

CAST NYLON: PA 6 G + Oil Oilamid®

PA 6 G + Oil is a cast polyamide that is manufactured by direct polymerization. PA 6 G + Oil is PA 6 G modified by means of integrated lubrication with oil, solid lubricants and stabilizers. This produces a coefficient of friction that is up to 50% lower, as well as wear resistance up to five times greater than other polyamides offer.

Standard Colours: Green / Yellow

Mechanical Properties		
Density	g/cm ³	1.14
Yield Stress	MPa	80/55
Elongation at break	%	50/120
E-Module (Tensile)	MPa	2,800/1,700
E-Module (Bending)	MPa	3,000/1,900
Flexural strength	MPa	135/55
Impact strength	KJ/m ²	o. B.
Notched-bar impact strength	KJ/m ²	>5/>15
Ball indentation Hardness H _{358/30}	MPa	150/100
Creep rate stress at 1% elongation	MPa	>7
Sliding friction coefficient against steel (dry running) ³	-	0.15/0.20
Sliding wear against steel (dry running) ³	µm/km	0.03
Thermal Properties		
Melting temperature	°C	+220
Thermal conductivity	W/(k m)	0.23
Specific thermal capacity	J/(g K)	1.7
Coefficient of linear expansion	10 ⁻⁵ - K ⁻¹	7-8
Operating temperature range (long-term)	°C	-40 to +105
Operating temperature range (short-term)	°C	+160
Fire behaviour after UL 94 IEC 60695	-	HB
Electrical Properties		
Dielectric constant ⁶⁾ IEC 60250	-	3.7
Dielectric loss facto ⁶⁾	-	0.03
Specific volume resistance	Ω-cm	10 ¹⁵ /10 ¹²
Surface resistance	Ω	10 ¹³ /10 ¹²
Dielectric strength	KV/mm	50/20
Creep resistance	-	CTI 600
Moisture absorption in NK	W(H ₂ O)%	1.8
Water absorption until saturated	W ₅ %	5.5

The main applications of Oilamid® are in conveyor and transport technology as well as in machine engineering, plant construction and the automotive industry. Particularly in filling, labelling and packaging machines, Oilamid® components are used to advantage.

Fields of Application:

Bearings
Deflection rollers
Guide rails
Conveying screws
Conveying stars
Sprockets and chain guides
Slide rails
Feeder wheels
Actuators
Curve guides
Gears

Properties:

Best wear resistance
Low coefficient of friction during dry run

Excellent sliding properties

make Oilamid® a special friction bearing material for highly loaded slide and wear parts in machines and equipment. Due to the lubrication and additives in the material, a sustainable lubricating effect is achieved given for the whole life cycle. Compared to the standard quality, a 50 % reduction in friction is achieved, thus producing less frictional heat and considerably higher peak load capacity. Also the undesirable stick-slip tendency is reduced.

Extraordinary wear resistance is

achieved by the fine crystal microstructure of Oilamid® generated by the additives. Compared with standard quality, the reduced frictional heat as well as the reduced friction coefficient makes application possible at higher speeds and surface pressures. This applies not only for dry running but also for running under emergency conditions.

Lower moisture absorption and dimensional stability

are the result of the high crystalline molecular structure and the special additives. The low moisture absorption leads better dimensional stability and less of a reduction in the mechanical values due to moisture.

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