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TEST METHODS MANUAL

NUMBER: 5.1.412	
SUBJECT: Analysis of Epoxy Resin for Solids Content	
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1. Scope

This method covers a rapid procedure for determining the nonvolatile content of epoxy resin solutions.

2. Applicable Documents

None.

3. Test Specimen

This test method requires less than 1 g of epoxy resin.

4. Test Equipment and Reagents

4.1 Cure plate capable of maintaining a temperature of 200 ±2°C.

4.2 Aluminum weighing dishes (2¼" diameter).

4.3 Analytical balance

4.4 Weighing bottle or Gardner viscosity tube.

4.5 Desiccator

4.6 Toluene

5. Procedure

5.1 Preheat aluminum dishes for 15 minutes at 200°C.

5.2 Cool dishes to room temperature — use desiccator.

5.3 Weigh dishes to the nearest 0.1 milligram.

5.4 Weigh by difference from the weighing bottle or in the case of viscous tube into a preweighed aluminum dish 0.1 to 0.4 g of sample.

5.5 Add 2 to 3 ml of toluene.

5.6 Swirl to distribute to sample uniformly.

5.7 Place the dish containing the sample on the cure plate (200 ±2°C) for 15 minutes.

5.8 Cool in desiccator, reweigh, and compute per cent solids content.

5.9 Calculations:

$$\frac{\text{Wt. of Residue} \times 100}{\text{Wt. of sample}} = \text{per cent solids}$$

5.11 Accuracy of Test. Duplicate determinations should be run. Results should agree within 0.5% of one another.

