

What is POM-C GLD160 natural

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POM-C, lubricant-modified (GLD 160)

POM-C GLD160 natural is a polyoxymethylene copolymer with an incorporated solid lubricant. The internal sliding modification significantly reduces friction and wear compared to standard POM-C and prevents stick-slip effects – while retaining strength and the good machinability typical of POM.

Properties

POM-C GLD160 natural is suitable for dry-running sliding pairings against steel and other plastics: the solid lubricant forms a lubricating film that enables smooth, jerk-free movements and long service life even under marginal lubrication. With a yield stress of 50 MPa, a tensile modulus of 2,500 MPa and a continuous service temperature of 100 °C, the material remains mechanically loadable; according to the resin manufacturer, the compound has been assessed for food contact.

The sliding modification reduces toughness and hardness compared to standard POM-C, and moisture absorption is slightly higher at 0.7 %. Like all POM grades, the material is not resistant to strong acids and has only limited UV resistance.

Advantages

- Significantly reduced friction and wear, no stick-slip
- Suitable for dry running and emergency running
- Good strength and dimensional stability
- Very good machinability

Disadvantages

- Lower toughness and hardness than standard POM-C
- Slightly higher moisture absorption
- Not resistant to strong acids

Processing

POM-C GLD160 natural is one of the easiest engineering plastics to machine: sawing, turning, milling, drilling and thread cutting are straightforward with standard HSS or carbide tools, chips break short and surfaces come out clean. Good cooling via chip removal avoids heat build-up.

For tight tolerances and thick-walled parts, we recommend intermediate annealing to relieve machining stresses; the low moisture absorption makes conditioning unnecessary.

Typical Applications

POM-C GLD160 natural is used wherever components must run with low friction, low wear and without external lubrication – for example in mechanical engineering, conveyor technology, the packaging industry and the food industry.

- Plain bearings, wear strips and guides
- Chain guides, rollers and deflection elements
- Gears and worm wheels in dry running

Typical Properties

- Internal lubricant modification for reduced friction
- Low wear, no stick-slip
- Good machinability

Product Examples

- Plain bearings and wear strips
- Chain guides and rollers
- Gears and worm wheels

Typical Industries

- Mechanical Engineering
- Conveyor Technology
- Packaging Industry
- Food Industry

	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm ³	1.52
Water absorption	DIN EN ISO 62	%	0.70
Flammability (Thickness 3 mm / 6 mm)	UL 94		HB / HB
Mechanical Properties			
Yield stress	DIN EN ISO 527	MPa	50
Elongation at break	DIN EN ISO 527	%	16
Tensile modulus of elasticity	DIN EN ISO 527	MPa	2.500
Notched impact strength	DIN EN ISO 179	kJ / m ²	4.0
Ball indentation hardness	DIN EN ISO 2039-1	MPa	120
Shore hardness	DIN EN ISO 868	scale D	80
Thermal Properties			
Melting temperature	ISO 11357-3	°C	165
Coefficient of linear thermal expansion	DIN 53752	10 ⁻⁶ / K	120
Service temperature, long term	Average	°C	-50 ... 100
Service temperature, short term (max.)	Average	°C	140
Heat deflection temperature	DIN EN ISO 75, Verf. A, HDT	°C	98