

OPTIX G SERIES CELL CAST ACRYLIC

OPTIX G-Series Cell Cast acrylic is optically clear, lightweight and weather resistant. It has outstanding thickness tolerance and polishes to a crystal clear clarity. This product has excellent chemical and UV resistance and is easily fabricated and heat formed without loss of optical clarity. With its higher molecular weight, cell cast material can be easily thermoformed, cut, routed and drilled.

OPTIX G-Series Cell Cast acrylic offers excellent laser cutting capabilities along with clean and bubble-free glue joints. Prolonged exposure to water does not significantly affect its mechanical or optical properties, making it a great choice in marine and aquarium applications.

APPLICATIONS

Aquariums, signage, furniture, POP displays, hockey rinks, pediatric incubators, store fixtures, awards, shields, architectural glazing, skylights

TYPICAL PROPERTIES

Property	Test Method	Units	Values
PHYSICAL			
Specific Gravity	ASTM D792	-	1.19
Light Transmission - Total	ASTM D1003	%	92
Light Transmission - Haze	ASTM D1003	%	<2.0
Optical Refractive Index	ASTM D542	-	1.49
Water Absorption	ASTM D570	%	0.2
Poisson's Ratio	-	-	0.35
MECHANICAL			
Tensile Strength	ASTM D638	psi	10,500
Tensile Elongation	ASTM D638	%	4.9
Tensile Modulus of Elasticity	ASTM D638	psi	450,000
Flexural Strength	ASTM D790	psi	16,000
Flexural Modulus of Elasticity	ASTM D790	psi	450,000
Impact Strength			
Izod - Notched	ASTM D256	ft-lb/in	0.3
Charpy - Unnotched	ASTM D256	ft-lb/0.5" x 1" section	7.0
Rockwell Hardness	ASTM D785	M scale	100
THERMAL			
Deflection Temperature @264 psi	ASTM D648	°F	205
Coefficient of Thermal Expansion	ASTM E831	in/in/°F	3.9 x 10 ⁻⁵
Thermal Conductivity	ASTM C177	BTU-ft/ft ² /hr/°F	0.11
U-Value (Summer gain, winter loss)	-	BTU/hr/ ft ² /°F	0.89, 0.96
Specific Heat Capacity @ 77°F	-	BTU/lb/°F	0.35
Max Recommended Continuous Service Temp	-	°F	180-200
Thermoforming Temperature	-	°F	290-360
Flammability (Burning Rate)	ASTM D635	in/min	<1.0
Smoke Density	ASTM D2843	%	1.0
Self-Ignition Temperature	ASTM D1929	°F	860
Flame Spread Index	CAN/ULC-S102.2	-	135
Smoke Developed Index	CAN/ULC-S102.2	-	>500

*Typical properties are not intended for specification purposes

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.