Nycast Nyloil

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	Lubricant
Features	Durable
	Food Contact Acceptable
	Good Dimensional Stability
	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	Green		
Forms	Preformed Parts		
Processing Method	Casting		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.14 to 1.15	g/cm³	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	2590 to 3280	MPa	ASTM D638
Tensile Strength	65.5 to 75.8	MPa	ASTM D638
Tensile Elongation (Break)	45 to 55	%	ASTM D638
Flexural Modulus	2590 to 3280	MPa	ASTM D790
Flexural Strength	96.5 to 110	MPa	ASTM D790
Compressive Modulus	1900 to 2590	MPa	ASTM D695
Compressive Strength (10% Strain)	82.7 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
Tensile Impact Strength	69.4 to 75.7	kJ/m²	ASTM D1822
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			

1.	40 FRM

Recommended distributors for this material

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