

OPTIX L Museum Grade Acrylic



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OPTIX L Museum Grade continuous cast acrylic sheet provides maximum protection and filters out 98% of damaging UV light. This acrylic sheet meets the demanding museum standards for display cases, with 100% guarantee of no black specks, and superior optical clarity. With uniform thickness OPTIX L Museum Grade is lighter weight and many times more resistant than glass. It is easy to fabricate and fit to all display case requirements and it can be used either for interior or exterior applications. OPTIX L Museum Grade is easy to clean and offers superior craze and chemical resistance. It is available in 0.098"– 0.236" and is available in a wide range of sheet sizes.

Applications

Exhibit display cases

Typical Properties

Property	Test Method	Units	Values
PHYSICAL			
Specific gravity	ASTM D 792	-	1.19
Water absorption, 24 hours @ 23°C	ASTM D 570	%	0.2
2 hrs boiling water immersion		%	0.6
MECHANICAL			
Tensile strength	ASTM D 638	psi	11,000
% Elongation @ break		%	7.6
Modus of elasticity		psi	465,000
% Elongation@ yield		%	6.0
Flexural strength	ASTM D 790	psi	14,700
Flexural modulus	ASTM D 790	psi	461,000
Impact strength	ASTM D 695		
Compressive strength (x-y plane)		psi	83,300
Compressive modulus @ yield		psi	18,000
Compressive modulus		psi	279,000
Charpy (un-notched)	ASTM D 256	ft-lb/in/in	5.0
Charpy (notched)	ASTM D 6110	J/m	20.8
Shear strength (punch tool)	ASTM D 732	psi	11,200
Izod (procedure A)	ASTM D 256	ft-lbs/in	0.32
Rockwell hardness	ASTM D 785		M-100
Residual shrinkage (internal strength)	ASTM D 702	%	2.5 maximum
OPTICAL			
Refractive index	ASTM D 542	-	1.49
Haze	ASTM D 1003	%	< 1
Light transmission	ASTM D 1003	%	92
Yellowness index (Y)	ASTM D 1003	-	< 0.3
THERMAL			
Maximum continuous service temperature	-	°F	175 (d)
Coefficient of thermal conductivity	-	Btu-in/ft ² /hr/°F	1.45
Deflection temperature under load, 264 psi	ASTM D 648	°F	200
Coefficient of linear thermal expansion	ASTM D 696	in/in/°F	3.5 E-05
Specific heat	-	Btu/lb/°F	0.35
Smoke density rating	ASTM D 2843	%	13.5
Smoke developed index	ASTM E 84	-	750
Flame spread index	ASTM E 84	-	95
Specific Energy	-	Btu/lb	11,300
Self ignition temperature	ASTM D 1929	°F	750

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Radiant panel, flame spread index	ASTM E 162	-	155
Horizontal burn	ASTM D 635	in./min.	0.71
UL horizontal burn rating	UL 94	-	HB

ELECTRICAL

Volume resistivity	ASTM D 257	Ohm/cm	>3.912E+15
Surface resistivity	ASTM D 257	Ohm/sq	>5.237E+15
Dielectric strength (2000v/sec)	ASTM D 149	V/mil	354
Dielectric constant, k			
60 Hz	ASTM D 150	Hz	3.3
1 KHz		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 D 495	-	No tracking

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.