



TAPE SEALER, BUTYL COVERED TWO SIDES- CLOSED CELL EPDM FOAM CORE

ESB-M3G160-A

1. SCOPE

The material defined by this specification is a sealing tape consisting of a closed cell foamed mixture of butyl rubber and E.P.D.M, coated on both faces with butyl rubber adhesive, with a release liner on one face.

2. APPLICATION

This specification was released originally as a material for use in conjunction with mechanical retention to seal RIM material of the quarter module to the painted sheet metal in the 1986 Ranger Supercab vehicles. The material is not recommended to be used on the interior glass surface application because it contributes to the formation of light scattering film on the glass surface.

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 DIMENSION

As specified on the
engineering drawing

3.5 SPECIFIC GRAVITY

(ASTM D 297, Hydrostatic method)

3.5.1 Foam Core 0.11 +/- 0.04

3.5.2 Butyl Adhesive 1.2 +/- 0.1

3.6 TENSILE STRENGTH, min

2 kg/cm²

- . Normal
- . 4 h at 121 +/- 1 °C
- . 1 week at 71 +/- 1 °C

3.7 ELONGATION, min

100%

- . Normal
- . 4 h at 121 +/- 1 °C
- . 1 week at 71 +/- 1 °C

Test Method: Cut a 70 mm long tape, free of non-uniform dimension and defects and apply non-sticky tape pads of the same material to parts to be clamped. Set the tape sample in the Instron tensile tester and stretch it with tensile rate of 250 mm/min. Determine tensile strength and elongation for maximum breaking load and for original length of 30 mm.

Date	Action	Revisions
2006 11 29	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.18 & 4
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3.8 FORCE TO COMPRESS 82-106 N
(FLTM BU 114-01, except 50% compression on 8 mm tape)

3.9 RECOVERY. Min 90%
(FLTM BU 114-01, except 50% compression on 8 mm tape and recovery after 5 min)

3.10 SHEAR STRENGTH, min

. Normal 152 kPa
. Cycle 76 kPa

4 h at 88 +/- 1 °C
4 h at 100% RH at 38 +/- 1 °C
16 h at -29 +/- 1 °C
4 h at 100% RH at 38 +/- 1 °C
4 h at 88 +/- 1 °C
16 h at -29 +/- 1 °C

. 2 weeks at 100% RH at 38 +/- 1 °C 48 kPa
. 2 weeks at 88 +/- 1 °C 193 kPa

Test Method: A 8 mm thick tape shall be cut to a length of 25 mm and bonded to RIM and 33J100 painted metal and the adhesive overlap bonding area shall be 6 mm x 25 mm. The tape is pressed to produce 50% compression for 1 minute and released (see Fig 1). The mode of failure should be reported. The jaw separation rate shall be 250 mm/min.

3.11 YIELD STRENGTH, min

. Normal 88 kPa
(24 h at 23 +/- 2 °C)

. Aged

2 weeks at 88 +/- 1 °C 77 kPa
2 weeks, 38 +/- 1 °C at 95-100% RH 74 kPa
2 weeks water immersion at 23 +/- 2 °C 89 kPa

. Cycled 23 kPa

4 h at 88 +/- 1 °C, 4 h at 38 +/- 1 °C at 95-100% RH
16 h at -29 +/- 1 °C, 4 h at 38 +/- 1 °C at 95-100% RH
4 h at 88 +/- 1 °C, 16 h at -29 +/- 1 °C

Test Method: Yield cells are prepared using RIM and 33J100 painted panels and 8 mm thick tapes, per Fig. 2. 50% compression for 1 minute is required for assembly when the cells are pressed. Condition the cells as specified above. Determine the yield strength of the bonded assemblies in tension by pulling in a tensile machine with a jaw separation rate of 25 mm per minute. The RIM must be securely bonded to another metal base plate by adhesive to eliminate any bending of RIM. The mode of failure should be reported.