

PET												
			Metric				English	Comments				
Physical Properties			1.41 g/cc			0.0509 lb/in <sup>3</sup>			ASTM D792			
Water Absorption			0.07%			0.07%			Immersion, 24hr;			
Water Absorption at Saturation			0.90%			0.90%			Immersion; ASTM D570(2)			
Mechanical Properties												
Hardness, Rockwell M			93			93			ASTM D785			
Hardness, Rockwell R			125			125			ASTM D785			
Hardness, Shore D			87			87			ASTM D2240			
Tensile Strength, Ultimate			85.5 MPa			12400 psi			ASTM D638			
Elongation at Break			20%			20%			ASTM D638			
Tensile Modulus			3.17 GPa			460 ksi			ASTM D638			
Flexural Modulus			3.38 GPa			490 ksi			ASTM D790			
Flexural Yield Strength			124 MPa			18000 psi			ASTM D790			
Compressive Strength			103 MPa			15000 psi			10% Def.; ASTM D695			
Compressive Modulus			2.9 GPa			420 ksi			ASTM D695			
Shear Strength			55.2 MPa			8000 psi			ASTM D732			
Coefficient of Friction			0.2			0.2			Dry vs. Steel; QTM55007			
K (wear) Factor			121 x 10 <sup>-8</sup> mm <sup>3</sup> /in <sup>3</sup> -min/ft-lb-hr			QTM 55010						
Limiting Pressure Velocity			0.0981 MPa-m/sec			2800 psi-ft/min			4:1 safety factor; QTM 55007			
Izod Impact, Notched			0.267 J/cm			0.5 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			3.4			3.4			1MHz; ASTM D150			
Dielectric Strength			15.2 kV/mm			385 V/mil			Short Term; ASTM D149			
Dissipation Factor			0.02			0.02			1MHz; ASTM D150			
Thermal Properties												
CTE, linear 68°F			59.4 µm/m-°C			33 µin/in-°F			(-40°F to 300°F); ASTM E831			
Thermal Conductivity			0.288 W/m-K			2 BTU-in/hr-ft <sup>2</sup>			ASTM F433			
Melting Point			255 °C			491 °F			Crystalline, Peak; ASTM D3418			
Maximum Service Temperature, 98.9 °C			210 °F			Long Term						
Deflection Temp, 116 °C			240 °F			ASTM D648						
Flammability, UL94 (Estimated FHB)						HB			1/8 inch			
Qualitative Processing Properties												
Compliance - FDA			Compliant									
Machinability						2			1-10, 1=Easier to Machine			
Service in Alcohols			Acceptable									
Service in Aliphatic Hydrocarbons			Acceptable									
Service in Aromatic Hydrocarbons			Acceptable									
Service in Chlorinated Solvents			Unacceptable									
Service in Ethers			Acceptable									
Service in Ketones			Acceptable									
Service in Strong Acids			Limited									
Service in Strong Alkalies			Unacceptable									
Service in Sunlight			Limited									
Service in Weak Acids			Acceptable									
Service in Weak Alkalies			Acceptable									
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