



MANUFACTURING CORPORATION

- Plastics Machining
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Material Data Sheet

Material: Tecamid™ MDS (Molybdenum Disulfide Filled) | Nylon

Nylon is one of the most widely used and versatile thermoplastic resins. Its combination of physical properties versus its price makes it a favorite choice for numerous applications. Nylon has a consistent history of replacing other material including: metal, brass, bronze, aluminum, and rubber. In replacing metal gears in machinery, nylon can be advantageous because of its ability to reduce noise, use less lubrication and increase gear life. Tecamid™ MDS is an extruded "moly" filled nylon 6/6, which is gray in color. The addition of particles of molybdenum disulfide enhances the surface lubricity and wear resistance over unfilled nylon. In applications requiring high lubricity, this material may be a good candidate. In addition to the greater lubricity there are many additional property enhancements that occur. Key characteristics for this material are low surface friction, increased surface hardness, increased heat resistance, higher tensile properties and improved dimensional stability.

Mechanical Properties	ASTM Test Method	Value	Units
Density	D792	0.0412	lbs/in ³
Specific Gravity	D792	1.14	g/cc
Water Absorption @ 24 hours, 73°F	D570	1.2 - 2.5	%
@ Saturation, 73°F	D570	7.5 - 8.5	%
Tensile Strength, 73°F	D638	11,000	psi
Tensile Modulus	D639	450,000	psi
Elongation (at break), 73°F	D638	15	%
Flexural Strength, 73°F	D790	17,000	psi
Flexural Modulus of Elasticity, 73°F	D790	450,000	psi
Compressive Strength	D695		psi
Izod Impact Strength, 73°F	D256	1	ft-lb/in of notch
Rockwell Hardness, 73°F	D785	M - 87	M or R Scale
Shure Hardness			D Scale
Wear Factor Against Steel, 40 psi, 50 fpm	D3702	1.9 X 10 ⁻¹⁰	in. ³ -min/ft.lbs.hr
Static Coefficient of Friction	D3702		
Dynamic Coefficient of Friction, 40 pcs, 50 fpm	D3702		
Thermal Properties			
Heat Deflection Temperature @ 66 psi	D648	470	°F
@ 264 psi	D648	194	°F
Coefficient of Linear Thermal Expansion	D696	4.0 X 10 ⁻⁵	in/in./°F
Continuous Servicing Temperature, Intermittent		355	°F
Long Term	UL746B	230	°F
Specific Heat		0.4	BTU/lb -°F
Thermal Conductivity		1.7	
Melting Point	D2133	491	°F
Flammability	UL94	HB	(mm)
Electrical Properties			
Surface Resistivity	D257		ohm/square
Volume Resistivity	D257	10 ¹⁵	ohm - cm
Dielectric Strength	D149	30	Volts/mil
Dielectric Constant, 60 Hz, 73°F, 50% RH	D150	2.5	
Dissipation Factor, 60 HZ, 73°F	D150		

237 Glider Circle, Corona, CA 92880 Phone: (951) 272-9395 Fax: (951) 272-9397

*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufactures, converters and other published sources. However, they should not be used for specification or design purposes. The above information is provided by Ensinger Hyde.