

ACETAL												
Physical Properties												
			Metric			English				Comments		
Specific Gravity			1.41 g/cc			0.0509 lb/in ³			ASTM D792			
Water Absorption			0.20%					0.20%		Immersion, 24hr;		
Water Absorption at Saturation		0.90%				0.90%				Immersion; ASTM		ASTM D570(2) D570(2)
Mechanical Properties												
Hardness, Rockwell M			88					88				ASTM D785
Hardness, Rockwell R			120					120				ASTM D785
Hardness, Shore D			85					85				ASTM D2240
Tensile Strength, Ultimate	65.5 MPa				9500 psi				ASTM D638			
Elongation at Break			30%					30%				ASTM D638
Tensile Modulus			2.76 GPa			400 ksi			ASTM D638			
Flexural Modulus			2.76 GPa			400 ksi			ASTM D790			
Flexural Yield Strength	82.7 MPa				12000 psi				ASTM D790			
Compressive Strength			103 MPa			15000 psi				10% Def.; ASTM		D695
Compressive Modulus			2.76 GPa			400 ksi			ASTM D695			
Shear Strength			55.2 MPa					8000 psi		ASTM D732		
Coefficient of Friction		0.25						0.25		Dry vs. Steel;		QTM55007
K (wear) Factor			403 x 10 ⁻⁸ mm ³ /in ² -min/ft-lb-hr									QTM 55010
Limiting Pressure Velocity	0.0946 MPa-m/sec				2700 psi-ft/min					4:1 safety factor;		
QTM 55007												
Izod Impact, Notched			0.534 J/cm			1 ft-lb/in				ASTM D256 Type		A
Electrical Properties												
Surface Resistivity per Square		Min 1e+013 ohm			Min 1e+013 ohm				EOS/ESD S11.11			
Dielectric Constant			3.8					3.8				1MHz; ASTM D150
Dielectric Strength			16.5 kV/mm			420 V/mil				Short Term; ASTM		D149
Dissipation Factor			0.005					0.005				1MHz;ASTM D150
Thermal Properties												
CTE, linear 68°F			97.2 μm/m-°C			54 μin/in-°F				(-40°F to 300°F);		ASTM E831
Thermal Conductivity			0.231 W/m-K			1.6 BTU-in/hr-ft			ASTM F433			
Melting Point			168 °C					335 °F			Crystalline, Peak;	ASTM D3418
Maximum Service Temperature, 82.2 °C			180 °F						Long Term			
Deflection Temp, 104 °C			220 °F						ASTM D648			
Flammability, UL94 (Estimated FHB)					HB					1/8 inch		
Qualitative Processing Properties												
Compliance - FDA			Compliant									
Machinability					1					1-10, 1=Easier to Machine		
Service in Alcohols			Acceptable									
Service in Aliphatic Hydrocarbons			Acceptable									
Service in Aromatic Hydrocarbons			Acceptable									
Service in Chlorinated Solvents			Limited									
Service in Ethers			Acceptable									
Service in Ketones			Acceptable									
Service in Strong Acids		Unacceptable										
Service in Strong Alkalies		Unacceptable										
Service in Sunlight			Limited									
Service in Weak Acids			Limited									
Service in Weak Alkalies		Acceptable										
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