

TECHNICAL DATA SHEET

NYLON (WEARLON®)

Properties	Standard	Unit	Oilamid®	PA 6 G	PA 6	PA 66
Mechanical properties						
Density	DIN 53 479	g/cm ³	1,14	1,15	1,14	1,14
Tensile strength (short duration)	DIN 53 455	MPa	80	80	70	85
Modulus of elasticity in flexure (short duration)	DIN 53 457	MPa	2.8	3.4	2.5	2.9
Modulus of elasticity in tension (short duration)	DIN 53 457	MPa	2.5	3.1	2.7	3
Bending strength	DIN 53 452	MPa	135	140	130	135
Impact strength	DIN 53 453	kJ/m ²	n.B.	n.B.	n.B.	n. B.
Notch impact strength	DIN 53 453	kJ/m ²	> 5	> 4	>3	>3
Ball indentation hardness	DIN 53 456	MPa	140	160	160	170
H358/30						
Sliding friction coefficient (dry run) 1)	-	-	0,18	0,36	0,38	0,35
Thermal properties						
Melting temperature	-	°C	220	220	218	265
Coefficient of linear expansion 2)	DIN VDE 0304	10 ⁻⁵ . K ⁻¹	7-Aug	7-Aug	8-Sep	9-Oct
Service temperature range 3)		°C	-40 to +105	-40 to +105	-60 TO +100	-30 TO +100
Max.Service temperature range 4)	-	°C	160	170	140	150
Thermal conductivity	DIN 52 612	W/(K.m)	0,23	0,23	0,23	0,23
Moisture absorption 5) (maximum)	DIN 53 715	%	1,8	2,2	3,0	2,5
Moisture absorption 6) (saturated)	DIN 53 495	%	5,5	6,5	10,0	9,0

1) Against steel, hardened and ground P = 0.05 Mpa ; V = 0.6 m/sec ; t = 40 °C near sliding surface

2) For the temperature range from + 23°C to + 60°C

3) Empirical values with finished components without load in air, depending on type and form of heat application, long term (= months)

4) Empirical values with finished components without load in air, depending on type and form of heat application, short term (= max. 1h)

5) In normal ambient conditions 23 °C / 50 % RH

6) In water 1 MPa = 1 N/mm²; n. b. = non breaking

Applications:

- Nylon fibres are used in textiles, fishing line and carpets. Nylon films is used for food packaging, offering toughness and low gas permeability, and coupled with its temperature resistance, for boil-in-the-bag food packaging.

- Moulding and extrusion compounds find many applications as replacements for metal parts, for instance in car engine components.
- Intake manifolds in nylon are tough, corrosion resistant, lighter and cheaper than aluminium and offer better air flow due to a smooth internal bore instead of a rough cast one. Its self-lubricating properties make it useful for gears and bearings.
- Electrical insulation, corrosion resistance and toughness make nylon a good choice for high load parts in electrical applications as insulators, switch housings and the ubiquitous cable ties. Another major application is for power tool housings.

Options:

SHEET & SLAB: Natural & Black Carbon filled, Size: 2000 mm x 1000 mm, Thickness: 2 mm to 100 mm

ROLLS: Natural, Width: 1000 mm, Thickness: 0.25 mm to 1.5 mm

ROD & TUBE: Extruded Natural & Black Carbon filled, Lengths: 1000 mm & 3000 mm, Diameters: 5 mm to 45 mm

CAST: Natural & Black Carbon filled, Lengths: 1000 mm & 3000 mm, Diameters: 50 mm to 300 mm

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