

ADHESION OF SOUND DEADENER SHEETS AND PADS

Application

This method is used to determine the adhesion strength of Sound Deadener sheets and pads.

Method A: For self-adhering pads and sheets.

Method B: For heat-fusible pads and sheets.

Apparatus Required

Test Panels (see drawing)

Steel Body Skin Panels, surface roughness 0.9 - 1.8 micrometre C.L.A.

Dimensions: Upper Panel 60 x 50 x 0.8 mm
Lower Panel 60 x 65 x 0.8 mm

Preparation:

Freshly prepared as required by the relevant Materials Specification as follows:

Type I: Oiled surface according to FLTM EU-BV 50-11 - Normal Grade.

Type II: Electrocoated surface prepared according to the technique outlined in FLTM EU-BI 20-1, using a released material. Alternatively, panels can be electrocoated in the normal production process.

Mechanical Convection Oven

Capable of maintaining temperatures up to 250 °C within 2 °C.

Tensile Machine

With a constant rate of jaw separation of 25 mm/minute and an autographic recording device.

Test Fixture

See Drawing 3.

Silicone Paper

Strips 25 mm wide and 60 mm long.

Date	Action	Revisions
2000 11 14	Revised	Editorial – no technical change A. Cockman
1994 02 28		

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Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Preparation of Test Assembly

1. Prepare the test assembly according to drawing 1 using the 2 test panels inserting the strip of silicone paper as shown in drawing.
2. The pretreatment of the panels must be as required by the relevant Material Specification, either as:
Type I - Oiled surfaces
or
Type II - Electrocoated surfaces
3. The adhesion of the material under test to the panels is achieved:
Method A: For self-adhering pads - by hand pressure at 23 +/- 2 °C.
Method B: For heat-fusible pads - by heating to the temperature specified in the relevant Material Specification.

Procedure

Note: 3 test assemblies required unless otherwise specified.

1. After preparation according to Method A or B, condition test assemblies for 2 h at 23 +/- 2 °C.
2. Fit the test assembly into the fixture as shown in drawing 2 and test for adhesion strength in the tensile machine at a jaw separation rate of 25 mm/ minute.

Evaluation

Calculate the adhesion strength as follows:

$$\text{Adhesion Strength (kgf/cm)} = \frac{\text{Maximum load (kgf)}}{\text{Width of material under test (cm)}}$$

All test assemblies must meet the maximum requirements of the Specification.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.