

Mitsubishi Chemical Advanced Materials Nylatron® WP PA (ASTM Product Data Sheet)
Categories: Polymer; Thermoplastic; Nylon (Polyamide PA); Nylon 6 (PA6); Nylon 6, Cast

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

Physical Properties	Metric	English	Comments
Specific Gravity	1.15 g/cc	1.15 g/cc	ASTM D792
Water Absorption	0.30 %	0.30 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	7.0 %	7.0 %	Immersion; ASTM D570(2)
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	80	80	ASTM D785
Hardness, Rockwell R	110	110	ASTM D785
Hardness, Shore D	85	85	ASTM D2240
Tensile Strength	72.4 MPa	10500 psi	ASTM D638
Elongation at Break	20 %	20 %	ASTM D638
Tensile Modulus	2.90 GPa	420 ksi	ASTM D638
Flexural Strength	110 MPa	16000 psi	ASTM D790
Flexural Modulus	3.10 GPa	450 ksi	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
Izod Impact, Notched	0.267 J/cm	0.500 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.18	0.18	Dry vs. Steel; QTM55007
K (wear) Factor	60.4 x 10 ⁻⁸ mm ³ /N-M	30.0 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.473 MPa-m/sec	13500 psi-ft/min	4:1 safety factor; QTM 55007
Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.0e+13 ohm	>= 1.0e+13 ohm	EOS/ESD S11.11
Thermal Properties	Metric	English	Comments
CTE, linear	99.0 µm/m-°C @Temperature -40.0 - 149 °C	55.0 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.342 W/m-K	2.37 BTU-in/hr-ft ² -°F	ASTM F433
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	HB @Thickness 3.17 mm	HB @Thickness 0.125 in	Estimated Rating


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