

Extruded Nylon 66									
Physical Properties									
Specific Gravity		Metric			English			Comments	
Water Absorption		1.15 g/cc			0.0415 lb/in ³		ASTM D792		
Water Absorption at Saturation		0.30%			0.30%			Immersion, 24hr;	
									ASTM D570(2)
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Mechanical Properties									
Hardness, Rockwell M		85			85			ASTM D785	
Hardness, Rockwell R		115			115			ASTM D785	
Hardness, Shore D		80			80			ASTM D2240	
Tensile Strength, Ultimate	82.7 MPa			12000 psi			ASTM D638		
Elongation at Break		50%			50%			ASTM D638	
Tensile Modulus		2.93 GPa			425 ksi			ASTM D638	
Flexural Modulus		3.1 GPa			450 ksi			ASTM D790	
Flexural Yield Strength	103 MPa			15000 psi			ASTM D790		
Compressive Strength		86.2 MPa			12500 psi			10% Def.; ASTM	
									D695
Compressive Modulus		2.9 GPa			420 ksi			ASTM D695	
Shear Strength			68.9 MPa			10000 psi		ASTM D732	
Coefficient of Friction	0.25				0.25			Dry vs. Steel;	
									QTM55007
K (wear) Factor		161 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		0.32 J/cm			0.6 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		3.6			3.6			1MHz; ASTM D150	
Dielectric Strength		15.7 kV/mm			400 V/mil			Short Term; ASTM	
									D149
Dissipation Factor		0.02			0.02			1MHz; ASTM D150	
Thermal Properties									
CTE, linear			68°F 99 µm/m-°C		55 µin/in-°F			(-40°F to 300°F);	
									ASTM E831
Thermal Conductivity		0.245 W/m-K			1.7 BTU-in/hr-ft		ASTM F433		
Melting Point			260 °C					500 °F	Crystalline, Peak;
									ASTM D3418
Maximum Service Temperature, 98.9 °C			210 °F				Long Term		
Deflection Temp, 93.3 °C		200 °F				ASTM D648			
Flammability, UL94 (Estimated FV-2)				V-2				1/8 inch	
Qualitative Processing Properties									
Compliance - FDA		Compliant							
Machinability			1 1-10,				1=Easier to Machine		
Service in Alcohols		Limited							
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		Limited							
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