



V717, V9M2, & V866

Formulated for Low-Temperature Applications



Freezing conditions can be harsh on elastomeric seals. As temperatures drop below the material's capabilities, elastomers can become more plastic-like. This change leads to reduced flexibility, increased brittleness, less rebound, and a diminished ability to maintain a proper seal.

To provide our customers with low-temperature sealing solutions while maintaining high-temperature performance and other key properties, we have formulated two specialty Viton™ compounds, V717 and V9M2, and a fluorocarbon (FKM) compound, V866.

Our V717 is a general-use low-temperature Viton™ compound that has undergone third-party testing for low-temperature valve sealing performance. It achieved an outstanding result at a temperature of -60°C per MESC SPE 77/312 standards for Fugitive Emission Production Testing.

Similarly, our V9M2, a Viton™ compound, achieved remarkable results at -40°C when tested with the same standards. V9M2 was formulated for environments where rapid gas decompression (RGD) may be a concern. It has undergone rigorous testing to ensure it meets industry standards for RGD and sour service conditions, including:

- NORSOK M-710 (Rev.2) RGD
- API 6A Sour Gas Service
- NACE TM0297 RGD
- TOTAL GS EP PVV 142 RGD

Our V866 is our FKM compound that features an 80A durometer with excellent resistance to both diesel and methanol. It also offers exceptional performance at temperatures as low as -40°C.

Original Physical Properties	ASTM	V717	V9M2	V866
Hardness, Shore A	D2240	74	93	82
Tensile Strength, psi (MPa)	D412	2,637 (18.19)	2,849 (19.64)	2,192 (15.11)
Elongation, %	D412	271	143	171
Modulus @ 100%, psi (MPa)	D412	646 (4.46)	2,012 (13.87)	1,247 (8.6)
Specific Gravity, g/cm ³	-	1.84	1.83	1.84
Compression Set, 22 hrs @ 200°C, %	D395 Method B	17.6	19.1	10.3
Low Temperature Brittleness Test, 3 min @ -40°C	D2137	Pass	Pass	Pass
Low Temperature Retraction Test, TR-10, °C	D1329	-30	-30.4	-35.4
Low Temperature Valve Testing, °C	See Callout*	-60	-40	n/a

* - MESC SPE 77/312 February 2021 "Fugitive Emission Production Testing" Tightness Class AH.

V717, V9M2, and V866 Advantages:

- Low-temperature capability down to -60°C (V717)
- Low-temperature capability down to -40°C (V9M2 & V866)
- Superior performance in pressure and temperature cycling applications
- Resistance to a broad range of chemicals, including hot water and steam
- Excellent resistance to petroleum, oil, and gas
- Remarkable resistance to diesel and methanol (V866)
- Great resistance in corrosive environments
- Low gas permeability
- Outstanding mechanical properties
- Proven resistance to rapid gas decompression (V9M2)

To learn more about our V717, V9M2 and V866 compounds, contact us at info@hitechseals.com.

