

DMR Material PTGR15-GD55

Graphite Reinforced PTFE



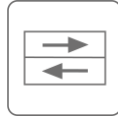
MATERIAL DATA SHEET (Version 5.1 – 05.2019)



High Temperature



Chemical resistance



Low Friction

Description

DMR Seals PTGR15-GD55 material is a modified PTFE which has been reinforced with a filler of Graphite. The addition of Graphite filler to PTFE provides higher compressive strength, decreased wear, lower creep values and self-lubricating properties which improve coefficient of friction properties in comparison to other filled PTFE compounds.

Graphite filled PTFE material is commonly used for Spring energised seals, Valve seat seals and Guide rings in some pneumatic applications. Graphite filled PTFE is excellent for use in corrosive environments where water and steam are present and in dry or poorly lubricated applications.

Physical Properties

Property	Test method	Unit	Typical value
Colour			Grey/Black
Density	ASTM D792	g/cm ³	2.10 - 2.15
Hardness	ASTM D2240	Shore D	>55
Tensile Strength	ISO 527	N/mm ²	>18
Elongation at break	ISO 527	%	>200
Compressive strength at 1% deformation	ASTM D695	N/mm ²	6.5 - 75
Deformation under load *	ASTM D621	%	<10
Permanent deformation **	ASTM D621	%	< 6
Coefficient of Linear Thermal Expansion ***	ASTM D696	10 ⁻⁵ (mm/mm)/ °C	8 - 10
Dynamic coefficient of friction	ASTM D3702	Points	0.07 – 0.15
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 compressive strength
- Good sliding ability
- Excellent resistance to steam & water
- Lower creep rate compared to unfilled / Virgin PTFE
- Good wear properties

Typical products

- Spring energised seals
- Wear strip
- Bearing rings / guide rings
- Bushes
- Valve seat seals

Typical Applications

Due to its good compressive strength, sliding ability, resistance to steam and water PTGR15-GD55 is an excellent material choice for Spring energised seals working in corrosive environments found in the Oil & Gas industry.

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