TECHNICAL BULLETIN

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Lucite International

LuciteLux™ Continuous Cast Acrylic Sheet / Physical Properties

Property	ASTM	Units
Thickness, Nominal, Inch		0.236
Specific Gravity	D792	1.19
Optical		
Refractive Index	D542	1.49
Light Transmittance	D1003	
❑ Parallel		91%*
❑ Total		92%*
❑ Haze		1%*
Spectral Transmission	DU-792	
❑ 290 to 330 nm, 0.25" sheet, max. percent	Beckman	5%
Mechanical		
Tensile Strength	D638	
❑ Rupture		11M psi (770 kg/cm²)
❑ Modulus of Elasticity		564M psi (3.9 x 10^4 kg/cm²)
❑ Elongation at Rupture		4.1%
Flexural Strength	D790	
❑ Rupture		14.8M psi (1,040 kg/cm²)
❑ Modulus of Elasticity		450M psi (3.1 x 10^4 kg/cm²)
Compressive Strength	D695	
❑ Yield		14.8M psi (1,040 kg/cm²)
❑ Modulus of Elasticity		279M psi (1.95 x 10^4 kg/cm²)
Shear Strength	D732	8.4M psi (590 kg/cm²)
Impact Strength	D256	
❑ Charpy Unnotched		5.0 ft. lb./in.² (0.35 kg/cm²)
Rockwell Hardness	D785	M-100
Thermal		
Hot Forming Temperature		275-350°F (135-177°C)
Heat Distortion Temperature		
3.6°F(2°C)/Min-264 psi	D648	200°F (93°C)*
Coefficient of Thermal Expansion (ave. value)[2]	D696	3.9 x 10^5 in./in./°F (7 x 10^5 cm/cm/°C)
Maximum Recommended Continuous Service Temperature		175°F (79°C)
Coefficient of Thermal Conductivity		1.45 Btu in./ft²hr. °F (0.209 w/m•k)
Shrinkage, max. percent		2.5%
Specific Heat		0.35 Btu/lb. °F (0.35 Cal/gr °C)

LuciteLux™ continuous cast acrylic sheet is combustible like many other synthetic and natural building materials. Small scale test are not intended to reflect hazards under actual fire conditions. *This value changes with thickness. Value given is for 0.236" thickness or where otherwise indicated.
All values are for the clear product.
1. These are typical or average values and should not be used for specification purposes.
2. Change in dimensions = coefficient x (dimension of sheet) x (change in temperature.)

LuciteLux™ Cast Acrylic Sheet/Physical Properties (cont'd)

Property	ASTM	Units
Electrical		
Surface resistivity, 82°F (28°C), 75% RH	D257	$>10^{14}$ ohm
Volume Resistivity	D257	4×10^{11} ohm/mil (10^{15} ohm/cm)
Dielectric Strength, Short Time Test	D149	0.42 kv/mil (20 kv/mm)
Dielectric Constant	D150	
❑ 60 cycles		4
❑ 10^3 cycles		3
❑ 10^6 cycles		3
Power Factor	D150	
❑ 60 cycles		0.06
❑ 10^3 cycles		0.04
❑ 10^6 cycles		0.02
Arc Resistance	D495	No Tracking
Miscellaneous		
Water Absorption (Wt. Gain on Immersion for 24 hrs.)	D570	0.3%*
Soluble Matter Lost after Immersion	D570	0.0%
Odor		None
Taste		None
Dimensional tolerances, inches:		
❑ length, width		+ 1/4 " - 0"
❑ squareness, difference in length of diagonal		≤ 1/4"
Combustibility*		
Smoke Density Rating	D2843	13.5%
Tunnel Test (Smoke Developed)	E84	
❑ 0.118"		385
❑ 0.236"		530
Fuel Contribution Factor		11,300 Btu/lb. (26.3×10^6 J/kg)
Auto Ignition Temperature	D1929	750°F
Rate of Flame Spread	E84	
❑ 0.118"		140
❑ 0.236"		110
Radiant Panel, Flame Spread Index	E162	
❑ 0.118"		219
❑ 0.236"		249
Horizontal Burn	D635	
❑ 0.118"		1.18 in./min.
❑ 0.236"		0.71 in./min.
UL Horizontal Burning Rating	UL94	94 HB