

# M SEALS PA6L-RD83

Red Internally Lubricated Nylon 6 Engineering  
Thermoplastic (PA6)

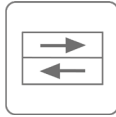
MATERIAL DATA SHEET (Version 6.0 – 05.2022)



Wear Resistance



Compressive Strength



Low Friction

## Description

M Seals material PA6L-RD83 is a top of the range engineering thermoplastic which has been modified by the inclusion of an internal lubrication system to provide lower friction values, better sliding properties and lower water absorption in comparison to the standard unfilled grade.

It has high mechanical, flexural and compressive strength, good rigidity and excellent wear resistance which can provide an increased life span over phosphor bronze bushes by up to 25x. This makes PA6L-RD83 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			Dark Red
Shore Hardness	Shore D	DIN ISO 53505	83
Yield point	ISO 527	MPa	80-90
Elongation at break	ISO 527	%	>30
Tensile Modulus of elasticity	ISO 527	MPa	3600-4000
Moisture Absorption in air (23°C / 50% RH)	ISO 62	%	2
Moisture Absorption 24 hrs saturation	ISO 62	%	5.9
Density	ISO 1183-1	g/cm <sup>3</sup>	1.14
Melting Point Tg	ISO 11357	°C	222
Heat Deflection Temperature	ISO 75	°C	75
Dynamic Coefficient of friction**			0.075
Coefficient Of Linear Thermal Expansion*	ISO 11359-2:1999	°C-1	8x10E-5
Service temperature (Long term)		°C	-40 to +110
Service temperature (short term - max)		°C	-100 to +180

\* (Average between +23 to +55°C)

\*\* (31.4m/min, 1.75Mpa)

## Main Characteristics

- High tensile strength
- High Compressive strength
- High Flexural strength
- Good wear and properties
- Low friction / Good sliding properties

## 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 low friction and good wear resistance, PA6L-RD83 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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