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TECH NOTE

ISO 9001:2008
ISO 14001

Extruded or Cast Nylon – Is There Any Difference?

Material testing shows there are differences between extruded and cast nylon materials that may warrant a good look at a Technical Data Sheet before you make your material selection.

The Top 5 Differences between the more traditional extruded nylon and cast nylon materials are :

1 – Cast nylon has a 20 degree higher operating temperature than extruded nylon

2 – Cast nylon is available in smaller diameter rod than extruded nylon is when looking at premium bearing grades

3 – The more crystalline structure of cast nylon gives it a higher strength than extruded nylon

4 - Lower moisture absorption gives cast nylon a higher dimensional stability than extruded nylon

5 - A cast nylon material inherently has less stress than extruded nylon

Fabrication: Both cast and extruded nylon stock shapes are easy to machine on standard metalworking and woodworking equipment. Positive tool geometry with ground peripheries are recommended. Carbide-grade tooling with polished top surfaces should be used. Coolants (water mist with soluble oil) are not required, but may be used for optimum finishes or close tolerances.

Cost analysis: Typically, the cost of a large cast stock shape is less than an extruded stock shape of similar size. For example, a 5-in. diameter cast rod can be about 10% less than its extruded counterpart. A 3-in. thick cast plate can cost about 15% less than extruded plate. Smaller shapes typically cost about the same.

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Extruded or Cast Nylon – Is There Any Difference? (suite)

Table II: Guide to selecting nylon stock shapes

Choose extruded nylon for:	**(Rod, plate, bushing stock)**
Long lengths of rod	Up to 10' or longer
Long lengths of plate	Up to 120"
Small diameter rod	Up to 6 " diameter
Thin cross section plate	Up to 3" thick
Choose cast nylon for:	**(Rod, plate, tubular bar, discs)**
Large diameter rod	Up to 28" diameter
Large diameter tubular bar	Up to 38" OD
Long tubular bar	Up to 78" long
Thick cross section plate	Up to 4" thick

Although it may not always make sense to choose a cast nylon over an extruded nylon material, characteristics of cast nylons can ultimately mean longer wearing parts and in applications such as bearings, nylon wear pads, or gears, that can mean less downtime of equipment, less maintenance and improved operating costs over time.

Contact Robco for additional technical information at info@robco.com Thank you !

Your Robco Technical Team