

# QUADRANT EPP PRODUCT DATA SHEET

June 2001

## NYLATRON® GSM

Cast Nylon 6 + MoS<sub>2</sub> (PA6G + MoS<sub>2</sub>)

NYLATRON® GSM is MoS<sub>2</sub> filled, giving excellent wear resistance, self lubrication and low friction characteristics. It is an ideal material for dynamic bearing applications, even at elevated temperatures.

- High impact strength
- High mechanical damping
- Good alkaline resistance (up to pH 11)
- Very high strength / stiffness
- Good fatigue resistance
- Low weight (1/6 vs steel)
- Excellent wear resistance
- Continuous temperature 90°C (max. 170°C)

Common applications: Racks; Pinions; Gears; Bearings; Rollers; Wheels; Cable sheaves; Cams; Nuts; Valve seats; Pulleys; Gaskets; Electrical insulators.

### Delivery Programme

Rod 3m long			
Diameter (mm):	50 (Min)	150 (Max)	
Rod 1m long			
Diameter (mm):	50 (Min)	500 (Max)	
Rod 500mm long			
Diameter (mm):	210 (Min)	500 (Max)	
Plate			
Thickness (mm):	10 (Min)	100 (Max)	
Sizes (mm):	610 x 1220, 1220 x 2000 1220 x 2440		
Tube 2m long			
O.D. (mm):	50 (Min)	150 (Max)	
I.D. (mm):	20 (Min)	135 (Max)	
Tube 1000mm long			
O.D. (mm):	155 (Min)	260 (Max)	
I.D. (mm):	50 (Min)	235 (Max)	
Tube 600mm long			
O.D. (mm):	220 (Min)	600 (Max)	
I.D. (mm):	70 (Min)	570 (Max)	

### Distributor

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### Technical Specification

Property	ISO Methods	Units	NYLATRON® GSM
Colour	-	-	Grey-Black
Density	1183	g/cm <sup>3</sup>	1.16
Water absorption			
Saturation in air (23°C / 50% RH)	-	%	2.40
Saturation in water (23°C)	-	%	6.70
Tensile strength* <sup>1</sup>	527	N/mm <sup>2</sup>	78
Tensile modulus of elasticity* <sup>1</sup>	527	N/mm <sup>2</sup>	3300
Elongation at break* <sup>1</sup>	527	%	25
Impact - Charpy* <sup>1</sup>	179/1eU	kJ/m <sup>2</sup>	no break
Impact - Izod notched* <sup>1</sup>	180/2A	kJ/m <sup>2</sup>	3.5
Hardness	Rockwell	-	M84
	Shore D	-	-
Melt point	-	°C	220
Max allowable service temp in air			
for short periods	-	°C	170
continuously for 20,000hrs	-	°C	90
Linear thermal expansion coefficient	-	K <sup>-1</sup> x 10 <sup>-5</sup>	8.0
Thermal conductivity	-	W/(K.m)	0.30
Flammability* <sup>2</sup> (6mm thickness)	-	-	HB
Volume resistivity* <sup>1</sup>	IEC93	Ohm.cm	>10 <sup>14</sup>
Dielectric strength* <sup>1</sup>	IEC243	kV/mm	24
Outside applications - UV resistance	-	-	A
Acids - strong (pH < 3)	-	-	C
Alkalis - strong (pH > 11)	-	-	B/C
Chlorinated hydrocarbons	-	-	A/B
Hot water	-	-	B

'A' - Acceptable service; 'B' - Limited service; 'C' - Unacceptable.

\*<sup>1</sup> Measured on dry test specimens (where applicable)

\*<sup>2</sup> Tests completed by Quadrant EPP, using UL test methods

Not all material sizes shown within the delivery programme section of this data sheet are available as standard. Please contact Quadrant EPP UK Ltd for further details.

The data shown are typical values and are not intended to represent specifications. Their aim is to guide the user toward a material choice.