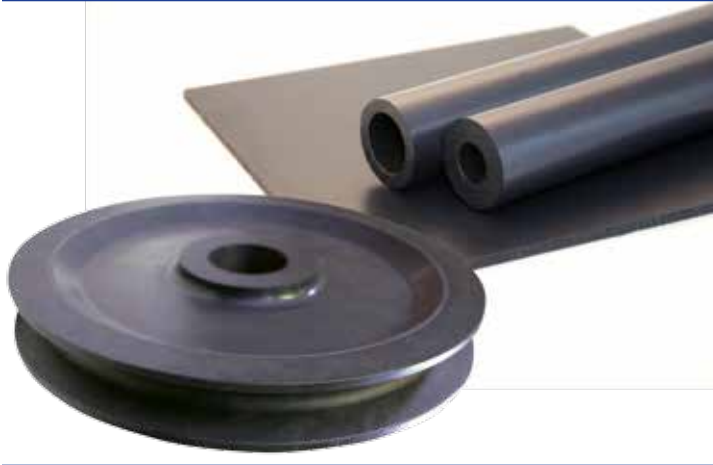


# NYLATRON® GSM PA6

## ENHANCED LOAD BEARING CAPABILITIES FOR GEARS, SHEAVES, SPROCKETS AND MORE



Nylatron® GSM PA6 contains finely divided particles of molybdenum disulfide (MoS2) to enhance its load bearing capabilities while maintaining the impact resistance inherent to Nylon. It is the most commonly used grade for gears, sheaves, sprockets and custom parts. Nylatron® GSM PA6 is grey-black in color.

### KEY BENEFITS

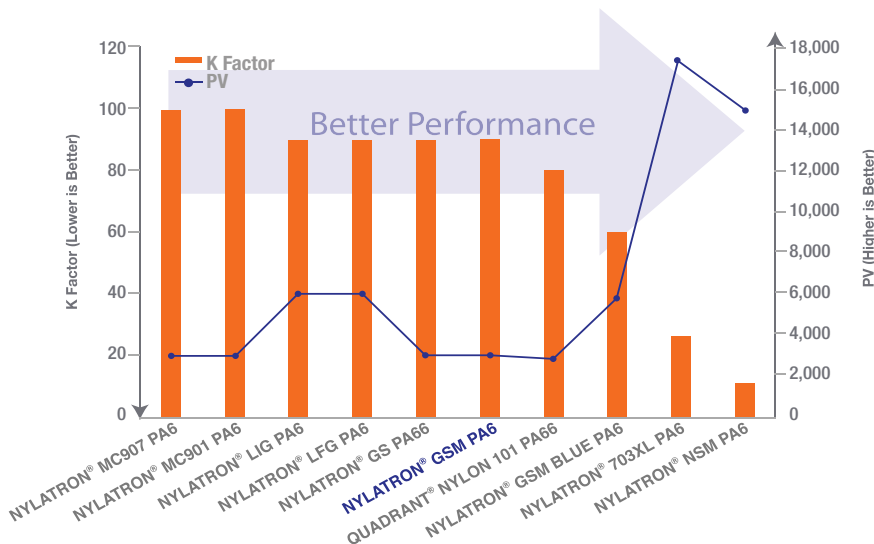
- Higher load bearing capabilities
- Broadest range of sizes
- MoS2 filled
- Good mechanical and wear properties
- Ideal balance of strength and toughness
- Popular in construction and transportation

### AVAILABILITY SHAPES:

- Sheet/Plate
- Rod
- Tube
- Near Net Shapes

### PRODUCT APPLICATION SHEAVES

- **Problem** – Heavy cast or stamped metal sheaves decreased performance of lifting equipment, required frequent lubrication, and shortened the life of the expensive wire rope.
- **Solution** – Specially designed Nylatron® GSM PA6 sheaves eliminated these problems. Nylon sheaves can be easily machined or custom cast when larger series are required.
- **Benefits** – Nylatron® GSM PA6 is seven times lighter than cast iron, thereby reducing overall weight.



# DATA SHEET

	Property	Units	Test Method	Typical Average Value
Mechanical Properties	Specific Gravity @ 73°F	-	ASTM D792	1.16
	Tensile Strength @ 73°F	psi	ASTM D638	11,000
	Tensile Modulus of Elasticity @ 73°F	psi	ASTM D638	400,000
	Tensile Elongation (at break) @ 73°F	%	ASTM D638	30
	Flexural Strength @ 73°F	psi	ASTM D790	16,000
	Flexural Modulus of Elasticity @ 73°F	psi	ASTM D790	500,000
	Shear Strength @ 73°F	psi	ASTM D732	10,500
	Compressive Strength @ 10% Deformation @ 73°F	psi	ASTM D695	14,000
	Compressive Modulus of Elasticity @ 73°F	psi	ASTM D695	400,000
	Hardness, Rockwell, Scale as Noted @ 73°F	-	ASTM D785	R110
	Hardness, Durometer, Shore "D" Scale @ 73°F	-	ASTM D2240	D85
	Notched Izod Impact @ 73°F	ft. lb./in. of notch	ASTM D256 Type "A"	0.5
	Coefficient of Friction – (Dry vs. Steel) Dynamic	-	QTM 55007	0.2
	Limiting PV with 4:1 safety factor applied	ft. lbs./ in. <sup>2</sup> - min	QTM 55007	3,000
	Wear Factor K x 10 <sup>-10</sup>	in. <sup>3</sup> - min/(ft. lb. hr)	QTM 55010	90
Thermal Properties	Coefficient of Linear Thermal Expansion (-40°F to 300°F)	in./in./°F	ASTM E831 (TMA)	5.0 x 10 <sup>-5</sup>
	Heat Deflection Temperature @ 264 psi	°F	ASTM D648	200
	Tg-Glass Transition (amorphous)	°F	ASTM D3418	N/A
	Melting Point (crystalline) peak	°F	ASTM D3418	420
	Continuous Service Temp in Air (Max.) <sup>(1)</sup>	°F	-	200
	Thermal Conductivity	BTU in./(hr. ft. <sup>2</sup> °F)	E1530-11	-
Electrical Properties	Dielectric Strength (Short Term)	Volts/mil	ASTM D149	400
	Surface Resistivity	ohms/square	EOS/ESD S11.11	>10 <sup>13</sup>
	Dielectric Constant, 10 <sup>6</sup> Hz	-	ASTM D150	3.7
	Dissipation Factor, 10 <sup>6</sup> Hz	-	ASTM D150	-
	Flammability @ 3.1mm (1/8 in.) <sup>(3)</sup>	-	UL-94	HB
Other	Water Absorption Immersion, 24 Hours	% by wt.	ASTM D570 <sup>(2)</sup>	0.6
	Absorption Immersion, Saturation	% by wt.	ASTM D570 <sup>(2)</sup>	7

(1) Data represents Quadrant's estimated maximum long-term service temperature based on practical field experience.  
 (2) Specimens: 1/8" thick x 2" diameter or square.  
 (3) Estimated rating based on available data. The UL-94 Test is a laboratory test and does not relate to actual fire hazard. Contact Quadrant for specific UL "Yellow Card" recognition number.

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