

RESISTANCE TO SYNTHETIC PERSPIRATION STAINING**Application**

This method is used to determine the resistance of painted finishes to perspiration.

Apparatus Required**Analytical Balance**

Precision +/- 0.001 g

Graduated Cylinder

100 mL

Watch Glasses

Diameter: 30 mm

Height: 20 mm

Materials Required**Glacial Acetic Acid**

Reagent grade; concentrated (99.7 % w/w min)

Sodium Chloride

Reagent grade

Butyric Acid

Reagent grade; concentrated 98 % w/w min)

Isovaleric Acid

Reagent grade; concentrated

Distilled or Deionized Water

20 micromhos/cm at 25 °C maximum conductivity (ASTM D 1125)

Gauze Pads

50 x 50 mm

Date	Action	Revisions
2001 03 19	Revised	Editorial – no technical change A. Cockman
1992 03 27		

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Solution Required

Synthetic Perspiration Solution

18 - 19 mL glacial acetic acid
25 g sodium chloride
15 - 16 mL butyric acid
16 - 17 mL isovaleric acid
420 mL distilled or deionized 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.

Procedure

1. Prepare test panels according to FLTM BI 103-02, Method C, with the enamel to be tested and aged for 72 h at 23 +/- 2 °C or 16 h at 45 +/- 2 °C.
2. Place the panels under a fume hood and put the gauze pad on the painted surface; saturate with synthetic perspiration solution and cover with the watch glass.
3. Allow the gauze pad and test solution to remain on the painted finish for 1 h, unless otherwise specified by the applicable Engineering Material Specification.
4. Remove the gauze pad and carefully wipe off the excess test solution with a lint-free cloth.

Evaluation

1 h after completing Step 4, evaluate as follows:

- a. Determine any color tone change in accordance with FLTM BI 109-01.
- b. Rub test area with fingernail to detect softening of paint.
- c. Compare the gloss and finish of the tested and untreated areas of the painted test panel.

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.