

MEASUREMENT OF DRY HIDING POWER OF PAINTS

(Red and Grey Straight Line Hiding Chart) Application

This method is used to determine the dry hiding power of paints by measuring the film thickness required to completely hide red and grey stripes of a standard hiding chart.

Apparatus and Materials Required

Straight Line Hiding Chart

Red and grey hiding chart. This is made up of standard colour lines, the red to match Munsell colour value 7.5 R (yR) 3/2, the grey to match Munsell neutral colour value N/6 medium grey. Reference number RGF-2.

Source: Morest Company Inc. or Erichsen GmbH
 71 Albany Avenue 587 Hemer Sundwig
 Freeport, NY 11520 W. Germany

Masking Tape

High temperature masking tape, 25 mm nominal width.

Test Panels

Body skin steel panels, dimensions 100 x 300 mm. Surface roughness 0.9 -1.8 micrometre C.L.A. or as otherwise specified in the relevant material specification.

Colour Matching Device

Macbeth Colour Matching Booth or equivalent with North Sky Daylight according to BI 109-01.

Film Thickness Measuring Device

According to FLTM BI 117-01 e.g. Permascope ES8

Source:

[illegible]

Date	Action	Revisions
2001 03 02	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.

Procedure

1. Position the chart on the panel even with the left edge and about 15 mm inboard from the upper and lower edge. Tape the cardboard to the panel using high temperature masking tape. The tape should cover only about 10 mm of the chart at the top and bottom ends.
2. The paint should be thinned to the viscosity required by the relevant Material Specification with the solvent specified. Viscosity to be determined in accordance with FLTm BI 111-01.
3. Spray the entire panel and chart with a uniform, wet coating of the test colour approx 12 micrometre thick.
4. Allow 1 minute flash-off, then spray the lower 3/4 of the panel with an additional 12 micrometre coat of paint.
5. Allowing 1 minute flash-off between coats, progressively spray the remaining lower areas of the panel until complete hiding of the red and grey stripes is obtained at the lower end of the panel.

Note: Some practice may be required to accomplish the object of this test. A gradual increase in film thickness from the top to the bottom of the panel is desired with a dry film thickness gradient of 12 micrometre to 60 micrometre. A wedge type film thickness with complete hiding of the lower chart stripes is obtained when the panel is sprayed in increments with successive coats of paint.

6. Flash-off for 3 minutes after final coat, then bake the panel at one of the standard cycles designated by the relevant Material Specification. Remove baked panel from the oven and cool to 23 +/- 2 °C.