Ford Motor Company

# FORD LABORATORY TEST METHOD BI 120-16

## ELECTROCOAT YELLOWING TEST

### Application

This test method is used to determine the amount of colored crack products, which are developed during the electrocoat baking process and can lead to discoloration of light body enamels.

### Materials and Apparatus Required

**Metal Can**
Dimensions approximately 75 mm in height and 75 mm in diameter.

Mechanical Convection Oven (gas fired)
Capable of maintaining temperatures up to 200 +/- 2 °C.

**Metal Holder**
Dimensions approximately 2 +/- 0.2 mm in diameter and 20 - 30 mm long.

**Aluminum Foil**

**Metal Panel**
Required to cover metal can.

**Steel Test Panel**
Steel test panel to be 190 x 150 mm conforming to Manufacturing Standard UMA 18001.

### 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 |
|---|---|---|
| | | |
| 2001 03 20 | Revised | Editorial – no technical change A. Cockman |
| 1996 10 02 | | |



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**Procedure**

1. Electrocoat the metal can according to FLTM BI 120-01.

2. Apply a film thickness according to the relevant Engineering Material Specification. After rinsing and air blow off, place an aluminum foil of suitable size over the opening of the can and seal by placing a metal panel on top of the foil in order to trap condensation products.

3. Bake in an upright position for 20 minutes at 200 +/- 2 °C air temperature.

4. Separately prepare a steel test panel, 190 x 150 mm according to FLTM BI 120-01, by applying white body enamel to a dry film thickness of 40 – 50 micrometers.

5. Place a metal holder of 2 +/- 0.2 mm in diameter by 20 - 30 mm in length in the longitudinal direction in the middle of the upper third of the wet painted test panel. This is to act as a distance marker.

6. After the can has cooled to 23 +/- 2 °C remove the aluminum foil from the electrocoat can and immediately place the can opening downwards on the middle of the painted test panel such that the can is spaced by the distance marker at one point on the rim.

7. Bake the whole assembly for 20 minutes at 130 +/- 2 °C air temperature.

8. After cooling remove the can and evaluate for discoloration of the white body enamel.

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