

Cast Nylons Nycast® Nyloil® Lubricated Nylon

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, Cast

Material Notes:

NYCAST® NYLOIL® was developed to extend the wear-resistant properties of unlubricated or dry lubricated materials such as MoS2 filled nylons. NYCAST® NYLOIL® will last 5 to 7 times longer than unlubricated or MoS2 dry lubricated cast nylons. Lubrication results in 25% lower coefficient of friction. NYCAST® NYLOILS exhibit more dimensional stability due to reduced moisture absorption. Internal lubricant provides for faster and easier machining than other nylons. Data provided by the manufacturer, Cast Nylons Limited. The data below are average values presented for comparison purposes. Actual property values may differ.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Cast-Nylons-Nycast-Nyloil-Lubricated-Nylon.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in ³	ASTM D792
Water Absorption	0.50 %	0.50 %	24 hrs; ASTM D570
Water Absorption at Saturation	2.5 %	2.5 %	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	112	112	ASTM D785
Tensile Strength, Ultimate	69.0 MPa	10000 psi	ASTM D638
Elongation at Break	45 - 55 %	45 - 55 %	ASTM D638
Tensile Modulus	2.90 GPa	421 ksi	ASTM D638
Flexural Yield Strength	103 MPa	14900 psi	ASTM D790
Flexural Modulus	2.90 GPa	421 ksi	ASTM D790
Compressive Yield Strength	90.0 MPa	13100 psi	10% Offset; ASTM D695
Compressive Modulus	2.20 GPa	319 ksi	ASTM D695
Shear Strength	59.0 MPa	8560 psi	ASTM D732
Izod Impact, Notched	0.900 J/cm	1.69 ft-lb/in	ASTM D256
Tensile Impact Strength	72.0 kJ/m ²	34.3 ft-lb/in ²	ASTM D1822
Coefficient of Friction, Dynamic	0.12	0.12	
Coefficient of Friction, Static	0.20	0.20	
K (wear) Factor	8.06 x 10 ⁻⁸ mm ³ /N-M	4.00 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	unlubricated thrust washer machine @ 10 fpm and 250 psi

Mechanical Properties	Metric	English	Comments
	1.33 MPa-m/sec	38000 psi-ft/min	at 0.127 m/s

Thermal Properties	Metric	English	Comments
CTE, linear	63.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	35.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	ASTM D696
Melting Point	226 - 238 $^{\circ}\text{C}$	439 - 460 $^{\circ}\text{F}$	ASTM D789
Maximum Service Temperature, Air	110 $^{\circ}\text{C}$	230 $^{\circ}\text{F}$	Continuous service
	166 $^{\circ}\text{C}$	331 $^{\circ}\text{F}$	Intermittent service
Deflection Temperature at 0.46 MPa (66 psi)	204 - 221 $^{\circ}\text{C}$	399 - 430 $^{\circ}\text{F}$	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	166 - 204 $^{\circ}\text{C}$	331 - 399 $^{\circ}\text{F}$	ASTM D648

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