

Material name, short description	VMQ
Material name, based on technical standards	Vinyl methyl silicone elastomer
Material description / intended use	Silicone elastomer with good mechanical properties over a wide temperature range.
Color	red-brown
Compound code	VMQ 70.10-01
Old, but still valid compound code	VMQ 70.409-01 (VMQ 80.5/SIL80F)
Crosslinking/curing agent	Peroxide
Manufacturing process	moulded parts

Mechanical properties

Hardness nominal	70 ±5 Shore A
Density nominal	1.35 ±0.03 g/cm ³
Tensile strength	8 N/mm ² DIN 53504-S2
Elongation at break	180 % DIN 53504-S2
Compression set	20 % DIN 53517-B 22 h, 175 °C
	18 % DIN 53517-B 70 h, 100 °C
Tear resistance	17 N/mm ASTM D 624-B

Thermal properties

Operating temperature min.*	-55 °C
Operating temperature min. static*	-60 °C
Operating temperature min. dynamic*	-55 °C
Operating temperature max.*	200 °C
Operating temperature max. short term*	230 °C
TR 10 value	-42 °C UNI 7897/89
Brittleness point	-72 °C

* Approximate value, dependent on the application

Storage in medium 1

Medium	IRM 901 Oil (ASTM 1)
Test parameter	70 h, 150 °C
Test standard	DIN 53521
Value change	Hardness: -3 Points Tensile strength: -10 % Elongation at break: -15 % Volume: +6 % Weight: +4 %

Storage in medium 2

Medium	IRM 902 Oil (ASTM 2)
Test parameter	22 h, 100 °C
Test standard	DIN 53521
Value change	Hardness: -5 Tensile strength: -8 % Elongation at break: -10 % Volume: +7 % Weight: +4 %

In compliance with **RoHS** and **REACH** directives.

This information is based on our available data. These values are measured on standard test specimens and are within the normal tolerance range of material properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. The customer is solely responsible for quality and suitability of material for his application. He has to test usage and processing prior to use. Angst+Pfister makes no guarantees for the suitability of the material for any given application and assumes no obligation or liability in connection with the information provided above.

Storage in medium 3

Medium	IRM 902 Oil (ASTM 2)
Test parameter	72 h, 150 °C
Test standard	DIN 53521
Value change	Hardness: -8 Points Tensile strength: -10 % Elongation at break: -12 % Volume: +10 % Weight: +7 %

Storage in medium 4

Medium	IRM 903 Oil (ASTM 3)
Test parameter	70 h, 150 °C
Test standard	DIN 53521
Value change	Hardness: -20 Points Tensile strength: -13 % Elongation at break: -20 % Volume: +32 % Weight: +25 %

Air aging 1

Test parameter	72 h, 200 °C
Test standard	DIN 53508
Value change	Hardness: +3 Points Tensile strength: -20 % Elongation at break: -30 %

Air aging 2

Test parameter	70 h, 225 °C
Test standard	DIN 53508
Value change	Hardness: +3 Points Tensile strength: -20 % Elongation at break: -28 %

Ozone test

Ozone concentration	50 pphm
Duration of test	48 h
Temperature during test	40 °C
Elongation during test	20 %
Relative humidity during test	48 %

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Approvals / Compliance

Food & Beverage	3-A Sanitary Standard N° 18-03 Class III
	FDA CFR 21 - 177.2600 a) - f)
	BfR XV
	D.M. 21/03/1973 (Migration test)
	Dlgs. 25.01.1992 n.108 Art.2 (ex. DPR 777/82 art 2) - Complies with Arsenic content limits
	EC 1935/2004 (excl. article 15) and EC Regulation 2023/2006 (GMP)
	French Arrêté 25/11/1992
	LFGB§ 30/31
	SR 817.023.21
	GB 4806.11-2016 (Migration test)
Medical / Pharma	USP class VI Chapter <87> (In Vitro) and Chapter <88> (In Vivo) - 121°C
Oil & Gas	DVGW EN 549 D2 / H3
Others	PAH Category 1 (AfPS GS 2019:01)
	ADI free (free of Animal Derived Ingredients) resp. TSE/BSE related substances
	DEHP, free of Phthalates



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