



# Standard Test Procedures Manual

Section: ASPHALT MIXES

Subject: MOISTURE CONTENT BY OVEN DRYING

## 1. SCOPE

### 1.1. Description of Test

This method describes the procedure for determining the moisture content of an asphalt mix.

### 1.2. Units of Measure

The moisture content will be expressed as a percent by dry weight of asphalt mix.

## 2. APPARATUS AND MATERIALS

### 2.1. Equipment Required

- Scale capable of measuring to 0.1 g accuracy
- An oven with a temperature range of 50° C to 150° C
- Pans - one suitable for obtaining a bulk sample and one approximately 140 mm x 280 mm for the moisture test.
- Thermometer with a minimum range of 50° C to 150° C
- Hand tools - scoop, spatula

### 2.2. Materials Required

A representative sample of asphalt mix.

### 2.3. Sample To Be Tested

Obtain a sample of the asphalt mix as described in STP 103, Sampling Asphalt Mixes. The sample should be mixed well making sure to break up lumps but not fracturing aggregate.

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## 2.4. Data Required

Sample documentation including the following items; SHT Contract No., Control Section(s), Date, Sample No./Test No.

## 3. PROCEDURE

### 3.1. Description of Equipment Preparation

Ensure the equipment is clean and dry.

### 3.2. Test Procedure

- Preheat oven to 120° C
- Weigh approximately 300 grams of the prepared sample to the nearest 0.1 g. Record as the "weight of wet sample".
- Place the sample evenly in the pan and place in the oven for approximately 45 minutes. Check the oven temperature with a thermometer.
- Remove the sample from the oven and weigh immediately to 0.1 grams and record as the "weight of dry sample".

## 4. RESULTS AND CALCULATIONS

### 4.1. Collection of Test Results

Record the test data directly on SHT Form MR-70 or EPS-70.

### 4.2. Calculations

The "weight of wet sample" minus the "weight of dry sample" is the "weight of water".

The moisture content will be calculated using the following formula:

$$\text{Percent Moisture} = \frac{\text{Weight of Water}}{\text{Weight of Dry Sample}} \times 100$$

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## 4.3. Reporting Results

Report the percent moisture on SHT Form MR-70 or EPS-70.

## 5. CALIBRATIONS, CORRECTIONS, REPEATABILITY

### 5.1. Equipment Calibration

Ensure that the oven temperature is at 120° C by checking with a calibrated thermometer.

### 5.2. Sources of Error

Ensure that the sample is completely dry when removed from the oven. To ensure that the sample is dry, replace in the oven and weigh again. The sample weight should not change if drying is complete.

## 6. ADDED INFORMATION

### 6.1. Safety

Use protective gloves when handling hot sample.

### 6.2. Licenses/Regulations

Users of this test procedure must adhere to all federal and provincial regulations with respect to the materials and procedures used in this test procedure.