

Mitsubishi Chemical Advanced Materials Nylatron® LIG Oil Filled Cast 6 Nylon (ASTM Product Data Sheet)
Categories: Polymer; Thermoplastic; Nylon (Polyamide PA)

Material Notes: Quadrant Engineering Plastic Products is now Mitsubishi Chemical Advanced Materials.

Key Words: Polyamide

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ASTM D792
Water Absorption	0.30 %	0.30 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	6.0 %	6.0 %	Immersion; ASTM D570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	85	85	ASTM D785
Hardness, Rockwell R	120	120	ASTM D785
Tensile Strength	68.3 MPa	9900 psi	ASTM D638
Tensile Strength at 65°C (150°F)	41.4 MPa	6000 psi	ASTM D638
Elongation at Break	50 %	50 %	ASTM D638
Tensile Modulus	3.21 GPa	465 ksi	ASTM D638
Flexural Strength	103 MPa	15000 psi	ASTM D790
Flexural Modulus	3.62 GPa	525 ksi	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
Izod Impact, Notched	0.534 J/cm	1.00 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.14	0.14	Dry vs. Steel; QTM55007
K (wear) Factor	145 x 10 ⁻⁸ mm ³ /N-M	72.0 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.210 MPa-m/sec	6000 psi-ft/min	4:1 safety factor; QTM 55007

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	1.00e+13 ohm	1.00e+13 ohm	EOS/ESD S11.11

Thermal Properties	Metric	English	Comments
CTE, linear	101 µm/m-°C @Temperature -40.0 - 149 °C	56.0 µin/in-°F @Temperature -40.0 - 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	HB @Thickness 3.17 mm	HB @Thickness 0.125 in	Estimated Rating

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
Canada AG	No	No	
FDA	No	No	
NSF	No	No	
USDA	No	No	
USP Class VI	No	No	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Unacceptable	Unacceptable	
Acids, Weak	Limited	Limited	
Alcohols	Limited	Limited	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Limited	Limited	
Chlorinated Solvents	Limited	Limited	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	



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