

SEALING ABILITY OF SEALERS

Application

This procedure is used to determine the sealing ability of heat curing sealers.

Apparatus and Reagents Required

Test Fixture (as shown in drawing)

Made from body steel skin panels prepared in accordance with FLTM EU-BI 020-01.

Laboratory Forced Air Circulation Oven

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

Sealer Gun

Or similar device.

Fluorescein Sodium Salt

Source:

Hopkin & Williams Ltd.
Chadwell Heath
Essex, England

BASF
Ludwigshafen/Rh
Germany

Black Light Type Mercury Vapour Lamp

Source:

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

Quarzlampen GmbH
Hanau/Main
Germany

Distilled Water

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.

Date	Action	Revisions
2002 01 10	Revised	Editorial – no technical change A. Cockman
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Page 1 of 4

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Procedure

1. Apply a bead of sealer 6 mm in diameter to the interior flange seams of 2 test fixtures using the gun of a similar device.
2. Brush or trowel the bead against the sides of the angle so that the sealer takes up a concave shape as shown in drawing 1.
3. Condition the fixtures at 23 +/- 2 °C for an open time of 10 minutes.
4. Cure one of the specimens in accordance with the minimum curing cycle and the other in accordance with the maximum curing cycle outlined in FLTM EU-BV 050-05 (Table 2 or 3 as required by the relevant Material Specification).
5. Remove the specimen from the oven and condition for 2 h at 23 +/- 2 °C.
6. Preparation of Fluorescein Test Solution. Dilute a 10 % by weight fluorescein sodium salt solution in the proportion of 1 mL to 1000 mL of distilled water.
7. Fill the fixture with the test solution to a depth of 100 mm.
8. Allow the fixture to stand for 2 h at 23 +/- 2 °C and then examine in a darkened room under the ultra violet light source for evidence of water leakage, as required by the relevant Engineering Specification.
9. Empty the test solution from the fixture, condition for 240 h in the oven at a temperature of 100 +/- 2 °C.
10. Remove the fixture from the oven and condition for 2 h at 23 +/- 2 °C.
11. Proceed as described in paragraphs 6 – 8.

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 its facilities.