

MATERIALS / PAINTS

FNHA-2-J-001.24

WEIGHT SOLIDS

1. SCOPE

This procedure describes the method used to determine the non volatile content of paint by weight.

2. REFERENCE

ASTM D2369 - Test for Volatile Content of Coatings.

3. MATERIALS AND EQUIPMENT

3.1 Laboratory circulating oven capable of maintaining $110^{\circ} \pm 3^{\circ}\text{C}$ ($230^{\circ} \pm 5^{\circ}\text{F}$)

3.2 Aluminum foil pans (weighing dishes) 58 mm diameter X 18 mm high.

3.3 Analytical balance with accuracy to 0.0001 gram.

3.4 Reagent grade toluene.

3.5 Glass syringe with approximately 2.5 ml capacity (VWR Scientific BD5291 or equivalent)

3.6 Desiccator

3.7 Absorbent paper, Kleenex, Kimwipes or equivalent.

4. PROCEDURE

4.1 Identify and precondition 2 aluminum weighing dishes in a desiccator for 30 minutes. Record weights to the nearest 0.0001 gram as tare (W1).

4.2 Withdraw a well mixed, homogeneous, sample from the paint container using the syringe. Wipe off any excess paint on the exterior of the syringe.

4.3 Weigh the syringe and paint sample to the nearest 0.0001 gram as quickly as possible and record the weight. (W2)

4.4 Place about a 2 - 3 ml portion of reagent grade toluene in one empty weighing dish.

4.5 Transfer about 0.5 grams of sample to the weighing dish. Reweigh the syringe and paint sample and record weight. (W3)

4.6 Repeat steps 3.3 thru 3.5 for the second weighing dish.

4.7 Allow about 5 minutes for the solvent to dissolve the coating and form a uniform thin coating in each dish.

4.8 Place the dishes in the oven for 30 minutes at $110^{\circ} \pm 3^{\circ}\text{C}$.

4.9 After 30 minutes in the oven remove the dishes and immediately place in the desiccator for about 1 hour.

4.10 Weigh each dish to nearest 0.0001 gram and record weights. (W4)

4.11 Calculate the weight solids for each sample

$$\left(\frac{W4 - W1}{W2 - W3} \right) * 100$$

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5. REPORT

5.1 Report the weight solids as the average of the two samples if they are within 1.0% of each other. If the readings differ by more, the test must be repeated.

5.2 The paint must be within the limits specified to pass.

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