

M SEALS DPU-BD57

Hard Grade Hydrolysis Resistant Polyurethane



MATERIAL DATA SHEET (Version 6.0 – 05.2022)



Wear Resistance



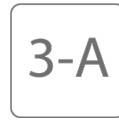
Hydrolysis Resistance



FDA Compliant



(EC) 1935/2004 Compliant
(EC) 10/2011 Compliant



3-A Sanitary

Description

DPU-BD57 is our standard hard grade Hydrolysis-Resistant Polyurethane (H-PU) that has been adjusted to a hardness of 57 shore D which provides it with excellent extrusion and wear resistance.

This material is an excellent choice for O-Ring energised piston composite sealing elements, O-Ring energised U-Seals and Back-up Rings working under high pressures. Its excellent wear and abrasion resistance also make it a good choice for Wiper/Scraper seals working in arduous environments. DPU-BD57 also conforms to FDA, 3A sanitary, (EC) 1935/2004 and (EC) 10/2011 standards, so can be utilised for food contact applications.

DPU-BD57 can be used in Water up to +90°C, Sea Water, HFA and HFB fluids, Mineral, Vegetable and Silicone oils. It should not be used in Steam, Solvents, Concentrated Alcohols or Acids and HFD fluids. It's use in Water Glycol (HFC) fluids is only limited by temperature, please contact our technical department for further information.

Physical Properties

Property	Test method	Unit	Typical value
Colour			Blue
Density	ISO 1183-1	g/cm ³	1.16
Hardness @ 23°C	ISO 7619-1	Shore D	57
100% Modulus	DIN 53504	N/mm ²	≥ 12
Tensile Strength	DIN 53504	N/mm ²	≥ 40
Elongation at break	DIN 53504	%	≥ 330
Tear strength	ISO 34-1	kN/m	≥ 130
Compression set (24 Hours @ 70°C, 25%)	ISO 815-1	%	≤ 25
Compression set (24 Hours @ 100°C, 25%)	ISO 815-1	%	≤ 35
Minimum service temperature			-30°C
Maximum service temperature			+125°C

Global migration results of FDA extraction on DPU-BD57 material samples (mg/inch ²)				
FDA test method	Reflux test conditions	Mean	Limit*	Conclusion
CFR 177.2600 (e)	De-ionised water, 7 hours	<1	20	PASS
CFR 177.2600 (e)	De-ionised water, 2 hours	<1	1	PASS
CFR 177.2600 (f)	N-hexane, 7 hours	1	175	PASS
CFR 177.2600 (f)	N-hexane, 2 hours	<1	4	PASS
* Maximum acceptable global migration according to FDA CFR 177.2600				

Main Characteristics

- Excellent hydrolysis resistance
- Good wear and abrasion resistance
- Excellent fluid resistance
- FDA, 3A Sanitary, EC 1935/2004 & EC 10/2011 Compliant

Typical Products

- Composite seals
- Wiper seals
- O-Ring energised U-Seals
- Piston seals

Typical applications

Due to its outstanding wear and abrasion resistant properties, this material is an excellent choice for composite seals requiring better sealing performance than standard PTFE types and for applications requiring Wiper/Scraper seals to minimise system contamination while working in dirty environments (E.g. Mud, dust, ice etc). It is also a good choice for food contact applications in abrasive conditions.

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