

TEST FOR SILICONE CONTAMINATION OF PAINT SYSTEMS

Application

This method is used to test for airborne contamination in paint systems such as silicone aerosol lubricants and release agents whose vapor can be emitted into the atmosphere. Paint systems and related materials must be tested as detailed below to ensure that their airborne media do not interfere with final paint quality finish.

No component of any equipment, material, or facility which is used in any painting or pretreatment process shall, at any stage of manufacture or assembly, come into contact with lubricants containing free silicone or other surfactants which could cause paint damage or craters.

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. Prepare two primed test panels in accordance with BI 103-02 Method 'E'. One panel to be used for control purposes, and the other panel for simulated contamination tests.

Note: When applicable, this test may also be used for primed plastic parts.

2. Stove and age the panels as described in the appropriate materials specification.
3. Prepare a solvent extract sample from the non-production item, using an appropriate solvent, e.g. cyclohexane. Evaporate sample to approximately half of the original volume.
4. Apply contaminated solvent extract sample to the test panel using a pipette.
5. Apply uncontaminated solvent sample to control panel using a pipette.

Date	Action	Revisions
2001 03 20	Revised	Editorial – no technical change A. Cockman
1996 05 07		

Printed copies are uncontrolled

Page 1 of 2

Copyright © 2001, Ford Global Technologies, Inc.

6. Leave panels for five minutes in a horizontal position. Air dry both test panels using a hot air fan for one minute or until completely dried.
7. Fix the two test panels in the vertical position in a paint spray booth. Apply air-drying repair enamel (WSK-M4J209-A) by aerosol to both panels, from a distance of 300 mm to obtain a 0 to 15 micron dry film thickness wedge.

Evaluation

1. Examine each panel in both wet and dried condition for crater formation or other paint defect.
2. Report on any paint defects observed.
3. Infrared Analysis:

Run an infrared trace on solvent extract sample (from para 3 of procedure), and interpret spectra for presence of silicone or other contaminants known to have detrimental effect on paint films (the infrared curve should be compared with an uncontaminated sample).
4. Paint Equipment and Facilities Requirement:

No component of any equipment or facility which is used in conjunction with any painting or pre-treatment process shall, at any stage of manufacture or assembly, come into contact with lubricants containing free-silicone or other surfactants which could cause paint damage.

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.