



Cast Acrylic, Clear Tubing

Cast Acrylic Tubing
(ASTM-D-5436)

Typical Properties

Mechanical Properties			
Specific Gravity	ASTM-D-792		1.19
Tensile Strength	ASTM-D-638		
Yield		psi	11,250
Elongation, Rupture		%	6.4
Modulus of Elasticity		psi	450,000
Flexural Strength	ASTM-D-790		
(Rupture)		psi	15,250
Modulus of Elasticity		psi	475,000
Compressive Strength	ASTM-D-695		
(Yield)		psi	18,000
Modulus of Elasticity		psi	440,000
Compressive Deformation (Under Load)	ASTM-D-621		
4000 PSI 122F, 24hr		%	0.75
Shear Strength	ASTM-D-732	psi	9,000
Impact Strength			
Izod Milled Notch	ASTM-D-256	ft. lbs/in. of notch	.0375*
Falling Steel Ball, 0.5lb. (Breakage drop height (ft.))			18
Rockwell Hardness	ASTM-D-785		M98*
Barcol Hardness	ASTM-D-2583		50*
Residual Shrinkage (Internal Strain)	ASTM-D-4802		
Townsend		%	2.2
Optical Properties			
Refractive Index	ASTM-D-542		1.49
Luminous Transmittance (As Cast)	ASTM-D-1003		
Total		%	92
Haze			<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
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 **
Deflection Temperature under load	ASTM-D-648		
(Heat Distortion Temp.)			
66 psi		deg. Fahrenheit	230*
264 psi		deg. Fahrenheit	180
Maximum Recommended Continuous Service Temp.		deg. Fahrenheit	0.000042
Coefficient of Linear Thermal Expansion	ASTM-D-696	in./in./deg. F	1.3
Coefficient of Thermal Conductivity	Cento-Fitch ⁴	BTU/(Hr.) (Sq.Ft.) (deg. F/in.)	0.65
Water Absorption	26 day immersion	%	0.2
	24 hour immersion	%	1.2*
Flammability (Burning Rate) UL94HB	ASTM-D-635	in./min.	830*
Self-ignition Temperature	ASTM-D-1929	deg. Fahrenheit	0.35
Specific Heat @ 77°F	DuPont 900 (Therm. An. Cal.) ⁴	BTU/(Lb.) (deg. F)	27**
Smoke Density	ASTM-D-2843	%	
Electrical Properties			
Dielectric Strength	ASTM-D149	volts/mil.	430**
Short Time Test		(1/8" thickness)	
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 Resistivity	ASTM-D257	ohms	1.9x1015