

NYLON

NYCAST® / NYLOIL® / NYMETAL™ / SUSTAMID® / TECAMID™



Nylon is a strong, stiff engineering plastic with outstanding bearing and wear properties. Nylon is frequently used to replace metal bearings and bushings, often eliminating the need for external lubrication. Other benefits include a reduction in part weight, less operating noise, and decreased wear on mating parts.

Nylon is available in a variety of specialty formulations. Molybdenum disulfide-filled and oil-filled nylons have enhanced wear properties, while heat stabilized nylon will withstand higher operating temperatures. For enhanced strength and stiffness, nylon is also available in glass-filled grades.

In power transmission applications NYMETAL™ billets made with nylon and a metal core combine the performance advantages of nylon and metal into one cohesive unit. The billets can be manufactured into many different components including gears, rollers, sprockets, and augers.



KEY CHARACTERISTICS:

- Excellent bearing and wear properties
- Strong and stiff
- Good chemical resistance
- Easy to machine
- Reduced noise, weight, and wear on mating parts compared with many traditional metal bearing materials
- Nylon billets with metal cores available
- Internally lubricated grades often eliminate the need for external lubrication in bearing and wear applications
- Enhanced bearing and wear grades available
- FDA compliant grades available
- Glass-filled grades available

APPLICATIONS:

- Bearings and bushings
- Gears
- Wear pads
- Packaging machinery components
- Food processing machinery components
- Wheels
- Rollers
- Seals and gaskets

NYLON TYPICAL PROPERTIES:

	UNITS	ASTM TEST	EXTRUDED NYLON 6/6	CAST NYLON 6	MD-FILLED CAST NYLON 6	OIL-FILLED CAST NYLON 6	HEAT STABILIZED CAST NYLON 6
Tensile strength	psi	D-638	12,400	10,000-13,500	10,000-14,000	9,500-11,000	12,000-13,500
Flexural modulus	psi	D-790	410,000	420,000-500,000	400,000-500,000	375,000-475,000	420,000-500,000
Izod impact (notched)	ft-lbs/in of notch	D-256	1.2	0.7-0.9	-	1.4-1.8	0.7-0.9
Heat deflection temperature @264 psi	°F	D-648	194	200-400	200-470	200-400	200-430
Maximum continuous service temperature in air	°F		210	230	-	230	250
Water absorption (immersion 24 hours)	%	D-570	1.20	0.60-1.20	0.05-1.40	0.50-0.60	0.50-0.60
Coefficient of linear thermal expansion	in/in/°Fx10 ⁻⁵	D-696	4.5	5.0	-	5.0	5.0
Coefficient of friction (dynamic)			0.28	0.22	0.30	0.12	-

Standard Sizes: **EXTRUDED SHEET:** 24"x48" (0.03"-2.0" thick), 48"x96" (0.125"-0.5" thick), 48"x120" (0.125"-0.5" thick) **EXTRUDED ROD:** diameter 0.25"-6.0"
CAST SHEET: 24"x48" (0.25"-4.0" thick), 48"x96" (0.25"-4.0" thick) **CAST ROD:** diameter 1.0"-12.0" **CAST TUBE:** diameter 2.0"-40.0"

Length, width, thickness, and diameter tolerances vary by size and by manufacturer • Custom sizes and colors available upon request • Many of our materials are available as films with thicknesses of 0.029" or less. Values may vary according to brand name. Please ask your Curbell Plastics representative for more specific information about an individual brand.

Curbell Plastics has been supplying plastic sheet, rod, tube, films, adhesives, sealants, and prototyping materials for over 65 years



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