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FORD LABORATORY TEST METHOD BI 004-03

GALVANIC EFFECTS ON PAINTED NON-METALLIC EXTERIOR PARTS

Application

This procedure is used to evaluate the effects of a corrosive environment on the paint adhesion of painted exterior flexible components.

Apparatus Required

Fluid Tank

Constructed of a suitable non-corrosive material such as glass or plastic of sufficient size to expose samples without contact.

Test Solution

5 % NaCl solution prepared per ASTM B 117.

Sharp Knife

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.

Test Procedure

1. Parts or sections of parts, with galvanized reinforcements attached, shall be prepared as shown in Figure 1. Knife cuts must penetrate to the substrate, but care should be exercised to prevent complete perforation of the sample.

   Alternately, if parts are not available, molded slabs prepared as illustrated in Figure 2 may be utilized. The slabs must be prepared using production materials and equipment and must be representative of production processing.

2. Parts shall be fully immersed and suspended, to provide free circulation around all surfaces in 5 % NaCl solution (prepared according to ASTM B 117 salt spray test) maintained at 22 +/- 3 °C for the specified period. The vessel containing the solution should be covered to minimize evaporation.

Date	Action	Revisions
2000 08 31	Revised	Editorial – no technical change A. Cockman
1992 06 08		

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3. At the conclusion of the immersion period specified in the applicable engineering specification, remove the parts from the salt solution and dry with a paper towel, cloth, or air (oil and moisture free) and immediately examine for blistering, peeling or other evidence of loss of paint adhesion. To evaluate for peeling or loss of adhesion, attempt to pull or scrape the paint film from the substrate at the intersection of the knife cuts. The peel may be started with a knife blade or thumbnail, then pulling between the fingers and knife blade. The film shall not pull or scrape free more than 3 mm from the scribe line, unless failure is otherwise defined in the engineering specification or part drawing.

4. Examine the part for failure as defined by the engineering specification or part drawing. Disregard any separation within 3 mm of the edge of the part or the edge of attaching bolts or staples.

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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