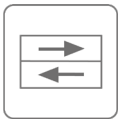
M SEALS **PTCF10-GD63**

Carbon Fibre Filled PTFE

MATERIAL DATA SHEET (Version 6.0 – 05.2022)




Description

M Seals PTCF10-GD63 material is a Carbon Fibre reinforced PTFE material. The addition of Carbon Fibre to PTFE provides higher compressive strength, increased hardness, excellent sliding ability, lower wear and lower creep values.

PTCF10-GD63 material is commonly used for O-Ring energised composite seals and spring energised seals and can be utilised for seals in both unlubricated and lubricated hydraulic fluids, although water-based fluids with zinc additives should be avoided.

Physical Properties

Property	Test method	Unit	Typical value
Colour			Grey/Black
Density	ASTM D792	g/cm^3	2.03 – 2.08
Hardness	ASTM D2240	Shore D	≥60
Elongation at break	ASTM D4745	%	≥230
Tensile Strength	ASTM D4745	N/mm^2	≥20
Deformation under load *	ASTM D621	%	≤8
Permanent deformation **	ASTM D621	%	≤5
Coefficient of Linear Thermal Expansion ***	ASTM D696	10^{-5} (mm/mm)/ °C	8.5-10
Dynamic coefficient of friction	ASTM D3702	Points	0.13
Service temperature		°C	-200 to +260

* (24 Hours @ 13.7 N/mm^2 cross direction)
** (After release of deformation test)
*** (+25 to +100°C)

Main Characteristics

- High compressive strength
- Good sliding ability
- Good dimensional stability
- Low creep rate
- Good wear properties

Typical Products

- Composite seals
- Spring energised seals
- Bearing rings / guide rings
- Bushes
- Bespoke parts

Typical Applications

Due to its excellent deformation and wear resistance, compressive strength and sliding ability, PTCF10-GD63 is an excellent material choice for composite seals, guide rings, wear rings, slideways and bearing bushes working in both lubricated and unlubricated hydraulic fluids. It is also a good choice for HF acid and strong Alkali where glass reinforced PTFE's would be unsuitable.

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