

M SEALS LTPU-BD57

Hard Grade Low Temp

Hydrolysis Resistant Polyurethane



MATERIAL DATA SHEET (Version 6.0 – 05.2022)



Elastic Behaviour



Low Temperature



Wear Resistance



Hydrolysis Resistance

Description

M Seals material LTPU-BD57 is a hard grade 57D Shore hardness Hydrolysis Resistant Polyurethane (H-PU) which has been modified to provide excellent low-temperature flexibility, elasticity and increased wear resistance. Its low-temperature flexibility and increased wear resistance makes this material an essential choice for agricultural machinery operating in the harshest low temperatures and conditions where heavy ingress needs to be kept out of the hydraulic system.

Good physical characteristics and chemical resistance to the most common hydraulic industry fluids such as Mineral Oils, HFA, HFB and HFC make LTPU-BD57 a suitable seal for industrial applications operating in harsh conditions.

The use of LTPU-BD57 in water or water-based fluids such as Water Glycol (HFC) fluids should be limited to +60°C, otherwise material degradation may occur. Considering this material is meant for extreme low temperature use, this should not be an issue.

Physical Properties

Property	Test method	Unit	Typical value
Colour			Midnight Blue
Density	ISO 1183	g/cm ³	1.16
Hardness	ISO 868	Shore D	57 (+/-5)
Tensile Strength	DIN 53504	MPa	≥45
Modulus 100%	DIN 53504	Mpa	≥20
Modulus 300%	DIN 53504	Mpa	≥33
Elongation at break	DIN 53504	%	≥350
Tear strength	DIN 53515	KN/m	≥110
Compression set (24 Hours @ 70°C, 25%)	ISO 815	%	≥30
Compression set (24 Hours @ 100°C, 25%)	ISO 815	%	≥35
Minimum service temperature		°C	-55
Maximum service temperature		°C	+110

Main Characteristics

- Excellent elastic behaviour
- Excellent low temperature flexibility
- Good rebound behaviour
- Excellent wear and abrasion resistance

Typical Products

- O-Ring Energised Composite Seals
- Energised U-Seals/U-Rings
- Heavy Duty Wiper Seals
- Static Seals & Back-up Rings

Typical Applications

Due to its excellent low temperature flexibility, elasticity and increased wear resistance, LTPU-BD57 Polyurethane can be used for rod seals, piston seals and static seals operating in severe low temperature hydraulic and pneumatic applications.

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