

Mitsubishi Chemical Advanced Materials Nylatron® GS PA 66 + MoS2, extruded (ISO Data)

Categories: Polymer; Thermoplastic; Nylon (Polyamide PA); Nylon 66 (PA66); Nylon 66, Unreinforced

Material Notes: The addition of MoS2 renders this material somewhat stiffer, harder and dimensionally more stable than Ertalon 66 SA, but results in some loss of impact strength. The nucleating effect of the molybdenum disulphide results in an improved crystalline structure enhancing bearing and wear properties.

- 1 High mechanical strength, stiffness, hardness and toughness
- 1 Good fatigue resistance
- 1 High mechanical damping ability
- 1 Good sliding properties
- 1 Excellent wear resistance
- 1 Good electrical insulating properties
- 1 Good resistance to high energy radiation (gamma- and X-rays)
- 1 Good machinability

Quadrant Engineering Plastic Products is now Mitsubishi Chemical Advanced Materials.

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	2.3 %	2.3 %	50% RH
Water Absorption at Saturation	7.8 %	7.8 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	88	88	ISO 2039-2
Hardness, Shore D	80	80	
Ball Indentation Hardness	165 MPa	23900 psi	ISO 2039-1
Tensile Strength, Yield	95.0 MPa	13800 psi	ISO 527-1/-2
Elongation at Break	20 %	20 %	ISO 527-1/-2
Elongation at Yield	5.0 %	5.0 %	ISO 527-1/-2
Tensile Modulus	3.60 GPa	522 ksi	ISO 527-1/-2
Flexural Strength	128 MPa	18600 psi	
Flexural Modulus	3.24 GPa	470 ksi	
Compressive Strength	32.0 MPa	4640 psi	ISO 604
	@ Strain 1 %	@ Strain 1 %	
	62.0 MPa	8990 psi	ISO 604
	@ Strain 2 %	@ Strain 2 %	
	100 MPa	14500 psi	ISO 604
	@ Strain 5 %	@ Strain 5 %	
K Factor (ISO)	12 µm/km	12 µm/km	
Charpy Impact Unnotched	NB	NB	ISO 179-1/1eU
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.35 - 0.55	0.35 - 0.55	
Limiting Pressure Velocity	0.0800 MPa-m/sec	2280 psi-ft/min	at 1 m/s unlubricated
	0.130 MPa-m/sec	3710 psi-ft/min	at 0.1 m/s unlubricated

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.0e+14 ohm-cm	>= 1.0e+14 ohm-cm	IEC 60093
Surface Resistivity per Square	>= 1.0e+13 ohm	>= 1.0e+13 ohm	IEC 60093
Dielectric Constant	3.8	3.8	IEC 60250
	@Frequency >=100000 Hz	@Frequency >=100000 Hz	
Dielectric Strength	26.0 kV/mm	660 kV/in	
Dissipation Factor	0.013	0.013	IEC 60250
	@Frequency 100000 Hz	@Frequency 100000 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 µm/m-°C	50.0 µin/in-°F	
	@Temperature 23.0 - 100 °C	@Temperature 73.4 - 212 °F	
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ft ² -°F	
Melting Point	260 °C	500 °F	DSC, 10°C/min.; ISO 11357-1/-3
Maximum Service Temperature, Air	80.0 °C	176 °F	Continuous; 20,000 h
	95.0 °C	203 °F	Continuous; 5,000 h
Deflection Temperature at 1.8 MPa (264 psi)	85.0 °C	185 °F	ISO 75-1/-2
Flammability, UL94	HB	HB	

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
European Food 1935/2004	No	No	
FDA	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	
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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