

CAST ACRYLIC TUBING • CAST ACRYLIC RODS • CUSTOM LENGTHS

Typical Properties			Cast Acrylic Tubing (ASTM-D-5436)	Cast Acrylic Rods (ASTM-D-5436)
Mechanical Properties				
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	ASTM-D-790			
(Rupture)		psi	15,250	15,250
Modulus of Elasticity		psi	475,000	475,000
Compressive Strength	ASTM-D-695			
(Yield)		psi	18,000	18,000
Modulus of Elasticity		psi	440,000	440,000
Compressive Deformation (Under Load)	ASTM-D-621			
4000 PSI 122F, 24hr		%	0.75	0.75
Shear Strength	ASTM-D-732			
Impact Strength				
Izod Milled Notch	ASTM-D-256	ft. lbs/in. of notch	.0375*	.0375*
Falling Steel Ball, 0.5lb. (Breakage drop height (ft.))			18	18
Rockwell Hardness	ASTM-D-785		M98*	M98*
Barcol Hardness	ASTM-D-2583		50*	50*
Residual Shrinkage (Internal Strain)	ASTM-D-4802			
Townsend		%	2.2	2.2
Optical Properties				
Refractive Index	ASTM-D-542		1.49	1.49
Luminous Transmittance (As Cast)	ASTM-D-1003			
Total		%	92	92
Haze			<0.5	<0.5
Yellowness Index	ASTM-D-1925		0.5	
After 1000 hrs. Accelerated Weathering	ASTM-D-1449			
Total		%	92	
Haze			<0.5	
Effect Of Accelerated Weathering-On Appearance	ASTM-D-1449			
Crazing / Discoloration /Warping			none	
Ultraviolet Transmission @ 320nm		%	0	>80
Taber Abrasion (500g. ea. wheel, 100 rev.) ANSI Z26.1	ASTM-D-1044		14	
Mar Resistance	ASTM-D-637		29	
Thermal Properties				
Hot Forming Temperature		deg. Fahrenheit	320 **	320 **
Deflection Temperature under load	ASTM-D-648			
(Heat Distortion Temp.)			230*	230*
66 psi		deg. Fahrenheit	203*	203*
264 psi		deg. Fahrenheit	180	180
Maximum Recommended Continuous Service Temp.		deg. Fahrenheit	0.000042	0.000042
Coefficient of Linear Thermal Expansion	ASTM-D-696	in./in./deg. F	1.3	1.3
Coefficient of Thermal Conductivity	Cento-Fitch ⁴	BTU/(Hr.) (Sq.Ft.) (deg. F/in.)	0.65	0.65
Water Absorption	26 day immersion	%	0.2	0.2
	24 hour immersion	%	1.2*	1.2*
Flammability (Burning Rate) UL94HB	ASTM-D-635	in./min.	830*	830*
Self-ignition Temperature	ASTM-D-1929	deg. Fahrenheit	0.35	0.35
Specific Heat @ 77°F	DuPont 900 (Therm.An. Cal.) ⁴	BTU/(Lb.) (deg. F)	27**	27**
Smoke Density	ASTM-D-2843	%		
Electrical Properties				
Dielectric Strength	ASTM-D149	volts/mil. (1/8" thickness)	430**	
Short Time Test				
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.	1.6x10 ¹⁶	
Surface Resistivity	ASTM-D257	ohms	1.9x10 ¹⁵	

ADDITIONAL DATA CODES AND APPROVALS ARE AVAILABLE UPON REQUEST.

Asterisked (*) values will change with thickness. Difference in length and width, as measured at room temperature, before and after heating above 300 deg. F.
**Varies with thickness.