

Nycast Nyloil-MDX

Polyamide 6

Cast Nylons Ltd.

Message:

Only NYLOIL from Cast Nylons Ltd. 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 MoS2 filled Gray 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 un-desirable.

Operates efficiently in direct contact with abrasive slurries.

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.

Although not evident by sight or touch, the oil lubricant in NYLOIL is always at the surface regardless of the amount of material removed during finish machining or normal wear.

NYLOIL-FG is a self lubricating nylon bearing material which meets the provisions of FDA Regulations 21 CFR, Section 177.15 (and others) and USDA 3A Sanitary Standards 20-17 for direct contact with food. This is a particularly useful material where additional lubrication is not desirable because of cleanability, contamination, or other considerations.

Gray NYLOIL-MDX is formulated with a 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.

General Information	
Additive	Molybdenum Disulfide Lubricant
Features	Durable
	Food Contact Acceptable
	Good Dimensional Stability
	Highly Crystalline
	Low Friction
	Low to No Water Absorption
	Lubricated
	Machinable
	Self Lubricating
Uses	Bearings
	Bushings
	Cams
	Conveyor Parts
	Gears
	Housings
	Marine Applications

Pulleys
Rollers
Seals
Tooling
Valves/Valve Parts
Wear Strip
Wheels

Appearance	Grey		
Forms	Preformed Parts		
Processing Method	Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.14 to 1.15	g/cm ³	ASTM D792
Water Absorption			ASTM D570
24 hr	0.50 to 0.60	%	
Saturation	2.0 to 2.5	%	
PV Limit - Unlubed ¹	110	MPa	
Wear Factor - K	4.00		
Service Temperature - Intermittent	166	°C	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	100 to 115		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2930 to 3280	MPa	ASTM D638
Tensile Strength	72.4 to 75.8	MPa	ASTM D638
Tensile Elongation (Break)	35 to 45	%	ASTM D638
Flexural Modulus	2930 to 3280	MPa	ASTM D790
Flexural Strength	107 to 110	MPa	ASTM D790
Compressive Modulus	2240 to 2590	MPa	ASTM D695
Compressive Strength (10% Strain)	93.1 to 96.5	MPa	ASTM D695
Shear Strength	55.2 to 62.1	MPa	ASTM D732
Coefficient of Friction (vs. Itself - Dynamic)	0.12		ASTM D1894
Deformation Under Load	0.700 to 0.800	%	ASTM D621
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	75 to 96	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	204 to 221	°C	
1.8 MPa, Unannealed	93.3 to 204	°C	
Continuous Use Temperature	110	°C	ASTM D794
Melting Temperature	227 to 238	°C	
CLTE - Flow	9.0E-5	cm/cm/°C	ASTM D696
NOTE			

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