

# MECHANICAL

Properties	Test Method	Unit	CAST ACRYLIC TUBING (ASTM-D-5436)	CAST ACRYLIC RODS (ASTM-D-5436)
Specific Gravity	ASTM D-792	-	1.19	1.19
Tensile Strength	ASTM D-638			
Yield		psi	11,250	11,250
Elongation, Rupture		%	6.4	6.4
Modulus of Elasticity		psi	450,000	450,000
Flexural Strength (Rupture)	ASTM D-790	psi	15,250	15,250
Modulus of Elasticity		psi	475,000	475,000
Compressive Strength (Yield)	ASTM D-695	psi	18,000	18,000
Modulus of Elasticity		psi	440,000	440,000
Compressive Deformation (Under Load) 4000 PSI 122F, 24hr	ASTM D-621	%	0.75	0.75
Shear Strength	ASTM D-732	psi	9,000	9,000
Impact Strength Izod Milled Notch Falling Steel Ball, 0.5lb (Breakage drop height (ft))	ASTM D-256	ft-lbs/in of notch	0.375* 18	0.375* 18
Rockwell Hardness	ASTM D-785	-	M98*	M98*
Barcol Hardness	ASTM D-2583	-	50*	50*
Residual Shrinkage (Internal Strain) Polycast	ASTM D-4802	%	2.2	2.2

# OPTICAL

Refractive Index	ASTM D-542	-	1.49	1.49
Luminous Transmittance (As Cast)	ASTM D-1003	%	92	92
Total Haze			<0.5	<0.5
Yellowness Index	ASTM D-1925		0.5	2.1
After 1000 hrs. Accelerated Weathering	ASTM G26			
Total Haze		%	92	-
			<0.5	
Effect Of Accelerated Weathering-On Appearance Crazing / Discoloration / Warping	ASTM G26	-	none	-
Ultraviolet Transmission @ 320nm	-	%	0	0 @ 390nm
Taber Abrasion (500g. ea. wheel, 100 rev.) ANSI Z26.1	ASTM D-1044	-	14	-
Mar Resistance	ASTM D-637	-	29	-

# THERMAL

Hot Forming Temperature	-	°F	320 **	320 **
Deflection Temperature under load	ASTM D-648			
Heat Distortion Temperature				
	66 psi	°F	230*	230*
	264 psi	°F	203*	203*
Maximum Recommended Continuous Service Temp.	-	°F	180	180
Coefficient of Linear Thermal Expansion	ASTM D-696	in/in/°F	0.000042	0.000042
Coefficient of Thermal Conductivity	Cento-Fitch	BTU/(hr) (Ft <sup>2</sup> ) (°F/in)	1.3	1.3
Water Absorption	26 day immersion	%	0.65	0.65
	24 hour immersion	%	0.2	0.2
Flammability (Burning Rate) UL94HB	ASTM D-635	in/min	1.2*	1.2*
Self-ignition Temperature	ASTM D-1929	°F	830*	830*
Specific Heat @ 77°F	DuPont 900 (Therm. An. Cal.)	BTU/(lb) (°F)	0.35	0.35
Smoke Density	ASTM D-2843	%	27**	27**

# ELECTRICAL

Dielectric Strength Short Time Test	ASTM-D149	volts/mil. (1/8" thickness)	430**	<p>Additional data codes and approvals are available upon request.</p> <p>*Asterisked values will change with thickness. Difference in length and width, as measured at room temperature, before and after heating above 300 °F</p>
Dielectric Constant	ASTM-D150	-		
60 cycles			3.5	
1,000 cycles			3.2	
1,000,000 cycles			2.7	
Dissipation Factor	ASTM-D150	-		
60 cycles			0.06	
1,000 cycles			0.04	
1,000,000 cycles			0.02	
Power Factor	ASTM-D150	-		
60 cycles			0.06	
1,000 cycles			0.04	
1,000,000 cycles			0.02	
Loss Factor	ASTM-D150	-		
60 cycles			0.21	
1,000 cycles			0.13	
1,000,000 cycles			0.06	
Arc Resistance	ASTM-D495	-	No Tracking	
Volume	ASTM-D257	ohm-cm.	1.6x1016	
Surface Resisitivy	ASTM-D257	ohms	1.9x1015	