

M SEALS PTC25-GD63

Carbon Graphite Filled PTFE

M SEALS
- Part of Diploma PLC

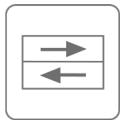
MATERIAL DATA SHEET (Version 6.0 – 05.2022)



High Temperature



Chemical Resistance



Low Friction



Wear Resistance

Description

M Seals PTC25-GD63 material is a PTFE which has been reinforced with a filler of Carbon/Graphite. The addition of Carbon/Graphite fillers to PTFE provides higher compressive strength, lower wear and lower creep values while improving sliding properties

PTC25-GD63 PTFE material is commonly used for O-Ring energised composite seals, spring energised seals, valve seat seals, guide rings, wear rings, bushes and back-up rings. PTC25-GD63 is particularly suitable for dry or poorly lubricated applications, such as water or water based hydraulic fluids.

Physical Properties

| Property | Test method | Unit | Typical value |
|---|-------------|------------------------------|---------------|
| Colour | | | Grey/Black |
| Density | ASTM D792 | g/cm ³ | 2.05-2.11 |
| Hardness | ASTM D2240 | Shore D | ≥64 |
| Tensile Strength | ISO 527 | N/mm ² | ≥14 |
| Elongation at break | ISO 527 | % | ≥90 |
| Deformation under load * | ASTM D621 | % | ≤7 |
| Permanent deformation ** | ASTM D621 | % | ≤ 5 |
| Coefficient of Linear Thermal Expansion *** | ASTM D696 | 10 ⁻⁵ (mm/mm)/ °C | 8-12 |
| Dynamic coefficient of friction | ASTM D3702 | Points | 0.14 |
| 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

- Good choice for unlubricated service
- Good sliding ability
- Standard material
- Low creep rate
- Low wear properties

Typical Products

- Composite seals
- Back-up Rings
- Bearing rings / guide rings
- Spring energised seals
- Valve seat seals

Typical Applications

Due to its excellent wear resistance, compressive strength and sliding ability, PTC25-GD63 is an excellent material choice for composite seals, valve seat seals, guide rings, back-up rings, spring energised seals and bearing bushes. As mentioned above, this material is particularly suited to unlubricated service using water or water based fluids.

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