



# Nylatron LIG (Quadrant)

Type 6, oil-filled, cast nylon

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	0.0412 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.3 %	0.3 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	6 %	6 %	Immersion; ASTM D570 (2)

## Mechanical Properties

Hardness, Rockwell M	85	85	ASTM D785
Hardness, Rockwell R	120	120	ASTM D785
Tensile Strength, Ultimate	68.3 MPa	9900 psi	ASTM D638
Elongation at Break	50 %	50 %	ASTM D638
Tensile Modulus	3.21 GPa	465 ksi	ASTM D638
Flexural Modulus	3.62 GPa	525 ksi	ASTM D790
Flexural Yield Strength	103 MPa	15000 psi	ASTM D790
Compressive Strength	93.1 MPa	13500 psi	10% Def.; ASTM D695
Compressive Modulus	2.28 GPa	330 ksi	ASTM D695
Shear Strength	64.1 MPa	9300 psi	ASTM D732
Coefficient of Friction	0.14	0.14	Dry vs. Steel; QTM55007
K (wear) Factor	181 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	90 x 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.21 MPa-m/sec	6000 psi-ft/min	4:1 safety factor; QTM 55007
Izod Impact, Notched	0.534 J/cm	1 ft-lb/in	ASTM D256 Type A

## Thermal Properties

CTE, linear 68°F	101 µm/m-°C	56 µin/in-°F	(-40°F to 300°F); ASTM E831
Melting Point	216 °C	420 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	104 °C	220 °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	2	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		

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