

FKM compounds are widely used in chemical, automotive, aerospace and industrial applications. These compounds offer excellent chemical and temperature resistance. Marco Rubber stocks all USA standard Viton O-Rings sizes, thousands of metric Viton O-Ring and non-standard sizes.

ABOUT #V1160

Our V1160 low temperature and high durometer terpolymer FKM compound has been specifically designed for use in Oil and Gas drilling applications. It has been tested to multiple Oil and Gas standards for Explosive Decompression (ED) resistance and gas immersion. This material is highly versatile and has a wide range of chemical compatibility. V1160 outperforms GFLT base compounds.

FEATURES

- Excellent low temperature resistance & Explosive Decompression (ED) resistance
- Tested to Norsok M-710 Rapid Gas Decompression (RGD) & Sour Gas.
- Tested to Total specifications GS PVV 142 03/01
- Tested to NACE TM0297 for Explosive Decompression & TM0187 for Sour Gas.
- Superior resistance to RGD reduces maintenance and increases MTB (mean time between failures)

APPLICATION EXAMPLES

- Low-temperature environments
- High-pressure environments
- Exploration & drilling equipment
- Subsea valves and pumps
- Compressors

ADDITIONAL INFORMATION

- Service Temperature of -50° to 437°F
- Spec: ASTM D 2000 M3HK910 A1-10 B37 B38 E078 Z1 Z2

This information is accurate and reliable to the best of our knowledge. However, Marco Rubber makes no warranty, expressed or implied, that parts manufactured from this material will perform satisfactorily in the customer's application. It is the customer's responsibility to evaluate parts prior to use.

PHYSICAL PROPERTIES

ORIGINAL PROPERTIES	ASTM D2000 Requirements	Typical Test Results
Hardness, Shore A, ASTM D2240 (Z1=75+/-5)	90 +/- 5	92
Color	Black	Black
Tensile Strength, MPa (psi), per ASTM D412	10.0 (1,450) min.	15.3 (2,218)
Ultimate Elongation, %, per ASTM D412	100 Min.	114
Modulus at 100%, MPa (psi), per ASTM D412		13.06 (1,893)
Specific Gravity, g/cm ³		1.86
HEAT RESISTANCE – A1-10, ASTM D 573 (70 hrs. @ 250°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, Shore A	+10 (max)	+2
Tensile Strength Change, %	-25 (max)	-25
Ultimate Elongation Change, %	-25 (max)	+37
COMPRESSION SET – B37, ASTM D 395 Method B (22 hrs. @ 175°C)	ASTM D2000 Requirements	Typical Test Results
Permanent Set % (Plied)	30 (max)	12.7
COMPRESSION SET – B38, ASTM D 395 Method B (22 hrs. @ 200°C)	ASTM D2000 Requirements	Typical Test Results
Permanent Set % (Plied)	50 (max)	16.6
FLUID RESISTANCE –ASTM #101 Oil – E078, ASTM D 471 (70 hrs. @ 200°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, Shore A	-15 to + 5	-7
Tensile Strength Change, %	-40 (max)	-21
Ultimate Elongation Change, %	-20 (max)	-9
Volume Change, %	0 to + 15	7.5
LOW TEMP. REACTION – Z2, ASTM D 1329	ASTM D2000 Requirements	Typical Test Results
TR10, °C	-37 max	-39.6
Methanol (100%) Immersion (580 hrs @ Room Temperature)		Typical Test Results
Volume Swell, %, 24 hrs.		3
Volume Swell, %, 72 hrs.		3.3
Volume Swell, %, 168 hrs.		3.9
Volume Swell, %, 360 hrs.		5.8
Volume Swell, %, 580 hrs.		6.1