TECAMID®
(Nylon)

Nylon was the first engineering resin. It has been used in applications ranging from electronic, marine, and automotive industries to fibers used to make carpet. 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.

Tecamid® 6/6
Type 6/6 general purpose standard grade nylon. Extruded in natural and black. (Weather Resistant Black Grade is also available.)

Tecamid® 6/12
Type 6/12 nylon. This nylon has lower moisture absorption rates than nylon 6/6, hence superior dimensional stability.

Tecamid® ST
Type 6/6 nylon. Super Tough nylon. Increased impact resistance and toughness over Tecamid 6/6.

Tecamid® HS
Type 6/6 nylon. Heat Stabilized nylon. Increased ability to withstand the negative effects of heat exposure and increased overall service temperature over Tecamid® 6/6.

TECAMID® has an excellent balance of properties which make it an ideal material for metal replacement in applications such as automotive parts, industrial valves, railway tie insulators, and other industry uses whose design requirements include high strength, toughness, and weight reduction.

Primary Specification (Resin) (Typical)
Tecamid 6/6: ASTM-D-4066 PA0114 Tecamid ST: ASTM-D-4066 PA0162
Tecamid 6/12: ASTM-D-4066 PA0613 Tecamid HS: ASTM-D-4066 PA124B54380

Shapes Specification (Typical)
ASTM-D-5989 S-PA0111 ASTM-D-5989 S-PA0000
ASTM-D-5989 S-PA0511 ASTM-D-5989 S-PA0131

Properties	ASTM Test Method	Units	Tecamid® 6/6	Tecamid® 6/12	Tecamid® ST	Tecamid® HS
Physical						
Density	D792	lbs/in^3	0.0412	0.0383	0.0390	0.0412
Specific Gravity	D792	g/cc	1.14	1.06	1.08	1.14
Water Absorption, @ 24 hours, 73°F @Saturation, 73°F	 D570 D570	%	 1.2 8.5	 0.25 3.0	 1.2 6.7	 - -
Mechanical						
Tensile Strength @ Yield	D638	psi	10,000	8,000	7,200	10,000
Tensile Modulus	D639	psi	350,000	300,000	-	350,000
Elongation @ Break	D638	%	25	20	60	25
Flexural Strength	D790	psi	15,500	-	9,800	-
Flexural Modulus	D790	psi	440,000	275,000	245,000	440,000
Compressive Strength	D695	psi	5,000	2,400	-	-
Izod Impact Strength	D256	ft-lbs/in	1.1	0.9	17.0	1.2
Rockwell Hardness	D785	M or R Scale	M-90	R-114	R-112	-
Wear Factor Against Steel, 40 psi, 50 fpm	D3702	in^3 /hr*1/PV	200×10^{-10}	190×10^{-10}	200×10^{-10}	
Dynamic Coefficient of Friction, 40 psi, 50 fpm	D3702	-	0.26	-	0.28	-

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Properties	ASTM Test Method	Units	Tecamid® 6/6	Tecamid® 6/12	Tecamid® ST	Tecamid® HS
Thermal						
Heat Deflection Temperature @ 66 psi @264 psi	 D648 D648	 °F °F	 455 194	 - 142	 421 160	 392 194
Coefficient of Linear Thermal Expansion	D696	in/in/°F	4.5×10^{-5}	5×10^{-5}	6.7×10^{-5}	-
Maximum Servicing Temperature, Intermittent Long Term	 - UL746B	 °F °F	 300 185	 - -	 - -	 - -
Specific Heat	-	BTU/lb-°F	0.4	0.45	-	-
Thermal Conductivity	-	-	-	1.53	-	-
Melting Point	D2133	°F	491	422	505	504
Flammability	UL94	(mm)	V-2 (3.0)	HB (0.86)	HB (0.81)	HB (0.75)
Electrical						
Volume Resistivity	D257	ohm-cm	10^{15}	10^{15}	-	-
Dielectric Strength	D149	V/mil	300-400	-	-	-
Dielectric Constant, @ 60 Hz, 73°F, 50% RH @ 1 MHz	 D150 D150	 - -	 4 3.6	 4 3.5	 - -	 - -
Dissipation Factor, @ 60 HZ, 73°F	D150	-	0.01	0.02	-	-

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.