

OPTIX[®] 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 METRIC PROPERTIES*

Property	Test Method	Units	Values (a)
PHYSICAL			
Specific Gravity	ASTM D792	-	1.19
Water Absorption 24 hrs @ 23°C	ASTM D570	%	0.2
2 hrs boiling water immersion		%	0.6
MECHANICAL			
Tensile Strength	ASTM D638	MPa	76
% Elongation @ Break		%	7.6
Modulus of Elasticity		MPa	3206
% Elongation @ Yield		%	6.0
Flexural Strength		MPa	101
Flexural Modulus	ASTM D790	MPa	3178
Impact Strength			
Compressive Strength (x-y plane)	ASTM D695	MPa	574
Compressive Stress @ Yield		MPa	124
Compressive Modulus		MPa	1924
Charpy (un-notched)	ASTM D256	J/cm ²	1.05
Charpy (notched)	ASTM D6110	J/cm	0.208
Shear Strength (punch tool)	ASTM D732	MPa	77
Izod (procedure A)	ASTM D256	J/cm	0.171
Rockwell Hardness	ASTM D785		M-100
Residual Shrinkage (b) (Internal Strength)	ASTM D702	%	2.5 maximum
OPTICAL			
Refractive Index	ASTM D542	-	1.49
Haze	ASTM D1003	%	< 1
Light Transmission	ASTM D1003	%	92
Yellowness Index (YI)		-	< 0.3
THERMAL			
Maximum Continuous Service Temperature	-	°C	79 (d)
Coefficient of Thermal Conductivity	-	Cal-cm/sec-cm ² /°C	0.005
Deflection Temperature Under Load, 264 psi	ASTM D648	°C	93
Coefficient of Linear Thermal Expansion	ASTM D696	cm/cm/°C	6.3 x 10 ⁻⁵
Specific Heat	-	cal/g/°C	0.35
Smoke Density Rating	ASTM D2843	%	13.5
Smoke Developed Index	ASTM E84	-	750
Flame Spread Index	ASTM E84	-	95
Specific Energy	-	cal/g	6280
Self Ignition Temperature	ASTM D1929	°C	399
Radiant Panel, Flame Spread index	ASTM E162	-	155
Horizontal Burn	ASTM D635	cm/min.	1.80
UL Horizontal Burn Rating	UL94	-	HB
ELECTRICAL			
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/mm	13900
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

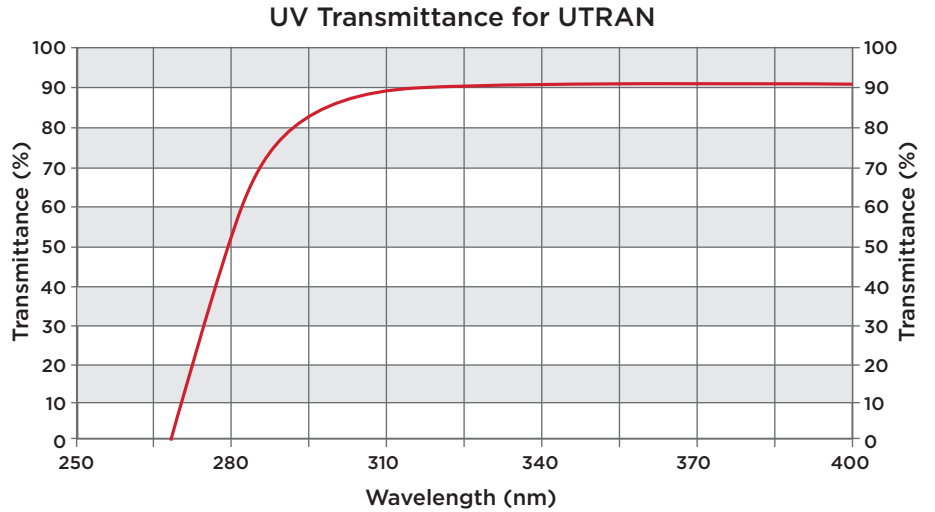
Notes:

- (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

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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

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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