

**MEASUREMENT OF CONTRAST RATIO OF PAINT
DRY HIDING POWER**

Application

This procedure is used to measure the contrast ratio, or dry hiding power, of production and maintenance paints. Contrast is the ability of that paint to reduce the contrast of a black and white surface to which it is applied and allowed to dry.

Apparatus Required

Colorimeter

A "Colormaster differential colorimeter", or equivalent, is used to measure the reflectance of the paint when applied over standard black and white surfaces. The instrument may be obtained from:

Source: Meeco Instrument Manufacturing Co.
Hatboro, PA U.S.A.

Checkerboard

The black and white checkerboard used in this test is a No. 5 ASTM checkerboard. The board is made up of black and white squares having standard reflectance values.

Source: Leneta-Morest Div.
P.O. Box 86
Ho-Ho-Kus, NJ 07423 U.S.A.

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
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Procedure

1. Cut a strip of checkerboard, three squares in width and five squares in length. Cut out and discard the center square.
2. Place the checkerboard over a clean steel panel and secure at upper and lower edges with masking tape. The section of the steel panel which is exposed to the cutout is used to check the thickness of the subsequently applied paint film.
3. Reduce the paint sample to the proper spraying viscosity with the appropriate thinner as specified by the relevant Engineering Materials Specification.
4. Spray as specified in Ford Laboratory Test Method BI 103-02, Method "C", or to the film thickness specified by the Engineering Materials Specification.
5. Bake as designated by the Engineering Materials Specification.
6. Place a strip of the painted checkerboard on the colorimeter, set for the green filter and measure the reflectance of the painted black square and then the white square.

Evaluation

Calculate and report the contrast ratio of the paint from the following formula:

$$\frac{\text{Black Reflectance}}{\text{White Reflectance}} = \text{Contrast Ratio (Dry Hiding Power)}$$

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.