

# M SEALS PA66

Polyamide / Nylon 66 Engineering Thermoplastic

MATERIAL DATA SHEET (Version 6.0 – 05.2022)



## Description

PA66, commonly referred to as Nylon 66 is a very rugged material that offers good heat and chemical resistance while also providing good abrasion resistance. PA66 also provides good sliding properties through a low coefficient of friction and typically like other grades of Nylon it provides excellent strength, impact and creep resistance.

PA66 has similar properties to PA6G but absorbs more moisture (up to 9%) and is not as dimensionally stable. The addition of fibres and fillers to this material increases properties such as strength, stiffness and decreases moisture absorption. PA66 is used widely in the automotive industry and generally where good impact resistance and strength are required

## Physical Properties

Property	Test method	Unit	Typical value
Modulus of elasticity from tensile test	ISO 527	MPa	3000
Elongation at break	ISO 527	%	30
Flexural strength	ISO 178	MPa	135
Water Absorption (Saturated)	ISO 62	%	9.0
Density	ISO 1183	g/cm <sup>3</sup>	1.14
Creep rate stress at 1% elongation	DIN 53444	Mpa	>8
Melting Point	ISO 3146	°C	+265
Coefficient Of Linear Thermal Expansion		10 <sup>-5</sup> . K <sup>-1</sup>	9
Static Coefficient of friction		µs	0.35
Operating temperature range (Long term)		°C	-30 to +100
Operating temperature range (short term)		°C	+150

## Main Characteristics

- Excellent abrasion and wear resistance
- Good thermal resistance
- Good impact strength
- High moisture absorbtion
- Not as dimensionally stable as other types of Polyamide / Nylon
- Can be attacked by strong oxidizing agents, acids and bases.

## Typical Products

- Anti-Extrusion / Back-up Rings
- Thrust washers
- Bearing rings / guide rings
- Bushes
- Slider pads
- rollers
- Bespoke parts

## Typical Applications

Due to its good strength, impact and creep resistance, PA66 is commonly used for parts in the automotive industry where these properties are required. Care should be taken when choosing Polyamide materials due to most grades having particularly high moisture absorption rates.

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