M SEALS **PKFC30-BLKD87**

Carbon Fibre Filled PEEK

MATERIAL DATA SHEET (Version 6.0 – 05.2022)



Description

M Seals PKFC30-BLKD87 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.

PKFC30-BLKD87 material is commonly used for high pressure anti-extrusion/back-up rings, guide rings, wear rings, bushes, valve seat seals, scraper seals and other applications requiring excellent hydrolysis and steam resistance.

Physical Properties

Property	Test method	Unit	Typical value	
Type			SM	EX
Colour			Black	Black
Density	ISO 1183	g/cm^3	1.43	1.40
Hardness	ISO 868	Shore D	89	91
Tensile Strength	ISO 527-2	MPa	104	120
Tensile strength at yield	ISO 527-2	MPa	104	120
Elongation at break	ISO 527-2	%	2.6	7
Modulus of elasticity	ISO 527-2	Mpa	7500	6500
Glass transition temperature *	DIN 53765	°C	+143	+143
Melting temperature	DIN 53765	°C	+343	+341
Service temperature short term **		°C	+300	+300
Service temperature long term **		°C	-20/+260	-20/+250

* (Information found from public sources)
** (Individual testing in application conditions is mandatory)
SM= Special manufacturing technique
EX= Extruded manufacturing technique

Main Characteristics

- Excellent thermal resistance
- High compressive strength
- Good sliding ability
- Good creep resistance
- Good wear 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 higher compressive strength is required. PKFC30-BLKD87 is commonly used within the Oil and Gas and Aerospace industries.

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