

## Nylon 6/6 GF30

**(Extruded Nylon 6/6 30% Glass-Fiber Reinforced)**

Nylon 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 deflec-

tion temperature, and superior abrasion and wear resistance. While all Nylon materials have high mechanical strength and superior resistance to wear and organic chemicals,

Nylon 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**  
Nylon are resistant to most organic solvents.
- **High heat deflection temperature**  
At 66 psi, Nylon 6/6 GF30 has a HDT of 490°F. Even at 264 psi, the HDT is in excess of 480°F.
- **Excellent wear resistance**  
Nylon® 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**  
Nylon 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 equalled or exceeded only by reinforced specialty materials costing many times more.
- **Very good fatigue endurance**  
Nylon 6/6 GF30 has been successfully used in gears at high stress levels for many years.
- **Superior creep resistance**

*Nylon 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.*

# TYPICAL PROPERTY VALUES

	PROPERTIES	ASTM Test Method	Units	Nylon GF30
<b>PHYSICAL</b>	Density	D792	lbs/in <sup>3</sup>	0.0488
	Specific Gravity	D792	g/cc	1.35
	Water Absorption, @24 hours, 73°F	D570	%	0.7
	@Saturation, 73°F	D570	%	5.4
<b>MECHANICAL</b>	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
	Compressive Strength	D695	psi	-
	Izod Impact Strength, 73°F	D256	ft-lbs/in	1.0
	Rockwell Hardness, 73°F	D785	M Scale	90
	Shure Hardness	-	D Scale	-
	Wear Factor Against Steel, 40 psi, 50 fpm	D3702	in <sup>3</sup> x 1 / hr PV	-
	Static Coefficient of Friction	D3702		-
	Dynamic Coefficient of Friction, 40 psi, 50 fpm	D3702		-
	<b>THERMAL</b>	Heat Deflection Temperature @ 66 psi	D648	°F
@264 psi		D648	°F	482
Coefficient of Linear Thermal Expansion		D696	in/in/°F	1.2 x 10 <sup>-5</sup>
Maximum Servicing Temperature, Intermittent		-	°F	465
Long Term		UL746B	°F	230
Specific Heat		-	BTU/lb-°F	-
Thermal Conductivity		-	-	-
Vicate Softening Point		-	°F	-
Melting Point		D2133	°F	491
Flammability		UL94		-
<b>ELECTRICAL</b>	Surface Resistivity	D257	ohm/square	-
	Volume Resistivity	D257	ohm-cm	-
	Dielectric Strength	D149	V/mil	-
	Dielectric Constant, @ 60 Hz, 73°F, 50% RH	D150	-	-
	@ 1 MHz	D150	-	-
	@ 20 GHz	D150	-	-
	@ 30 GHz	D150	-	-
	Dissipation Factor, @ 60 HZ, 73°F	D150	-	-

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## MATERIAL AVAILABILITY

**Rods:** Diameters: 3/16" to 4 3/4"; 10' length  
Length: 5" to 6" diameter, 5' length

**Plates:** 1/4" to 3" thickness inclusive are 2' x 4'  
3 1/4" to 4" thickness inclusive are 1' x 2'

## Primary Specification (Resin) (Typical)

ASTM-D-4066 PA011G30A00000

## Shapes Specification (Typical)

ASTM-D-5989 S-PA0101G301444440

**Profiles, tubes, and special sizes are custom-produced on request.**



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