

# M SEALS PTVM-WD59

Modified PTFE Fluoropolymer Material (TFM)



MATERIAL DATA SHEET (Version 6.0 – 05.2022)



High Temperature



Chemical resistance



FDA Compliant

## 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 <sup>3</sup>	2.15-2.18
Hardness	DIN 53505	Shore D	56-62
Tensile Strength	DIN 53455	N/mm <sup>2</sup>	28-40
Elongation at break	DIN 53455	%	450-600
Tensile Modulus	DIN 53457	N/mm <sup>2</sup>	600-700
Deformation resistance *	ASTM-D621	%	8
Coefficient of thermal expansion **		1/K.10 <sup>-5</sup>	16
Compress strength at 1% deformation (23°C)	DIN53454	N/mm <sup>2</sup>	7
Maximum service temperature		°C	+260

\* (24 Hours @ 23°C – 15 N/mm<sup>2</sup>)

\*\* (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.

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