

What is PA 6 G MO natural

PA 6 G MO natural

PA 6 G, MoS₂-modified

PA 6 G MO natural is a cast polyamide 6 special compound with a higher MoS₂ content than grade M. The stronger modification further improves sliding properties and wear behaviour, while maintaining high hardness, rigidity and good machinability.

Properties

PA 6 G MO natural is a cast, semi-crystalline polyamide with a higher MoS₂ content than grade M. The solid lubricant significantly improves sliding and wear behaviour, while maintaining the high hardness and rigidity of the PA6 G base material.

Like all polyamides, PA 6 G MO natural absorbs moisture from the environment; this makes the material tougher and more impact-resistant, while stiffness and dimensional stability decrease somewhat.

Advantages

- Improved sliding properties through increased MoS₂ content
- High hardness and rigidity
- Good machinability
- UV-resistant

Disadvantages

- Moisture absorption up to 2.5 % in standard atmosphere, causing dimensional and property changes
- Not resistant to strong acids and permanently hot water (hydrolysis)
- Not generally declared for food contact (see FDA declaration)

Processing

PA 6 G MO natural can be machined like standard PA6 G using all conventional cutting methods; HSS or carbide tools are sufficient. Good cooling via chip removal remains important to avoid softening or smearing of the surface caused by heat build-up.

For tight tolerances, we take swelling and shrinkage behaviour into account and condition the semi-finished product where required.

Typical Applications

PA 6 G MO natural is used wherever high hardness and rigidity are needed alongside particularly good sliding and wear properties, for example in mechanical engineering, crane and lifting technology, and vehicle and plant construction.

- Bearing and guide elements
- Heavy-duty wear parts
- Crane and lifting technology components

Typical Properties

- Improved sliding properties
- High hardness and rigidity
- UV-resistant

Product Examples

- Bearing and guide elements
- Wear parts
- Crane and lifting technology components

Typical Industries

- Mechanical Engineering
- Crane and Lifting Technology
- Vehicle Construction
- Oil & Gas

	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm ³	1.15

	Test Method	Unit	Value
Water absorption	DIN EN ISO 62	%	2.50
Flammability (Thickness 3 mm / 6 mm)	UL 94		HB / HB
Mechanical Properties			
Yield stress	DIN EN ISO 527	MPa	82
Elongation at break	DIN EN ISO 527	%	>35
Tensile modulus of elasticity	DIN EN ISO 527	MPa	3.500
Notched impact strength	DIN EN ISO 179	kJ / m ²	>2.5
Ball indentation hardness	DIN EN ISO 2039-1	MPa	185
Shore hardness	DIN EN ISO 868	scale D	83
Thermal Properties			
Melting temperature	ISO 11357-3	°C	216
Thermal conductivity	DIN 52612-1	W / (m·K)	0.25
Thermal capacity	DIN 52612	kJ / (kg·K)	1.70
Coefficient of linear thermal expansion	DIN 53752	10 ⁻⁶ / K	80
Service temperature, long term	Average	°C	-40 ... 110
Service temperature, short term (max.)	Average	°C	170
Heat deflection temperature	DIN EN ISO 75, Verf. A, HDT	°C	95