



MULTI-PLY DEADENER PAD, MOLDED, ENGINE COMPARTMENT

SK-M99G9520-A

1. SCOPE

The material defined by this specification is a molded heat resistant multi-ply pad based on a EPDM or PUR heavy layer with or without fabric reinforcement and a polyurethane ether foam backing with surface skin. In the area of edges, the assembly is compressed.

2. APPLICATION

The molded part was originally released for sound deadening in the engine compartment at the dash panel areas. The part is mechanically fixed to painted metal.

3. REQUIREMENTS

Note: The material shall be conditioned for a minimum of 24 hours at 23 +/- 2 °C and 50 +/- 5% relative humidity prior to test and tested under the same conditions.

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 HEAVY LAYER

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 the same material and equivalent manufacture used for the finished part. Samples for control and routine checks shall be submitted as required by Quality Control.

3.1.1	Color	Black or as specified on Engineering drawing
3.1.2	Density (ASTM D 792, Method A-1)	2.2 +/- 0.3 g/cm ³
3.1.3	Thickness (Slide gauge)	3.35 mm +/- 15%
3.1.4	Shore Hardness 'A' (ASTM D 2240, 15 s dwell)	92 +/- 6
3.1.5	Moisture Absorption, max	5%

Date	Action	Revisions
2007 03 14	Revised	Inserted 3.0; Deleted 3.5 & 4
1994 12 15	Revised	Revised and Retyped, was 18 pages
1978 04 21	Released	SM/EQ 8341 TP





Test Method:

- 1) Weigh a test specimen of 100 x 100 mm nearest to 0.5 g.
- 2) Condition the test specimen in suspended position at 98 +/- 2% relative humidity and 38 +/- 2 °C for 24 hours.
- 3) Immediately after test, weigh the sample nearest to 0.5 g and determine increase of weight in % based on original weight.

3.1.6 Cold Resistance

No cracking

Test Method:

- 1) Place a steel ball of 38 mm diameter, mass 225 g and a 100 x 100 mm piece of material under test for 4 hours at -40 +/- 1 °C in a cold box.
- 2) Place the test piece horizontally on a base plate and normal to the direction of impact.
- 3) While still in the cold box, drop the steel ball to the middle of the test piece from a height of 1000 mm.

3.1.7 Tensile Strength

(ASTM D 412, Die C, except test speed 150 mm/minute)

3.1.7.1 Original, min 300 N/cm²

3.1.7.1.1 Elongation, min 15%

3.1.7.2 After Humidity Ageing, max
(48 h at 38 +/- 2 °C and 98
+/- 2 % relative humidity) -35%3.1.7.3 After Heat Ageing, max
(14 d at 70 +/- 2 °C, 1 h
at room temperature) -15%3.1.7.4 After Immersion in Engine
Oil, max
(48 h Oil No. 1 ASTM D 471 at
room temperature) -15%3.1.8 Tear Strength, min 150 N/cm
(ASTM D 624, Die C)

3.1.9 Stiffness of Heavy Layer According to Figure 1

Note: This test is only applicable if required on Engineering Drawing.

**Test Method:**

- 1) Cut plane specimens 90 x 25 mm from the molded part or slab stock (see Note 3.1.). Thickness shall be between 3.0 mm and 3.6 mm.
- 2) Test according to ASTM D 747, except direct reading, 10 mm bending span, 0.4 Nm bending moment.
- 3) Determine the % of maximum bending moment depending on the angular deflection within the limits of 0.175 to 1.396 rad and based on a 1 mm test specimen thickness as an average of 5 measurements.

3.2 PUR FOAM**3.2.1 Color**

Grey - black or as specified on Engineering Drawing.

3.2.2 Thickness 9 +/- 2 mm
(Slide gauge)

3.2.3 Density 80 - 130 kg/m³
(ASTM D 2406-68)

3.2.4 Hardness Index 1.2 - 2.2 N/cm²
(FLTM EU-BO 052-01, except specimens with heavy layer according to 3.4.9. (small tube). Total foam thickness between 18 mm and 21 mm. Calculate the hardness index as an average of 5 tests)

3.3 SURFACE SKIN**3.3.1 Adhesion of Surface Skin to Foam**

The surface skin shall not be removed without being destroyed.

Test Method:

- 1) Cut into the skin of the finished part an area of 25 x 200 mm with a razor blade.
- 2) Cover the area with tape according to SK-M3G9500-A and press down firmly.
- 3) Remove the tape from test piece in a tensile testing machine at an angle of 3.14 rad and a test speed of approx. 500 mm/minute.

3.4 ASSEMBLY REQUIREMENTS

3.4.1 Dimensions As specified on Engineering drawing.

3.4.2 Total Mass of Molded Part (kg)
5.3 +/- 0.7 or as specified on Engineering drawing.