



HOSE, AIR CONDITIONING REFRIGERANT (ALL RUBBER) RESISTANT, LOW-MEDIUM PRESSURE

WSS-M96D25-A5

1. SCOPE

The materials defined by this specification is a seamless elastomer (IIR)/high tensile polyester reinforcement/elastomeric (EPDM) covered refrigerant hose.

2. APPLICATION

This specification was released originally for hose designed for use with Refrigerant R-134a and refrigerant oils that must be serviceable over an ambient temperature range of -40 °C to +135 °C, an operating temperature of -40 °C to +125 °C and a maximum operating pressure of 3.4 Mpa.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

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

3.2 CONSTRUCTION

The hose shall consist of a seamless smooth bore inner tube of butyl rubber reinforced with a high tensile ply or plies of polyester fabric bonded to the inner tube, and an EPDM rubber weather resistant outer cover. The outer cover shall be perforated (pin pricked).

3.3 MOLDED TEST SPECIMEN/TEST SLABS

3.3.1 Preparation of Test Specimens-Butyl and EPDM Rubber

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

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

		Elastomer (IIR) Core	Elastomer (EPDM) Cover
3.3.2	Density, g/cm ³ (ISO 1183, Method A/ ASM D 297)	1.18 - 1.24	1.11 - 1.17
3.3.3	Hardness, Durometer A (ISO 868/ASTM D 2240, Instantaneous plied-up specimen. Hand held durometers shall not be used.)	65 - 75	68 - 78

Date	Action	Revisions
2006 08 24	Revised	Format Change Only
2002 06 13	Activated	



		Elastomer (IIR) Core	Elastomer (EPDM) Cover
3.3.4	Tensile Strength, MPa, min (ISO 37/ASTM D 412, Die C)	8.2	10.3
3.3.5	Elongation, % (ISO 37/ASTM D 412 Die C).	225	200
3.3.6	Ozone Resistance, max (ASTM D 1171, Method A, 70 h at 50 pphm)	---	Rating 0
3.4	HEAT AGED PROPERTIES (ISO 188/ASTM D 573, 1000h)	---	125 °C
	Hardness Change, max.	---	+10
	Tensile Strength Change, % max.	---	-20
	Elongation Change, % max.	---	-45
3.5	DIMENSIONS		

The hose shall conform to the dimensions and tolerances specified in Table 1. Measurement shall be made in accordance with ASTM D 380.

Table 1

All Rubber Hose Material

Hose Size (mm)	Min Inside Diameter mm	Max Inside Diameter mm	Min Outside Diameter mm	Max Outside Diameter mm	Concentricity TI R mm
10	10.1	10.9	21.5	23.0	0.76
16	15.7	16.8	26.3	27.4	0.76
19	18.9	19.9	31.2	32.2	0.76

3.6	ADHESIONS, min (ASTM D 413, ring specimen, Type A)	
3.6.1	Tube to Reinforcement	31 N min
3.6.2	Reinforcement to Cover	22 N min
3.7	WEIGHT LOSS, max (After 8 h at 70 +/- 2 °C)	0.5%