DETERMINATION OF ENAMEL SAG RESISTANCE

Application

This test method describes the procedure to determine the relative sag resistance of exterior body enamel.

Apparatus Required

Automatic Paint Spray Machine

Spraymation or equivalent application equipment.

Source: Spraymation Inc.
Little Falls, NJ 07424

Oven

Shall be capable of maintaining 130 +/- 2 °C.

No. 4 Ford Cup

Paint Film Thickness Tester

Any reliable electromagnetic thickness gauge such as Autotest, Type MS.

Source: Twin Cities International, Inc.
175 Pineview Drive
Amherst, NY 14150
(716) 691-8855

Materials Required

Sag Test Panels

300 x 450 mm Flat Cold Rolled Steel, unpolished, 17 holes (holes: 6 mm in diameter, spaced 25 mm apart, 100 mm from the bottom edge), current production zinc phosphate, deionized water rinse.

Source: Advanced Coatings Technologies
P.O. Box 310
273 Industrial Drive
Hillsdale, MI 48242
(517) 439-1492

Date	Action	Revisions
2001 03 20	Revised	Editorial – no technical change A. Cockman
1998 08 12		

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Control Enamel

A control enamel shall be used. This must be of similar technology to the test enamel, and to have exhibited satisfactory sag resistance in production.

Enamel Solvent

Solvent should be the same as recommended for production for both control and test material.

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. Reduce both the control enamel and the test enamel to 32 +/- 2 s using a No. 4 Ford Cup (unless otherwise specified by the applicable Engineering Material Specification or supplier recommendation). The control enamel should be taken from a previous batch of the same color known to be satisfactory.

2. Apply the control and the test enamels with an automatic spray machine to separate sag test panels at 23 +/- 2 °C.

3. If a Spraymation is used, suggested setting are as follows:

   . "A" position (i.e. approximately 230 mm from gun tip to the face of the panel).

   . Five coats.

   . Spray Pressure (at the gun) 485 +/- 35 kPa.

   . No flash between coats.

   . The fluid flow should be 405 +/- 15 cm3/minute.

   . The air fan valve should be open to give a full spray fan.

   . The gun traverse speed should be 34 traverses/minute.

4. Position a 300 x 450 mm sag test panel in vertical position, with the holes running top to bottom towards the right, in the center of the application equipment rack (Figure 1).

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