

Product Data Sheet

Product : Quadrant Polypenco Korea Nylatron® MC 801 MOLY - PA6, unfilled, cast

Categories : Polymer; Thermoplastic; Nylon ; Nylon 6; Nylon 6 , Cast

Material Notes : This modified cast nylon 6 grade with its distinctive blue color exhibits high toughness, flexibility and fatigue resistance. It has proved to be an excellent material for gear wheels, racks and pinions.

Data provided by Polypenco Korea and Quadrant Engineering Plastic Products

Properties	Units	Test Methods	Nylatron® MC 801
Physical Properties			
Specific Gravity	g/cc	ASTM D 792	1.15
Water Absorption, Immersion, 24hr	%	ASTM D 570(2)	0.6
Water Absorption at Saturation, Immersion	%	ASTM D 570(2)	7.0
Mechanical Properties			
Rockwell Hardness, M	M scale	ASTM D 785	-
Rockwell Hardness, R	R scale	ASTM D 785	114
Hardness, Shore D	D	ASTM D 2240	-
Tensile Strength	MPa	ASTM D 638	87.4
Tensile Modulus	GPa	ASTM D 638	3.06
Elongation at Break	%	ASTM D 638	22
Flexural Yield Strength	MPa	ASTM D 790	106
Flexural Modulus	GPa	ASTM D 790	3.07
Compressive Strength	MPa	10% Def.; ASTM D 695	95
Compressive Modulus	GPa	ASTM D 695	2.7
Shear Strength	MPa	ASTM D 732	72
Coefficient of Friction; Dry vs. Steel	-	QTM 55007	0.20
K (wear) Factor	mm ³ /N-M	QTM 55010	201 x 10 ⁻⁸
Limiting Pressure Velocity; 4:1 safety factor	MPa-m/sec	QTM 55007	0.105
Izod Impact, Notched	J/m	ASTM D 256	38.0
Electrical Properties			
Surface Resistivity per Square	Ω	EOS/ESD S11.11	≥ 1X10 ¹³
Dielectric Constant	-	ASTM D 150	3.70 @Frequency 1e+6 Hz
Dielectric Strength; Short term	kV/mm	ASTM D 149	15.7

Thermal Properties

Coefficient of Thermal Expansion; CTE, linear	µm/m-°C	ASTM E 831	90.0 @ Temperature -40.0 - 149 °C
Thermal Conductivity	W/m-K	ASTM F 433	0.3
Melting point ; Crystalline, Peak	°C	ASTM D 3418	216
Maximum Service Temperature, Air	°C	Long Term	170
Deflection Temperature at 1.8 Mpa (264psi)	°C	ASTM D 648	93
Flammability, UL94 ; 1/8inch(Estimated Rating)	-	-	HB

Compliance Property

Compliance Property	Comments
SVHC (Substance of Very High Concern)_REACH	Yes

Descriptive Properties

Color	Grayish black
Machinability	1-10, 1=Easier to Machine 1

Chemical Resistance Properties

Acid, Strong (pH1-3)	Unacceptable
Acids, Weak	Limited
Alcohls	Limited
Alkalies, Weak	Unacceptable
Alkalies, Strong (pH 11-14)	Limited
Chlorinated Solvent	Limited
Conductive / Static Dissipative	No
Continuous Sunlight	Limited
Hot Water / Steam	Limited
Hydrocarbons – Aliphatic	Acceptable
Hydrocarbons – Aromatic	Acceptable
Inorganic Salt Solution	Acceptable
Ketones, Esters	Acceptable

Miscellaneous Properties

Targeted Usage	Load + Bearing
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