECTRICAL</b>			
Volume Resistivity	ASTM D257	Ohm/cm	>3.912E+15
Surface Resistivity	ASTM D257	Ohm/sq	> 5.237E+15
Dielectric Strength (2000v/sec)	ASTM D149	V/mil	354
Dielectric Constant, k'			
60 Hz		Hz	3.3
1 KHz	ASTM D150	Hz	3.0
1 MHz		Hz	2.7
Dissipation Factor, D			
60 Hz		Hz	0.06
1 KHz		Hz	0.04
1 MHz		Hz	0.02
Arc Resistance	ASTM D495	-	No tracking

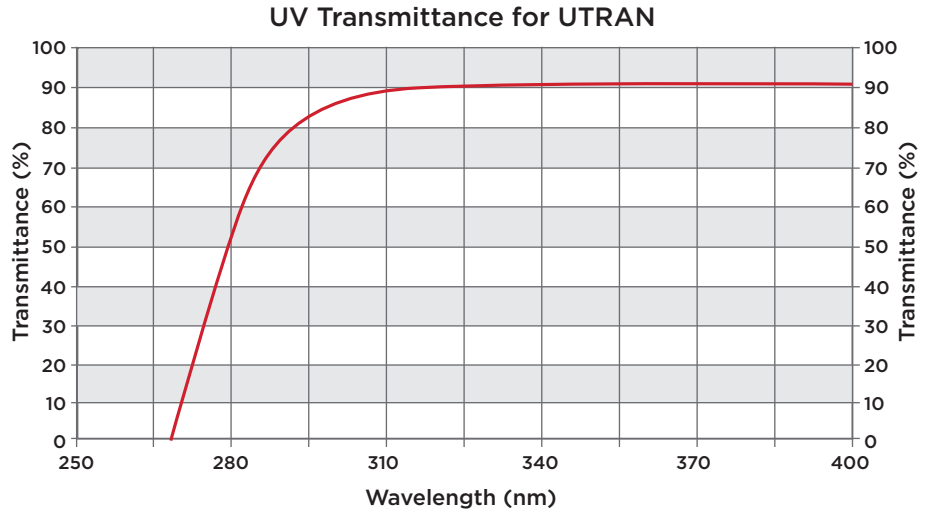
#### Notes:

- (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

\*All listed test values are on 0.236" thickness

# OPTIX® L UTRAN

**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 may 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 0.100" thick OPTIX L UTRAN acrylic sheet

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



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These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determines the suitability of our materials and suggestions before adopting them on a commercial scale.

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