

M SEALS FC725

50% Modified Stainless-Steel Filled PTFE

MATERIAL DATA SHEET (Version 6.0 – 05.2022)



High Temperature



Chemical resistance



Compressive Strength



FDA Compliant

Description

M Seals FC725 material is a PTFE which has been reinforced with a modified filler of 50% 316L stainless steel powder. The addition of this special stainless-steel filler provides higher compressive strength, lower wear properties, better elasticity and lower creep values, while producing a vastly improved surface finish when compared to standard stainless-steel filled grades.

FC725 Stainless-steel filled PTFE material is commonly used for valve seat seals, bushes and wear rings in high pressure, high temperature applications in the food industry due to its FDA and EU/2011 compliance.

Physical Properties

Property	Test method	Unit	Typical value
Colour			Grey/Black
Density	ASTM D792	g/cm ³	3.35-3.45
Hardness	ASTM D2240	Shore D	≥60
Tensile Strength	ISO 527	N/mm ²	≥20
Elongation at break	ISO 527	%	≥230
Deformation under load *	ASTM D621	%	≤6
Permanent deformation **	ASTM D621	%	≤3
Coefficient of Linear Thermal Expansion ***	ASTM D696	10 ⁻⁵ (mm/mm)/ °C	10-12
Dynamic coefficient of friction	ASTM D3702	Points	0.25-0.35
Service temperature ****		°C	-200 to +260

* (24 Hours @ 13.7 N/mm² @ 23°C)

** (After 24h relaxation)

*** (+25 to +100°C)

**** (Individual testing in application conditions is mandatory)

Main Characteristics

- Excellent compressive strength
- Excellent deformation resistance
- Good chemical resistance
- FDA & EU10/2011 compliant
- Good wear properties

Typical Products

- Bespoke parts
- Back-up Rings
- Thrust washers
- Bushes
- Valve seat seals

Typical Applications

Due to its excellent compressive strength, improved elasticity and deformation resistance, FC725 is an good material choice for valve seat seals and high pressure applications within the food industry.

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