



TUBING, ECO, EPICHLOROHYDRIN – FUEL AND OIL RESISTANT

WSS-M2D241-A2

1. SCOPE

The material defined by this specification is epichlorohydrin rubber.

2. APPLICATION

This specification was released originally for material used in non-reinforced vacuum tubing in engines and where gasoline, ozone, heat and tear resistance are major requirements. This material does not use lead compounds in the formulation.

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 MATERIAL TESTING

3.2.1 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

3.3 ORIGINAL PROPERTIES

3.3.1	Hardness, Durometer A, +/- 5 (ISO 868/ASTM D 2240, instantaneous, plied-up specimen. Hand held durometers shall not be used)	70
3.3.2	Tensile Strength, MPa, min (ISO 37/ASTM D 412, Die C)	8.3
3.3.3	Elongation at Break, min (Test Method according to para 3.6.3)	200
3.3.4	Modulus at 100%, Elongation, MPa, min (Test Method according to para 3.6.3)	3.0

Date	Action	Revisions
2004 07 21	Revised	Format Updated
2002 08 19	Revised	Rev para 1, updated & renumbered
2002 03 07	Activated	



3.3.5	Tear Strength, k N/m, min (ISO 34, Method B, procedure Ca)/ASTM D 624, Die C1)	26
3.3.6	Compression Set, %, max (ISO 815/ASTM D 395, Method B, except 25% compression, solid button specimens. 22 h at 100 °C)	30
3.3.7	Ozone Resistance, max (FLTM BP 101-01) 50 pphm for 70 hours at 38 °C, 20% elongation	0
3.3.8	Low Temperature Retraction, TR-10, °C, min (ASTM D 1329)	-34
3.4	HEAT AGED (ISO 188/ASTM D 573, 150 +/- 50 air changes/h, 1,000 h at 120 +/- 2 °C)	
	Hardness, Durometer A, Change, max	+ 20
	Tensile Strength Change, %, max	-50
	Elongation at Break Change, %, max	-75
3.5	HEAT AGED (ISO 188/ASTM D 573, 150 +/- 50 air changes/h, 168 h at 130 +/- 2 °C)	
	Hardness, International, Change, max	+ 10
	Tensile Strength Change, %, max	-50
	Elongation at Break Change, %, max	-60
3.6	IMMERSION IN OIL NO. 3 or IRM 903 OIL (ISO 1817/ASTM D 471, 168 h at 130 +/- 2 °C)	
	Hardness International, Change, max	-10 to +15
	Tensile Strength Change, %, max	-30
	Elongation at Break Change, %, max	-60
	Volume Change, % max	-5 to +15