



ETHYLENE/ACRYLIC (AEM) RUBBER, LOW COMPRESSION SET - GROMMET

WSP-M2D377-A

1. SCOPE

The material defined by this specification is an ethylene acrylic (AEM) elastomer suitable for high temperature use, possessing good compression set resistance.

2. APPLICATION

This specification was released originally for material used for static seals (grommets) on parts adjacent to automatic transmission.

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 - ORIGINAL PROPERTIES

3.4.1 Preparation of Test Specimens

All test specimens shall be die-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, min x 2.0 +/- 0.2 mm

3.4.2	Density (ASTM D 297)	1.15-1.19 g/cm ³
3.4.3	Hardness, International (ASTM D 1415)	46 - 54
3.4.4	Hardness, Durometer A (ASTM D 2240, instantaneous, plied-up specimen)	47 - 53
3.4.5	Tensile Strength, min (ASTM D 412, Die B)	12 MPa
3.4.6	Elongation at Break, min (Test Method according to para 3.4.5)	400%
3.4.7	Modulus at 100% Elongation, min (Test Method according to para 3.4.5)	1.5 MPa

Date	Action	Revisions
2004 09 14	Revised	Para 3.0 inserted; para 3.1, 3.2, 3.3, 3.12 & 4 deleted
1987 11 10	Released	IR-162050-P10



Documents

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3.4.8	Tear Strength, min (ASTM D 624, Die B)	27 kN/m
3.4.9	Compression Set, max (ASTM D 395, Method B, 168 h at 150 +/- 2 °C, solid buttons)	30%
3.5	HEAT AGED (ASTM D 573, 168 h at 150 +/- 2 °C)	
	Hardness Change	-2 to +5
	Tensile Strength Change	-10 to +10%
	Elongation Change	-30 to +15%
	Modulus at 100% Elongation Change, max	-15%
3.6	HEAT AGED (ASTM D 573, 1,000 h at 150 +/- 2 °C)	
	Hardness Change	0 to +10
	Tensile Strength Change	-10 to +10%
	Elongation Change	-30 to 0%
	Modulus at 100% Elongation Change, max	+35%
3.7	IMMERSION IN ASTM OIL NO.1 (ASTM D 471, 168 h at 150 +/- 2 °C)	
	Hardness Change	-10 to 0
	Tensile Strength Change	-5 to +20%
	Elongation Change	-20 to +10%
	Volume Change	0 to +15%
3.8	IMMERSION IN ASTM OIL NO.3 (ASTM D 471, 168 h at 150 +/- 2 °C)	
	Hardness Change	-35 to 0
	Tensile Strength Change	-70 to 0%
	Elongation Change	-55 to 0%
	Volume Change	+40 to +80%