



Nylatron® NSM Nylon, Type 6, solid lubricant filled, cast

Nylatron NSM is the premium bearing and wear nylon product available today. Solid lubricant additives impart self-lubricating, high pressure/velocity and superior wear resistance characteristics. This wear resistance is delivered without either start-up or running lubrication making it ideal for bearings, gears and wear pads. It is a proprietary type 6 nylon formulation produced using Quadrant EPP's Monocast process. Nylatron NSM was developed specifically for demanding applications where larger size parts are required. In wear applications, Nylatron NSM lasts up to 10 times longer than standard Type 6 nylon.

Physical Properties	Metric	English	Comments
Specific Gravity	1.15 g/cc	0.0415 lb/in ³	ASTM D792
Water Absorption	0.3 %	0.3 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	7 %	7 %	Immersion; ASTM D570(2)
Mechanical Properties			
Hardness, Rockwell M	80	80	ASTM D785
Hardness, Rockwell R	110	110	ASTM D785
Hardness, Shore D	85	85	ASTM D2240
Tensile Strength, Ultimate	75.8 MPa	11000 psi	ASTM D638
Elongation at Break	20 %	20 %	ASTM D638
Tensile Modulus	2.83 GPa	410 ksi	ASTM D638
Flexural Modulus	3.28 GPa	475 ksi	ASTM D790
Flexural Yield Strength	110 MPa	16000 psi	ASTM D790
Compressive Strength	96.5 MPa	14000 psi	10% Def.; ASTM D695
Compressive Modulus	2.76 GPa	400 ksi	ASTM D695
Shear Strength	68.9 MPa	10000 psi	ASTM D732
Coefficient of Friction	0.18	0.18	Dry vs. Steel; QTM55007
K (wear) Factor	24.2 x 10 ⁻⁸ mm ³ /N-M	12 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.525 MPa-m/sec	15000 psi-ft/min	4:1 safety factor; QTM 55007
Izod Impact, Notched	0.267 J/cm	0.5 ft-lb/in	ASTM D256 Type A

Electrical Properties

Surface Resistivity per Square	Min 1e+013 ohm	Min 1e+013 ohm	EOS/ESD S11.11
Dielectric Strength	15.7 kV/mm	400 V/mil	Short Term; ASTM D149

Thermal Properties

CTE, linear 68°F	99 µm/m-°C	55 µin/in-°F	(-40°F to 300°F); ASTM E831
Melting Point	216 °C	420 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	93.3 °C	200 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	93.3 °C	200 °F	ASTM D648
Flammability, UL94 (Estimated Rating)	HB	HB	1/8 inch

Qualitative Processing Properties

Compliance - FDA	Not Compliant	
Machinability	1	1-10, 1=Easier to Machine
Service in Alcohols	Limited	
Service in Aliphatic Hydrocarbons	Acceptable	
Service in Aromatic Hydrocarbons	Acceptable	
Service in Chlorinated Solvents	Limited	
Service in Ethers	Acceptable	
Service in Ketones	Acceptable	
Service in Strong Acids	Unacceptable	
Service in Strong Alkalies	Unacceptable	
Service in Sunlight	Limited	
Service in Weak Acids	Limited	
Service in Weak Alkalies	Limited	

All statements, technical information and recommendations contained in this database are presented in good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Professional Plastics, inc. cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of any product in any given application.

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