



**HOSE, ETHYLENE/ACRYLIC (AEM) RUBBER REINFORCED,
LOW PRESSURE, ENGINE OIL RESISTANT, 75 IRHD**

WSD-M96D30-A

**HOSE, ETHYLENE/ACRYLIC (AEM) RUBBER REINFORCED,
LOW PRESSURE, ENGINE OIL RESISTANT, 65 IRHD**

WSS-M96D30-A2

1. SCOPE

The material described by these specifications is a hose of Ethylene/Acrylic Rubber, (75 IRHD-A, 65 IRHD-A2) internally reinforced with a single ply of braided textile and resistant to engine oils.

2. APPLICATION

The material was released originally for use as crankcase drain hoses and turbo charger air hoses where resistance to long term exposure to engine oils up to 150 °C and air temperatures up to 150 °C are required. The hose is also capable of withstanding short term oil temperatures up to 175 °C and maintaining flexibility down to -40 °C.

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 HOSE CONSTRUCTION

The hose shall consist of an Ethylene/Acrylic rubber inner tube and outer cover with a single layer of suitable braided reinforcing textile. The hose will usually be shaped.

3.5 MATERIAL TESTING

Whenever possible, all test specimens shall be die-cut from the finished parts. When not feasible, specimens cut from molded test sheets manufactured from the same material and with equivalent cure to molded parts are recommended. The test sheets shall have the following dimensions:

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

3.6 ORIGINAL PROPERTIES: TUBE AND COVER MATERIAL

		A	A2
3.6.1	Hardness, International (ISO 48/ASTM D 1415)	70 - 80	60 - 70
3.6.2	Hardness, Durometer A (ISO 868/ASTM D 2240, instantaneous, plied-up specimens. Hand held durometers shall not be used.)	70 - 80	60 - 70

Date	Action	Revisions
2006 08 30	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.11 & 4
1996 05 13	Revised	Added WSS-M96D30-A2
1990 02 12	Released	C10059230

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ENGINEERING MATERIAL SPECIFICATION

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	A	A2
3.6.3 Tensile Strength, MPa, min (ISO 37/ASTM D 412, Die C)	10	12
3.6.4 Elongation at break, %, min (Test method according to 3.6.3)	200	275
3.6.5 Modulus at 100% Elongation, MPa (Test method according to 3.6.3)	5.0 to 8.5	2.5 to 5.0
3.6.6 Tear Strength, kN/m, min (ISO 34, Method B, Procedure (a)/ ASTM D 624, Die C)	40	15
3.6.7 Compression Set, %, max (ISO 815/ASTM D 395 Method B, except 25% compression, plied-up specimens, 70 h at 150 +/- 2 °C)	50	25
3.6.8 Ozone Resistance, max (FLTM BP 101-01)	Rating 0	0
3.7 HEAT AGED (ISO 188/ASTM D 573, 150 +/- 50 air changes/h, 1000 h at 150 +/- 2 °C)		
Hardness Change, max		+15
Tensile Strength Change, max		-20%
Elongation at Break Change, max		-60%
Visual Evaluation		
No surface tackiness or cracks when folded flat against itself.		
3.8 IMMERSION IN CURRENTLY RELEASED PRODUCTION ENGINE OIL (ISO 1817/ASTM D 471, 1000 h at 150 +/- 2 °C, see para 5.1)		
Hardness Change, max		-30
Tensile Strength Change, max		-30%
Elongation at Break Change, max		-35%
Volume Change, max		+60%