



HEAT INSULATION, SELF-ADHESIVE, POLYETHYLENE FOAM

SK-M99G9522-A

1. SCOPE

The material defined by this specification is a molded self-adhesive, closed cell, crosslinked polyethylene foam with the adhesive side covered by a release liner.

2. APPLICATION

This material was originally released for heat insulation of the heating channel in the engine compartment.

3. REQUIREMENTS

Note: If the finished part does not allow the preparation of plane specimens, the supplier is required to provide, together with the Initial Sample Report, specimens of same material and equivalent manufacture used for the finished part. Samples for control and routine checks shall be submitted as required by Quality Control.

The material shall be conditioned for a minimum of 24 hours at 23 +/- 2 °C and 50% relative humidity prior to test and tested under the same conditions. Tests shall be conducted not earlier than 72 hours after manufacture of part.

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	COLOR	Grey to black or as specified on Engineering drawing
3.2	DIMENSIONS	As specified on Engineering drawing
3.3	WEIGHT OF FINISHED PART	As specified on Engineering drawing
3.4	DENSITY (ASTM D 2406)	35 +/- 5 kg/m ³
3.5	TENSILE STRENGTH, min (ASTM D 2406)	15 N/cm ²
3.6	ELONGATION, min (ASTM D 2406)	50%
3.7	TEAR STRENGTH, min (ASTM D 624, Die C)	30 N/25 mm
3.8	COMPRESSION SET, max (ASTM D 2406, specimens 50 x 50 x 25 +/- 1 mm, 50% compression, 70 h at 23 +/- 2 °C)	42%

Date	Action	Revisions
2007 03 15	Revised	Inserted 3.0; Deleted 3.20 & 4
1994 12 16	Revised	Revised and Retyped, was 11 pages
1978 09 27	Released	SM/EQ 8424 TP





Calculation:

$$Ct = \frac{to - tf}{to} \times 100$$

Ct = Compression set expressed as a % of the original thickness

to = Original thickness

tf = Final thickness

3.9 COMPRESSION LOAD DEFLECTION 5.5 +/- 1.5 N/cm²
(ASTM D 1056)

3.10 WATER ABSORPTION, max 3%
(ASTM D 1056, 24 h)

3.11 DIMENSIONAL STABILITY

Dimensional Change, max 3%

Test Method: A specimen approximately 300 x 300 mm in size shall be placed into a mechanical convection oven maintained at 90 +/- 2 °C for 3 hours. Dimensional changes shall be measured after conditioning for 30 minutes at room temperature.

3.12 COLD RESISTANCE -40%

After test, specimen shall not show any cracks or breaks.

Test Method: Specimens 150 x 50 x 5.5 +/- 0.5 mm in size shall be placed in a cold box maintained at -40 +/- 1 °C for 4 hours and subsequently, twisted 360° around itself. Test shall be done inside the cold box. Examination shall be done on specimens bent 180° with the unaided eye from a distance of 300 mm.

3.13 COLD ADHESION AFTER HEAT AGEING No chipping

Test Method:

- 1 Apply 280 x 290 x 5.5 +/- 0.5 mm self adhesive specimens to 300 x 300 x 1.5 +/- 0.1 mm test panels, prepared according to FLTM BI 103-02 Bb and firmly press together.
- 2) After 2 hours at room temperature, expose test assemblies to 80 °C +/- 2 °C for 14 days.
- 3) Test the assemblies after cooling to room temperature according to FLTM BV 151-01, clauses 5 to 8 (Load "A").

3.14 PEEL STRENGTH at 180°
(ASTM D 1000, specimens bonded according to FLTM BI 103-02 Bb prepared panels. Test after 2 h conditioning at room temperature. Specimen thickness 5.5 +/- 0.5 mm)

Note: If foam fails internally before peeling occurs, the internal strength of the foam at the point of failure must be minimum 12 N/25 mm (3.14.1, 3.14.2, 3.14.3 and 3.14.4).

