

**WATER AND SOAP SPOTTING TEST FOR PAINT****Application**

This method is used to determine the resistance of painted finishes on metal and plastic parts to water and soap spotting.

Apparatus Required**Color Matching Booth** - FLTM BI 109-01

Macbeth Color Matching Booth BX 1014 Super Skylight, BX 848a Super Skylight or SPL 75 Spectralight or approved equivalent.

Mechanical Convection Oven

Capable of maintaining a temperature of 60 +/- 2 °C.

Weather-Ometer

An Atlas Xenon Weatherometer, or approved equivalent, for activating the painted finishes per FLTM BI 116-01 or SAE J2412 for interior or per ASTM D7869 or SAE J2527 for exterior.

Polyethylene Washers

Approximately 25 mm I.D.

Materials Required**Liquid Test Soap**

Cyclo No. 7 Car and Truck Wash concentrate
Dissolve 3 grams of powder into 1 liter distilled or deionized water
<http://www.cyclo.com/16140.html>

Also available at Amazon

Distilled or Deionized Water

20 micromhos/cm at 25 °C maximum conductivity (ASTM D 1125).

Referenced Ford Laboratory Test Methods

BI 103-02	Preparation of test parts
BI 109-01	Color matching of paints
BI 109-03	Color difference evaluation

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	Rev. 4
2016 03 22	Editorial	See Summary of Revisions	M. Corley, EU
2015 07 02	Revised	Updated soap	R. Harris, NA
1997 12 01	Released		





Procedure

- 1 After baking and aging, place specimens in the Weatherometer for 16 h to activate the paint finish.
- 2 Immediately after removal from the Weatherometer place a polyethylene washer on each end of the painted surface of the specimen. Fill one washer with 2 mL of liquid soap solution and the other with 2 mL of distilled water.
- 3 Place the specimen in the oven at 60 +/- 2 °C for 4 h.
4. Remove the specimen from the oven, rinse the specimen with tap water, dry carefully with a clean paper towel (but do not rub spots), and check for any color difference between the treated and untreated areas in accordance with FLTM BI 109-01 under North Sky Daylight. If a quantitative measurement of color difference is required by the Engineering Material Specification check in accordance with FLTM BI 109-03.

Evaluation

Report any color difference as water and soap spot discoloration.

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.

Summary of Revisions

2016 03 22

Updated weatherometer definition under Apparatus Required to the current reference methods.