



MANUFACTURING CORPORATION

- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

Material Data Sheet

Material: Tecamid® ST (Nylon 6/6) | Nylon

Tecamid® ST is Ensingers version of super tough nylon. It has increased impact resistance and toughness over Tecamid 6/6. Nylon was the first engineering resin. It has been used in applications ranging from electronic, marine, and automotive industries. Nylon has outstanding wear resistance and low frictional properties. It has very good temperature, chemical, and impact properties. However Nylon's one weakness is a propensity to absorb moisture and thus have poor dimensional stability.

Mechanical Properties	ASTM Test Method	Value	Units
Density	D792	0.039	lbs/in ³
Specific Gravity	D792	1.08	g/cc
Water Absorption @ 24 hours, 73°F	D570	1.2	%
@ Saturation, 73°F	D570	6.7	%
Tensile Strength, 73°F	D638	7,200	psi
Tensile Modulus	D639		psi
Elongation (at break), 73°F	D638	60	%
Flexural Strength, 73°F	D790	9,800	psi
Flexural Modulus of Elasticity, 73°F	D790	245,000	psi
Compressive Strength	D695		psi
Izod Impact Strength, 73°F	D256	17	ft-lb/in of notch
Rockwell Hardness, 73°F	D785	R-112	M or R Scale
Shure Hardness			D Scale
Wear Factor Against Steel, 40 psi, 50 fpm	D3702	200 X 10 ⁻¹⁰	in. ³ -min/ft.lbs.hr
Static Coefficient of Friction	D3702		
Dynamic Coefficient of Friction, 40 pcs, 50 fpm	D3702	0.28	
Thermal Properties			
Heat Deflection Temperature @ 66 psi	D648	421	°F
@ 264 psi	D648	160	°F
Coefficient of Linear Thermal Expansion	D696	6.7 X 10 ⁻⁵	in/in./°F
Continuous Servicing Temperature, Intermittent			°F
Long Term	UL746B		°F
Specific Heat			BTU/lb -°F
Thermal Conductivity			
Melting Point	D2133	505	°F
Flammability	UL94	HB (.81)	(mm)
Electrical Properties			
Surface Resistivity	D257		ohm/square
Volume Resistivity	D257		ohm - cm
Dielectric Strength	D149		Volts/mil
Dielectric Constant, 60 Hz, 73°F, 50% RH	D150		
Dissipation Factor, 60 HZ, 73°F	D150		

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*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.