

M SEALS PA6-BD83

Black Nylon 6 Engineering Thermoplastic (PA6)

MATERIAL DATA SHEET (Version 6.0 – 05.2022)



Wear Resistance



Compressive Strength

Description

M Seals material PA6-BD83 is an industry standard engineering thermoplastic which is commonly referred to as Nylon 6, PA6 or Polyamide 6. It has high mechanical, flexural and compressive strength, good rigidity and excellent wear resistance. These attributes make PA6-BD83 a highly versatile engineering thermoplastic material which can be used for a wide range of components in multiple industries.

Physical Properties

Property	Test method	Unit	Typical value
Colour			Black
Shore Hardness	Shore D	DIN ISO 53505	83
Yield point	ISO 527	MPa	75-80
Elongation at break	ISO 527	%	>20
Tensile Modulus of elasticity	ISO 527	MPa	3400-3600
Moisture Absorption in air (23°C / 50% RH)	ISO 62	%	2.5
Density	ISO 1183-1	g/cm ³	1.14
Surface resistivity	IEC 60093	Ohm.m	>1x10E12
Volume resistivity	IEC 60093	Ohm.m	>1x10E13
Melting Point Tg	ISO 11357	°C	223
Heat Deflection Temperature	ISO 75	°C	75
Coefficient Of Linear Thermal Expansion*	ISO 11359-2:1999	°C-1	8x10E-5
Service temperature (Long term)		°C	-40 to +100
Service temperature (short term - max)		°C	-100 to +170

* (Average between +23 to +55°C)

Main Characteristics

- High tensile strength
- High Compressive strength
- High Flexural strength
- Good wear and properties
- Good creep resistance

Typical Products

- Anti-Extrusion / Back-up Rings
- Thrust washers
- Bearing rings / guide rings
- Bushes
- Scraper seals

Typical Applications

Due to its high compressive and flexural strength combined with good wear resistance, PA6-BD83 is a good material choice for guide rings, bearing rings, bearing bushes, thrust washers, scraper rings and back-up rings commonly used in the sealing industry.

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