DUCT, EPDM, MOLDED AIR INTAKE **WSE-M2D470-A1**

DUCT, CPE, CHLORINATED POLYETHYLENE, MOLDED AIR INTAKE **WSE-M2D470-A2**
NOT TO BE USED FOR NEW DESIGN

DUCT, CSM, CHLOROSULFONATED POLYETHYLENE, MOLDED AIR INTAKE **WSE-M2D470-A3**
NOT TO BE USED FOR NEW DESIGN

DUCT, ECO, EPICHLOROHYDRIN, MOLDED AIR INTAKE **WSE-M2D470-A4**

DUCT, EPDM, LOW OIL SWELL, MOLDED AIR INTAKE **WSS-M2D470-A5**

1. SCOPE

The material defined by these specifications is a non-reinforced molded duct with good compression set heat and ozone resistance.

2. APPLICATION

These specifications were released originally for material used for large diameter molded tubing or ducts used in low pressure or vacuum applications such as air intake lines. A convoluted part can be molded for flexibility.

WSE-M2D470-A1 ducts have good heat and ozone resistance with good to fair compression set. This material has very poor fuel and oil resistance, but can withstand incidental exposure.

WSE-M2D470-A2/A3 and WSS-M2D470-A5 ducts have good heat and ozone resistance with fair fuel and oil resistance and fair compression set. These ducts should be used where residual vapors contain small amounts of fuel and/or oil.

WSE-M2D470-A4 ducts have good heat, ozone, compression set, fuel and oil resistance. These ducts should be used where exposure to fuel and oil will be encountered.

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

All test specimens shall be die-cut from molded test slabs. The test sheets shall have the following dimensions:

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

Date	Action	Revisions	Rev 03
2013 11 06	Re-activate A4		T. Nover, EU
2009 09 21	**A2/A3/A4 N-STATUS**	No Replacement Named, No known use	C. Mracna, NA
1993 03 03	Released	NE01E10127076082	E. J. Duda

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			A1	A2	A3	A4	A5
3.5	**ORIGINAL PROPERTIES**						
	3.5.1	Hardness, Durometer A, +/- 5 (ISO 868/ASTM D 2240, instantaneous, plied-up specimen. Hand held durometers shall not be used)	75	70	70	75	75
	3.5.2	Tensile Strength, MPa, min (ISO 37/ASTM D 412, Die C)	9.0	12.0	10.5	9.0	8.0
	3.5.3	Elongation at Break, %, min (Test Method according to para 3.6.3)	280	300	220	250	200
	3.5.4	Modulus at 100% Elongation, MPa, min (Test Method according to para 3.6.3)	4.3	3.0	3.8	3.3	4.0
	3.5.5	Tear Strength, kN/m, min (ISO 34, Method B, procedure (a)/ASTM D 624, Die C)	25	30	20	30	15
	3.5.6	Compression Set, %, max (ISO 815/ASTM D 395, Method B, except 25% compression, solid button specimens. 70 h at 121 °C)	65	48	78	90	60
	3.5.7	Ozone Resistance, max (FLTM BP 101-01)	0	0	0	0	0
	3.5.8	Low Temperature Retraction, TR-10, °C, min (ASTM D 1329)	-38	-35	-30	-35	-38
3.6	**HEAT AGED** (ISO 188/ASTM D 573, 150 +/- 50 air changes/h, 1000 h at 110 +/- 2 °C)						
	Hardness, Durometer A, Change, max		+14	+15	+12	+20	+14
	Tensile Strength Change, %, Max		+35	+/- 22	+/- 18	-40	-20
	Elongation at Break Change, %, max		-69	-57	-48	-75	-69

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