

M SEALS PKFC-BLK87-API

Carbon Fibre Filled PEEK

MATERIAL DATA SHEET (Version 6.0 – 05.2022)



Description

M Seals PKFC-BLK87-API material is a high-performance carbon fibre reinforced PEEK material. This material has excellent thermal resistance, high compressive strength, low wear properties and low creep values.

This material has been independently tested by Element materials technology according to the requirements of ISO 10423 Appendix F.1.13.5.2 (API 6A) in respect of sour fluid (FF/HH) resistance, no signs of blisters or evidence of chemical ageing were found after 160 hrs at 135°C within a 10% H2S gas mixture.

Test reports are available upon request.

Physical Properties

| Property | Test method | Unit | Typical value |
|-----------------------------------|-------------|-------------------|---------------|
| Colour | | | Black |
| Density | ISO 1183 | g/cm ³ | 1.43 |
| Hardness | ISO 868 | Shore D | 89 |
| Tensile Strength | ISO 527-2 | MPa | 104 |
| Tensile strength at yield | ISO 527-2 | MPa | 104 |
| Elongation at break | ISO 527-2 | % | 2.6 |
| Modulus of elasticity | ISO 527-2 | Mpa | 7500 |
| Glass transition temperature * | DIN 53765 | °C | +143 |
| Melting temperature | DIN 53765 | °C | +343 |
| Service temperature short term ** | | °C | +300 |
| Service temperature long term ** | | °C | -20/+260 |

* (Information found from public sources)

** (Individual testing in application conditions is mandatory)

Main Characteristics

- API 6° - ISO 10423:2009 compliant
- High compressive strength
- Good sliding ability
- Excellent thermal resistance
- Good wear and creep properties
- Hydrolysis & steam resistance

Typical Products

- Wear strip
- Bearing rings / guide rings
- Bushes
- Valve seat seals
- Anti-Extrusion / Back-Up Rings
- Bespoke parts

Typical Applications

Due to its excellent thermal resistance, compressive strength and sliding ability, this material is an excellent material choice for back-up ring and wear ring applications where standard PEEK materials may not be suitable or where an API 6A / ISO 10423:2009 compliant material is required. PKFC-BLK87-API is frequently used within the oil and gas industry.

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