

M SEALS PTVM-WD59

Modified PTFE Fluoropolymer Material (TFM)

MATERIAL DATA SHEET (Version 6.0 – 05.2022)



Description

M Seals material PTVM-WD59 is a modified PTFE compound (commonly referred to as TFM™) which has similar properties to Virgin PTFE. PTVM-WD59 has a denser polymer structure, which provides the material with an almost 50% increase in permeation and deformation resistance against standard Virgin PTFE. The unique polymer structure also provides improved stress recovery and a smoother surface finish on components in comparison to Virgin PTFE, which is of the upmost importance for critical sealing products, such as ball valve seats or spring energised seals.

Physical Properties

Property	Test method	Unit	Typical value
Colour			White
Density	ISO 12086	g/cm ³	2.15-2.18
Hardness	DIN 53505	Shore D	56-62
Tensile Strength	DIN 53455	N/mm ²	28-40
Elongation at break	DIN 53455	%	450-600
Tensile Modulus	DIN 53457	N/mm ²	600-700
Deformation resistance *	ASTM-D621	%	8
Coefficient of thermal expansion **		1/K.10 ⁻⁵	16
Compress strength at 1% deformation (23°C)	DIN53454	N/mm ²	7
Maximum service temperature		°C	+260

* (24 Hours @ 23°C – 15 N/mm²)

** (150 - 260°C)

TFM™ is a registered trademark of 3M company

Main Characteristics

- Excellent deformation resistance
- Excellent permeation resistance
- Excellent stress recovery
- FDA 21 CFR 177.1550 compliant
- Excellent temperature & chemical resistance

Typical Products

- Soft seat seals
- Spring energised seals
- Gaskets
- Static Seals & O-Rings
- Valve linings

Typical Applications

Due to its excellent elasticity, deformation and permeation resistance PTVM-WD59 is a superb choice for soft seat seals and spring energised seals in valve applications as well as many others where standard Virgin PTFE could be replaced.

Tel: 0044 (0) 114 243 2777 . Fax: 0044 (0) 114 242 2300 . Mail: sales.esd@m-seals.co.uk . Web: www.m-seals.com

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