TECAMID® 6/6 GF30
(Extruded Nylon 6/6 30% Glass-Fiber Reinforced)

TECAMID® 6/6 GF30 is a 30% glass-fiber-reinforced nylon 6/6 material whose important properties include high tensile and flexural strength, stiffness, excellent heat deflection temperature, and superior abrasion and wear resistance. While all TECAMID® materials have high mechanical strength and superior resistance to wear and organic chemicals, TECAMID® 6/6 GF30 has more than double the strength and stiffness of unreinforced nylons and a heat deflection temperature which approaches its melting point.

- Superior organic chemical resistance - TECAMID® nylons are resistant to most organic solvents.
- High heat deflection temperature - At 66 psi, TECAMID® 6/6 GF30 has a HDT of 490°F. Even at 264 psi, the HDT is in excess of 480°F.
- Excellent wear resistance - TECAMID® 6/6 GF30 has a wear rate approaching that of internally lubricated bearing materials. Additionally, the reinforcing glass fibers give this extruded nylon excellent abrasion and cut resistance.
- High strength and stiffness - TECAMID® 6/6 GF30 has a tensile and flexural strength more than double that of unreinforced nylon and a flexural modulus three times higher. These values are equaled or exceeded only by reinforced specialty materials costing many times more.
- Very good fatigue endurance - TECAMID® 6/6 GF30 has been successfully used in gears at high stress levels for many years.
- Superior creep resistance

TECAMID® 6/6 GF30 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)
ASTM-D-4066 PA011G30A00000

Shapes Specification (Typical)
ASTM-D-5989 S-PA0101G301444440

Property	ASTM Test Method	Units	TECAMID® 6/6 GF30
Physical			
Density	D792	lbs/in^3	0.0488
Specific Gravity	D792	g/cc	1.35
Water Absorption, @ 24 hours, 73°F	D570	%	0.7
Water Absorption, @ Saturation, 73°F	D570	%	5.4
Mechanical			
Tensile Strength @ Yield, 73°F	D638	psi	12,000
Tensile Modulus	D639	psi	400,000
Elongation @ Break, 73°F	D638	%	10
Flexural Strength, 73°F	D790	psi	18,500
Flexural Modulus, 73°F	D790	psi	550,000
Izod Impact Strength, 73°F	D256	ft-lbs/in	1.0
Rockwell Hardness, 73°F	D785	M Scale	90
Thermal			
Heat Deflection Temperature @ 66 psi @264 psi	D648 D648	°F °F	490 482
Coefficient of Linear Thermal Expansion	D696	in/in/°F	1.2×10^{-5}
Maximum Servicing Temperature, Intermittent Long Term	 - UL746B	 °F °F	 465 230
Melting Point	D2133	°F	491
Flammability	UL94	-	HB
Electrical			
Volume Resistivity	D257	ohm-cm	10^{15}
Dielectric Strength	D149	V/mil	530

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.