

**SILICONE (VMQ) RUBBER, HIGH TEMPERATURE
RESISTANT, LONG LIFE GROMMET****WSE-M2D418-A****1. SCOPE**

The material defined by this specification is a low modulus silicone rubber with excellent compression set, suitable for long-term, high temperature service conditions.

2. APPLICATION

This specification was released originally for material used as the isolator bushing grommet for the rocker arm cover. This material has good compression set and heat resistance.

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 MATERIAL TESTING**3.4.1 Preparation of Test Specimens**

Test specimens may be taken from either test sheets or molded parts. To insure a proper cutting of specimens, backup all test sheets/parts with cardboard or a rubber sheet. The test sheets shall have the following dimensions:

150 x 150 mm, min x 2.0 +/- 0.2 mm.

The test sheets must be cured for 10 minutes at 177 °C.

3.5 ORIGINAL PROPERTIES

3.5.1	Density (ISO 1183, Method A/ASTM D297)	1.23 - 1.29 g/cm ³
3.5.2	Hardness, International (ISO 48/ASTM D1415)	70 - 80
3.5.3	Hardness, Durometer A (ISO 868/ASTM D2240, instantaneous, plied-up specimen. Hand held durometers shall not be used)	70 - 80
3.5.4	Tensile Strength (ISO 37/ASTM D412, Die C)	7.3 MPa min
3.5.5	Elongation at Break (Test Method according to para 3.5.4)	150% min

Date	Action	Revisions	Rev. 3
2012 11 28	Revised	Para 3.8 and 3.9. ENIA	A. Reaume,
2004 09 20	Revised	Para 3.0 inserted; para 3.1, 3.2, 3.3, 3.10, 3.11 & 4 deleted	
1990 03 13	Released	NE01E10000474068	





3.5.6	Modulus at 100% Elongation (Test Method according to para 3.5.4)	4.0 MPa min
3.5.7	Tear Strength (ISO 34, Method B, procedure (a)/ ASTM D624, Die B)	12 kN/m min
3.5.8	Brittleness Point (ISO 812, Type B specimen/ ASTM D2137, Method A)	-60 °C max
3.5.9	Ozone Resistance (FLTM BP 101-01, Procedure A)	Rating 0 max
3.5.10	Compression Set (ISO 815/ASTM D395, Method B, except 25% compression, plied-up specimens, 22 h at 175 +/- 2 °C)	28% max
3.5.11	Silicone Volatiles (FLTM AV 102-01, as received at Ford Motor Company)	1.5% max
3.6	HEAT AGED (ISO 188/ASTM D573, 150 +/- 50 air changes/h, 168 h at 175 +/- 2 °C)	
3.6.1	Hardness Durometer A Change	+8 max
3.6.2	Tensile Strength Change	-28% max
3.6.3	Elongation Change	-40% max
3.6.4	Visual Evaluation	
	No surface tackiness or cracks when folded flat against itself.	
3.7	HEAT AGED (ISO 188/ASTM D573, 150 +/- 50 air changes/h, 1,000 h at 150 +/- 2 °C)	
3.7.1	Hardness Durometer A Change	+10 max
3.7.2	Tensile Strength Change	-28% max
3.7.3	Elongation Change	-40% max
3.7.4	Visual Evaluation	
	No surface tackiness or cracks when folded flat against itself.	