

**FLUOROELASTOMER (FKM), OXYGENATED/OXIDIZED
FUEL RESISTANT****WSS-M2D401-A9****1. SCOPE**

This specification defines a mineral filled, synthetic rubber material with good resistance to fuel/alcohol blends. The material has good resistance to compressive stress relaxation ensuring long-term sealability.

2. APPLICATION

This specification was released originally for the fuel tank sender plate o-ring.

3. REQUIREMENTS**3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS**

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.4 PHYSICAL PROPERTIES

The following tests where possible, shall be performed on specimens cut from molded test sheets manufactured from the same material and with equivalent cure to molded parts. The test sheets shall have the following dimensions:

150 x 150 mm, thickness 2.0 +/- 0.2 mm

3.5 ORIGINAL PROPERTIES

3.5.1	Hardness, International (ISO 48/ASTM D 1415, micro method)	65 +/- 5
3.5.2	Hardness, Durometer A (ISO 868/ASTM D 2240, instantaneous, plied-up specimen. Hand held durometer shall not be used)	65 +/- 5
3.5.3	Tensile Strength, min (ISO 37/ASTM D 412, Die C)	9.0 MPa
3.5.4	Elongation at Break, min (ISO 37/ASTM D 412, Die C)	175%
3.5.5	Modulus at 100% Elongation, min (ISO 37/ASTM D 412, Die C)	2.0 MPa

Date	Action	Revisions
2004 03 10	Revised	Para 3.0 inserted; para 3.1, 3.2, 3.3, 3.13, and 4 deleted; para 3.9.2, 3.11.2 and 3.11.4 revised
1996 08 23	Activated	

**Documents**

J. B. Spencer

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3.5.6	Compression Set, max (ASTM D 395, 70 h at 200 °C)	40%
3.5.7	Tear Strength, min (ISO 34, Method B, Procedure a/ ASTM D 624, Die C)	14 kN/m
3.5.8	Ozone Resistance, max (FLTM BP 101-01, Procedure A)	Rating 0
3.5.9	Low Temperature Flexibility, TR 10 (ASTM D 1329)	- 5 °C

3.6 HEAT AGED

(ISO 188/ASTM D 573, 150 +/- 50 air
changes/h, 1000 h at 200 +/- 2 °C)

3.6.1	Hardness Change	+/- 5
3.6.2	Tensile Strength Change	+/- 20%
3.6.3	Elongation at Break Change	+/- 20%

3.7 IMMERSION IN FUEL C

(ISO 1817/ASTM D 471, 336 h at 60 +/- 2 °C)

3.7.1	Hardness Change, Max	- 15
3.7.2	Tensile Strength Change, max	- 60%
3.7.3	Elongation at Break Change, max	- 40%
3.7.4	Volume Change, max	+ 20%

Test Method: Allow samples, while still in fluid, to cool to 23 +/- 2 °C. Samples should be tested immediately after removing from fluid.

3.8 IMMERSION IN OXIDIZED FUEL

(FLTM AZ 105-01, PN 180, 336 h at 60 +/- 2 °C,
fresh fuel every two weeks)

3.8.1	Hardness Change, max	- 30
3.8.2	Tensile Strength Change, max	- 65%
3.8.3	Elongation at Break Change, max	- 35%
3.8.4	Volume Change, max	+ 35%

Test Method: Allow samples, while still in fluid, to cool to 23 +/- 2 °C. Samples should be tested immediately after removing from fluid.