



ENGINEERING MATERIAL SPECIFICATION

POLYURETHANE ELASTOMER

ESA-M2D287-A
ESA-M2D287-B
ESA-M2D287-C
ESA-M2D287-D

1. SCOPE

The materials defined by these specifications are medium hard polyurethane elastomers.

2. APPLICATION

These specifications were released originally for material used as an insulator in transmission throttle valve rods and rebound stop on shock absorbers.

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).

3.1 MOLDED TEST SPECIMENS

3.1.1 Original Properties

	287-A	287-B	287-C	287-D
Tensile Strength, MPa, min (ASTM D 412, 508 mm/min test speed)	40	27	40	40
Elongation, % min	500	450	500	450
Modulus at 100% Elongation, MPa, min	10	8	8	9
Modulus at 300% Elongation, MPa, min	15	12	12	15
Tear Strength, kN/m, min (ASTM D 624, Die C)	80	50	96	100
Hardness, Durometer A (ASTM D 2240)	92 +/- 5	92 +/- 5	90 +/- 4	94 +/- 4

Date	Action	Revisions
2004 09 09	Revised	Para 3.0 inserted; para 3.3, 3.4, 3.5 & 4 deleted
1988 05 17	Revised	'D'; RD-226290-C4
1979 09 18		Rel.-A/1982 04 14, CAL2-892-384-C3, Rel.-B; CAJ2-990061-C2



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ESA-M2D287-A/B/C/D

		287-A	287-B	287-C	287-D
	Specific Gravity, +/- 0.02 (ASTM D 792)	1.15	1.13	1.16	1.19
3.1.2	Oven Aged (ASTM D 573, 70 h at *)	100 °C	100 °C	150 °C	150 °C
	Tensile Strength Change, %	+/- 25	+/- 25	+/- 15	+/- 20
	Elongation Change, %	+/- 10	+/- 15	+/- 15	+/- 15
	Hardness Change	+/- 3	+/- 3	+/- 3	+/- 3
3.1.3	Immersion in ASTM Oil #1 (ASTM D 471, 70 h at *)	100 °C	100 °C	125 °C	125 °C
	Tensile Strength Change, %	+/- 20	+/- 30	+/- 40	+/- 30
	Elongation Change, %	+/- 15	+/- 10	+/- 20	+/- 15
	Hardness Change	+/- 5	+/- 5	+/- 5	+/- 5
	Volume Change, %	+/- 3	+/- 3	+/- 3	+/- 3
3.1.4	Immersion in ASTM Oil #3 (ASTM D 471, 70 h at *)	100 °C	100 °C	125 °C	125 °C
	Tensile Strength Change, %	+/- 55	+/- 55	+/- 55	+/- 55
	Elongation Change, %	+/- 15	+/- 15	+/- 40	+/- 15
	Hardness Change	+/- 3	+/- 5	+/- 7	+/- 5
	Volume Change, %	+/- 15	+/- 20	+/- 20	+/- 15
	*Temperature Tolerance +/- 2 °C				
3.1.5	Ozone Rating (FLTM BP 101-01)	0	0	0	0