

ACCELERATED WEATHERING

1. SCOPE

This procedure is used to measure the deterioration of coatings and decals by using fluorescent ultraviolet (UV) and water or dew under controlled conditions.

NOTE: This test method does not directly relate to exposure time using actual outdoor conditions. Its correlation with outdoor weathering, however, indicates expected performance. Actual outdoor weathering prevails.

2. REFERENCE STANDARDS

ASTM G53 - Operating Light - and Water - Exposure Apparatus (Fluorescent UV - Condensation Type) for Exposure of Nonmetallic Materials.

86507636(FNHA-2-J-001.01) - Panel or Part Preparation

86507638(FNHA-2-J-001.03) - Gloss

86513228(FNHA-2-M-095.20) - Pressure Sensitive Markings (Decals) Application Information and Instructions

3. MATERIALS AND EQUIPMENT

3.1 QUV Accelerated Weathering Tester equipped with UVA-340 Fluorescent bulbs. See FIGURE 1

NOTE: UVA-40 bulbs are used for pressure sensitive vinyl markings (decals) and, on occasion, used for paints.

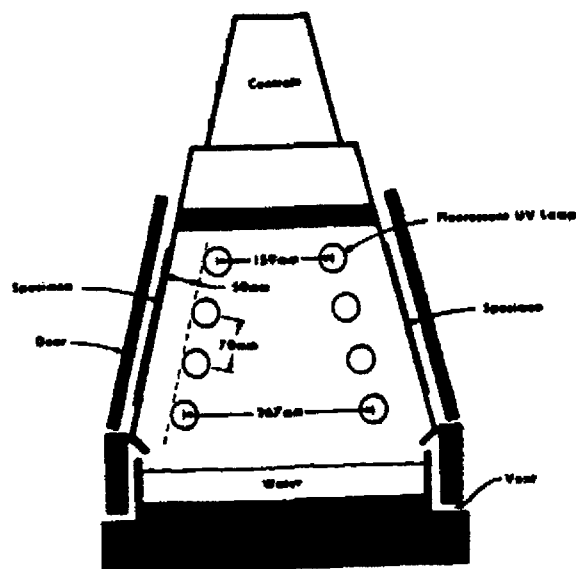


FIGURE 1

3.2 Glossmeter meeting requirements of 86507638 (FNHA-2-J-001.03).

3.3 QVA test panels, type R, 3" X 6" X 0.032", matte finish.

3.4 Supply of UVA-340 fluorescent bulbs and follow the rotation schedule in Figure 2 at each 400 - 450 hours of bulb use.

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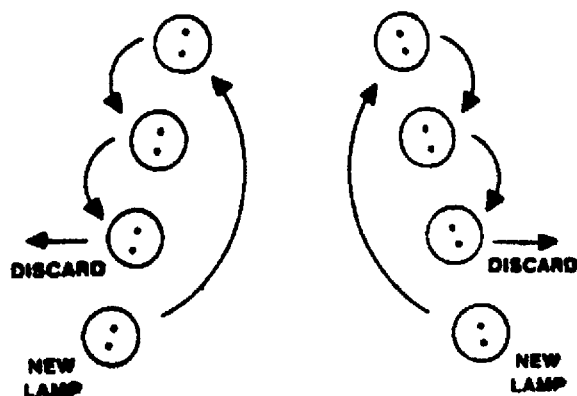
LAMP ROTATION

FIGURE 2

4. PROCEDURE - PAINT

4.1 Prepare four (4) test panels for each paint to be tested per 86507636 (FNHA-2-J-001.01).

4.2 Allow test panels to age at room temperature $25^{\circ} \pm 5^{\circ}\text{C}$ for 2 weeks in a rack to allow air circulation around each test panel.

4.3 Record the average gloss readings of the four test panels for each paint to be tested. Place 3 of the 4 panels in the QUV accelerated weathering tester making sure the temperature recording thermometer is calibrated and accurate to 1°C .

4.4 Set the QUV tester for the following cycle:

QUV 8 HRS. at $60^{\circ} \pm 1^{\circ}\text{C}$
 HUMIDITY 4 HRS. at $50^{\circ} \pm 1^{\circ}\text{C}$

4.5 Rotate the panel holders horizontally on a daily basis toward the center of the QUV tester. See Figure 3.

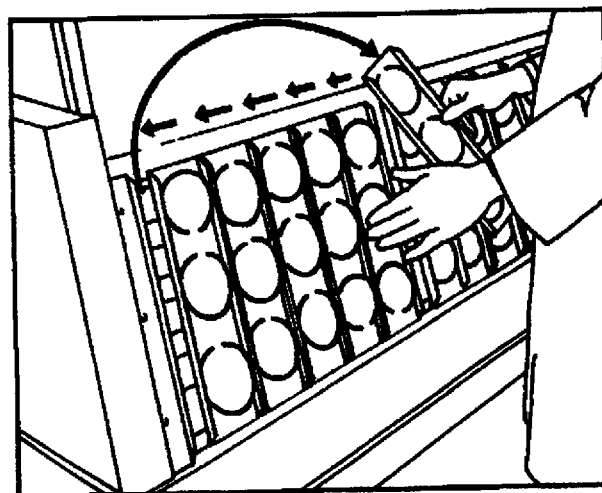


FIGURE 3

4.6 Designate one of each of the 3 test panels to be tested at 1000 and 1500 hours and replace with a blank panel.

4.7 Rotate the test panels vertically so that each sample spends about the same amount of time in the upper and lower positions. Rotate in this manner about the half way period for each test panel.

4.8 Remove one panel from each three paints to be tested at 1000 and 1500 hours and replace with a blank panel.

4.9 Read and record the gloss reading of each test panel removed at 1000 and 1500 hours and note the paint film appearance such as fading, chalking, darkening, blistering etc..

4.10 At the end of the 2000 hours of test remove the third panel and record the gloss and film appearance.

4.11 At the conclusion of the test, each paint sample will have an unexposed panel and a progression of 1000, 1500 and 2000 hours exposure.

	NAME			PART NUMBER	
	STD ACCEL WEATHER			86507663	
ENGINEERING SPECIFICATION			REV. C	FRAME 2	OF 3