CAST NYLONS LIMITED

Discover the NYCAST® Advantage

NYCAST® NYLOIL® MDX Gray, MDX Blue

Only NYLOIL from CAST NYLONS LIMITED offers three grades of self-lubricating Nylon bearing material tailored to meet your specific application. A cast nylon with built-in oil lubrication, NYLOIL provides superior machinability, performance, and durability compared to other plastic and traditional bearing materials. Three grades of NYLOIL are available to fit the most demanding applications: original green NYLOIL for most bearing applications; food-grade, Natural NYLOIL-FG for direct contact with food, and MoS_2 filled

NYLOIL-MDX with slightly higher compressive load capabilities than original NYLOIL. The incorporation of an oil lubricant package into the nylon matrix provides significant advantages over other bearing materials:

Lubrication results in 25% lower coefficient of friction than other grades of nylon

Performs in harsh environments where lubrication is difficult, impossible or not desirable (food contact)

- Works successfully in marine applications.
- Reduced water absorption promotes higher dimensional stability.
- Works and machines as easily as brass.
- Oil will not spin out, dry out, or drain out, even under the harshest operating conditions.
- During NYLOIL's manufacturing process, an oil lubricant package is completely dispersed within the cast nylon matrix, making it an integral part of the casting's structure.

Gray NYLOIL-MDX is formulated with Molybdenum Disulfide filler, which promotes higher crystallinity in the cast polymer, in addition to the oil lubricant package. This yields a bearing material with more consistent intermolecular structure and generally a narrower distribution within the range of physical property values, while retaining the advanced friction properties of unfilled NYLOIL.

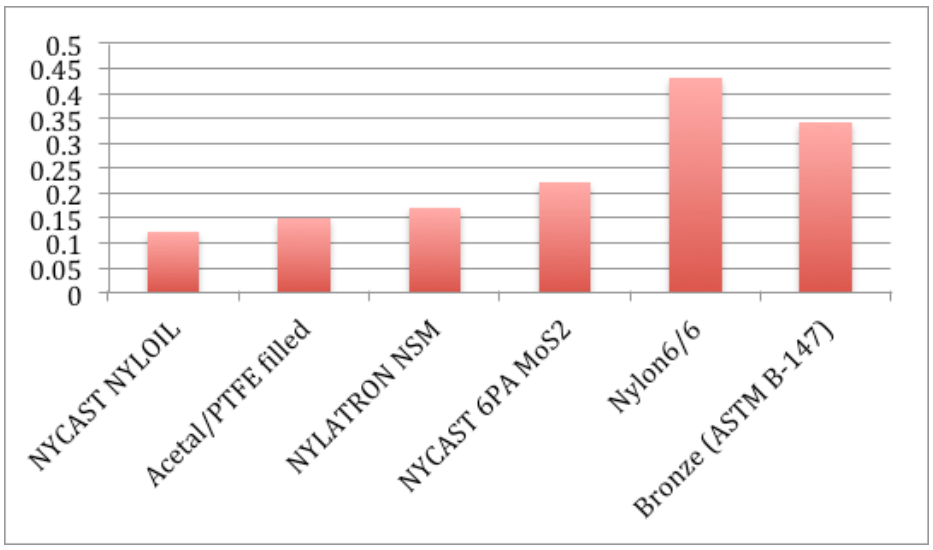
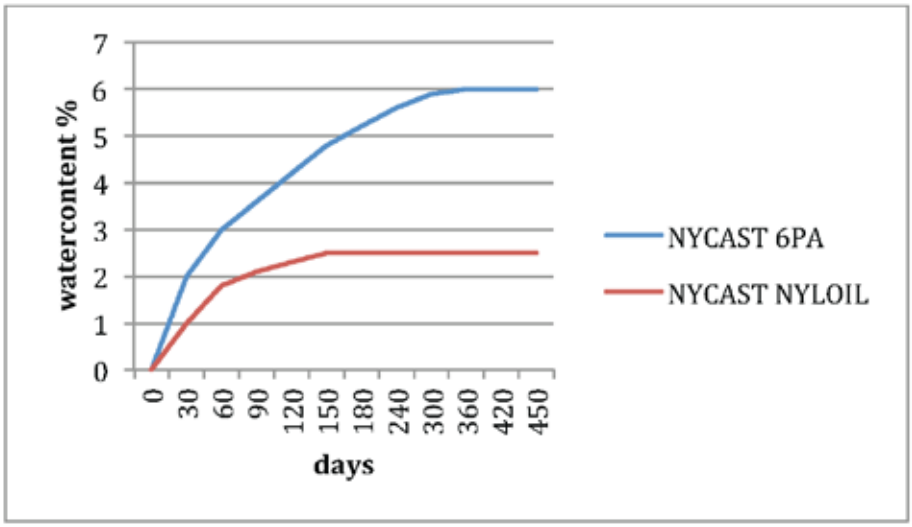


Chart 1: comparison coefficient of friction different materials, measured on thrust washer testing machine, unlubricated @ 40 fpm and 50 lb/in^2

Dimensional Stability

With their higher crystallinity, all NYCAST products exhibit improved dimensional stability compared to their extruded nylon counterparts. But NYLOIL provides even better dimensional stability than regular grades of cast nylon: Its oil droplets fill gaps in the amorphous structure of the polymer, allowing less room for water to be absorbed into these areas. The moisture absorption graph shows that despite a slow absorption rate, NYLOIL stabilizes at approximately 2.5% moisture content - less than half the moisture content of other unfilled nylons.



Product Data Sheet: NYCAST® NYLOIL® MDX Gray, MDX Blue

Property	Units	ASTM Test Method	NYCAST® NYLOIL® MDX Gray, MDX
Specific Gravity	g/cm^3	D 792	**Blue** 1.14 - 1.15
Tensile Strength	psi	D 638	10,500 - 11,000
Tensile Elongation	%	D 638	35 - 45
Tensile Modulus	psi	D 638	425,000 - 475,000
Compressive Strength	psi	D 695	13,500 - 14,000
Compressive Modulus	psi	D 695	325,000 - 375,000
Flexural Strength	psi	D 790	15,500 - 16,000
Flexural Modulus	psi	D 790	425,000 - 475,000
Shear Strength	psi	D 732	8,000 - 9,000
Notched Izod Impact	ft.lbs/in.	D 256	1,4 - 1,8
Hardness Rockwell	R	D 785	110 - 115
Hardness, Shore	D	D 2240	74 - 80
Limiting Pressure Velocity	psi-ft/min	-	16,000
Melting Point	°F	D 3418	430 +/- 10
Coefficient of Linear Thermal Expansion	in./in./°F	D 696	$5.0 * 10^{-5}$
Deformation Under Load	%	D 621	0.7 – 0.8
Deflection Temperature			
264 psi	°F	D 648	200 - 300
66 psi	°F	D 648	300 - 400
Continuous Service Temperature	°F	-	230
Intermittent Service Temperature	°F	-	330
Coefficient of Friction, Dynamic		D 1894	0.12
Water Absorption			
24 Hours	%	D 570	0.4 - 0.6
Saturation	%	D 570	4.0 - 5.0
Dielectric Strength	v/mil.	D 149	500 - 600
Dielectric Constant			
60 Hz		D 150	3.7
1000 Hz		D 150	3.7
1 MHz		D 150	3.7

The facts stated and recommendations contained herein are based on experiments and information believed to be reliable. No guarantee is made of the accuracy, however, and the products are sold without warranty, expressed or implied, and upon the conditions that purchasers shall conduct tests to determine suitability for their intended use.

Certified to ISO 9001:2008

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