

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

Typical Values

Physical Properties	ASTM Test Method	Units	Nylon 6/6	Nylon 6/6 GF30
Density	D792	lbs/cu in	0.0412	0.0488
Specific Gravity	D792	----	1.14	1.35
Water absorption, 24 hours, 73°F (23°C)	D570	%	8.5	0.7
Mechanical Properties	ASTM Test Method	Units	Nylon 6/6	Nylon 6/6 GF30
Tensile Strength 73°F	D638	psi	12,400	27,000
Elongation 73° F	D638	%	90	3
Flexural Strength, 73° F	D790	psi	17,000	39,100
Flexural Modulus, 73°F	D790	psi	4.1 X 10 ⁵	12 X 10 ⁵
Izod Impact Strength, Notched, 73°F	D256	----	R120 - M79	M101
Rockwell Hardness	D785	ft-lbs/in.	1.2	2.1
Thermal Properties	ASTM Test Method	Units	Nylon 6/6	Nylon 6/6 GF30
Heat Deflection 66 psi 264 psi	D648	degrees F	455	490
	D648	degrees F	194	482
Max. Temperature Long Term Short Term	----	degrees F	170	230
		degrees F	355	465
Coefficient of Linear Thermal Expansion	see below			
-20 to -200° F 200 to 460° F	D696	in./in./degrees	4.5 X 10 ⁻⁵	1.2 X 10 ⁵
	D696	F	5.0 X 10 ⁻⁵	
Electrical Properties	ASTM Test Method	Units	Nylon 6/6	Nylon 6/6 GF30
Volume Resistivity, 73°F	D257	ohm-cm	10 ¹⁵	10 ¹⁵
Dielectric Constant, 60 Hz, 73°F, 50% RH	D150	----	4.0	----
Dielectric Strength	D149	V/mil	600	530