INHIBITION OF CORROSION

Application

This procedure is used to evaluate the rust inhibiting properties of VCI treated Kraft paper.

Apparatus Required

Desiccator
5 inch with cover, washed in warm water and soap and rinsed in warm water and then in alcohol. Coat ground glass edges with stopcock grease to insure a tight seal.

Plate Glass
1/8 x 3 1/2 x 1 1/2 inches.

Steel Specimen
SAE 1020 round bar, size 1 x 1 inch. Sand smooth and clean with abrasive paper, ending with No. 120. Wash in warm alcohol and handle carefully to avoid finger contact.

Volatile Corrosion Inhibitor Paper
3 x 6 inches.

Oven
Electric drying oven, large enough to accommodate the 5 inch desiccator.

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. Place 15 mL of distilled or deionized water in the bottom of the desiccator.

2. Place the glass plate on the ledge of the desiccator.

3. Place the polished steel specimen on one end of the active side of the VCI paper, fold the other end over the steel specimen and butt the ends of the VCI paper. Lay the assembly on the glass slide.

Date	Action	Revisions
2000 11 10	Revised	Editorial – no technical change A. Cockman
1992 08 06		

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4. Place cover on the desiccator so that it is air tight.

5. Cycle the desiccator as follows: No. of cycles - 5. Each consists of: (exclude heating and cooling time)

   a. One h at 23 +/- 2 °C
   b. Two h at 140 +/- 2 °F
   c. One h at 23 +/- 2 °C
   d. Two h at 140 +/- 2 °F
   e. One h at 23 +/- 2 °C
   f. 17 h at 140 +/- 2 °F

6. Upon completion of the five test cycles, remove the steel specimen and rate the effectiveness of the VCI paper as follows:

Code	Rating	Appearance of Steel Specimen
E	Excellent	No corrosion
G	Good	Few pin points of corrosion but of minor degree
F	Fair	25 - 50 % of area corroded
P	Poor	Failed over 50 % of area corroded

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.

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