

SEALING ABILITY OF CURED THERMO-ELECTRIC SEALING STRIP

Application

This method is used to determine the sealing ability of thermo-electric cured sealing strips used for direct bonding of painted metal to glass.

Apparatus and Materials Required

Test Panels

Steel body skin panels 300 x 300 mm, surface finish 0.9 - 1.8 micro-m CLA. Prepare in accordance with FLTm EU-BI 003-02, Method C.

Glass Plate

300 x 300 x 6 mm.

Fluorescein Sodium Salt

Source:

B.D.H. Ltd.
Chadwell Heath
Essex, England

BASF
67 Ludwigshafen/Rh
Germany

Black Light Type Mercury Vapour Lamp

Source:

P.W. Allen & Co. Ltd.
253 Liverpool Road
London N.1, England

Quarzlampen GmbH
645 Hanau/Main
Germany

Power Source

24 volts capable of generating a 10 +/- 2 amp current.

Adjustable Resistance

Up to 3 ohms.

Manometer

Date	Action	Revisions
2000 12 01	Revised	Editorial – no technical change A. Cockman
1994 02 28		

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Spacers

Thickness as required by the relevant Material Specification.

Clamps

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.

Procedure

1. Coat the test panel and glass plate with the current production adhesive primer as specified in the material specification.
2. Lay a bead of test material in the form of a loop on the test panel, approximately 250 mm in circumference with both ends approximately 100 mm in length, crossing each other as shown in the drawing.
3. Cover with the primed glass and insert spacers to the thickness required by the material specification. Pass a 10 +/- 2 amp current through the bead for 2 minutes to soften the material and press down to the spacer thickness, and clamp.
4. While still clamped, pass a further 10 +/- 2 amp current for 500 s through the bead. Hold for 4 h at 23 +/- 2 °C, then remove clamps.
5. Preparation of Fluorescein Test Solution. Dilute a 10 % by weight fluorescein sodium salt solution in the proportion of 1 to 1000 mL of distilled water.
6. After 24 h at 23 +/- 2 °C, three quarters fill the space (B) between panel and glass plate by means of the filling neck (A) with the fluorescein test solution. Close vent (D), and using the manometer, apply a pressure of 10 KN/m² and close valve (C) under pressure.
7. Remove pressure line and hold the assembly in a suspended position for 14 d at 23 +/- 2 °C.

Evaluation

Every 24 h examine the assembly in a darkened room, under the ultraviolet light source for evidence of water leaks.

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.