Acrylic Cast

Cast Acrylic is a rigid, hard thermoplastic material that is characterized by its color range availability and easy fabrication.

Cast Acrylic has excellent UV stability and is suitable for sign manufacture, Point of Sales display units, safety glazing, machine enclosures and model manufacture.

Property	Test Method	Units	Acrylic Cast
Physical			
Specific Gravity	ASTM D792		1.17 – 1.20
Water Absorption, 24hrs, 1/8”	ASTM D570		0.4
Mechanical			
Tensile Strength	ASTM D638 (Test Speed B)	psi	8,038
Elongation at Break	ASTM D638 (Test Speed B)	%	2.7
Tensile Modulus	ASTM D638	psi	350,000 – 500,000
Izod Impact Strength, Notched	ASTM D256	ft-lb/in	0.4-0.5
Flexural Strength	ASTM D790	psi	12,000
Compressive Strength, 10% Deflection	ASTM D695	psi	
Hardness, Rockwell	ASTM D785		M80 – M100
Thermal			
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F	$3 - 5 \times 10^{-5}$
Maximum Continuous Service Temperature in Air		°F	150
Thermal Conductivity	ASTM D177	BTU (hr)(ft^2)(°F)/in	1.16 – 1.74
Deflection Temperature, 264 psi	ASTM D648	°F	190
Burning Rate	ASTM D635	in/min	1.75
Electrical			
Volume Resistivity	ASTM D251	ohm-cm	10^{15}
Dielectric Strength, 1/8”	ASTM D149	V/mil	350 – 400
Dissipation Factor 60 cycles 1000 cycles 10^6 cycles	 ASTM D150 ASTM D150 ASTM D150		 0.05 – 0.06 0.04 – 0.06 0.02 – 0.03
Arc Resistance	ASTM D496	sec	No Track
Optical			
Light Transmission	ASTM D791	%	92
Index of Refraction at 73 °F	ASTM D542		1.491
Spectral Transmittance 290 nm 300 nm 310 nm 320 nm 330 nm	LP-391-D (4.3.7)	 % % % % %	 47.2 55.5 60.4 62.8 64.9

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.

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