

Kentucky Method 64-434-~~0409~~
Revised ~~3/5/04~~5/13/09
Supersedes KM 64-434-~~0304~~
Dated ~~1/14/03~~3/5/04

DETERMINATION OF MOISTURE CONTENT IN ASPHALT MIXTURES (RAPID FIELD TEST)

1. SCOPE:

- 1.1. This method is a rapid field test for measuring the percent of moisture present in an asphalt mixture.
- 1.2. Use the results of this test to correct the asphalt binder content (AC) as determined by Kentucky Method (KM) 64-405, *Extraction of Binder From Asphalt Paving Mixtures*; KM 64-436, *Asphalt Binder Content Determination of Asphalt Mixtures by Plant Recordation*; KM 64-437, *Determination of Asphalt Binder Content of Asphalt Mixtures Using the Nuclear Asphalt Content Gauge*; KM 64-438, *Asphalt Binder Content Determination of Asphalt Mixtures Based on the Maximum Specific Gravity*; or AASHTO T 308, *Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method*.

2. APPARATUS:

- 2.1. Balance or Scale: Provide a device capable of accurately weighing 5000 g, sensitive to 0.1 g.
- 2.2. Hot Plate or Oven: Provide a unit capable of heating an asphalt mixture to $230 \pm 9^{\circ}\text{F}$.
- 2.3. Miscellaneous Equipment: Provide insulated gloves and flat-bottom, metal, drying pans.

3. SAMPLE: Refer to KM 64-425, *Sampling Asphalt Mixtures*, for the sampling procedure and test-portion size.

NOTE 1: Do not use the test portion from a moisture content determination for any method of AC determination due to possible migration and absorption of asphalt binder.

4. PROCEDURE:

- 4.1. ~~Weigh~~Determine the mass of the drying pan to the nearest 0.1 g, and record the ~~weight~~mass of the pan.
- 4.2. Place the sample in the pan, and ~~weigh~~determine the mass of it to the nearest 0.1 g. Record this ~~weight~~mass as the “pan and sample” ~~weight~~mass.
- 4.3. Place the pan and sample on the hot plate or in the oven.

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4.4. Dry the sample to a constant mass at $230 \pm 9^{\circ}\text{F}$, and record the ~~weight~~mass.

~~NOTE 2: Consider “constant~~“Constant mass” ~~to be defined as~~ the point when additional drying does not alter the moisture content by more than 0.1 percent when evaluated at 15-minute intervals.

5. CALCULATIONS AND REPORT:

5.1. Calculate the moisture content as follows:

$$\text{Moisture content (\%)} = 100 \left(\frac{A - B}{A} \right),$$

where:

A = ~~Weight~~Mass of the sample before drying minus the ~~weight~~mass of the pan; and
B = ~~Weight~~Mass of the sample after drying minus the ~~weight~~mass of the pan.

5.2. Report the moisture content to the nearest 0.1 percent on the appropriate Asphalt ~~Mixture~~Mixtures Acceptance Workbook (AMAW).

APPROVED _____
Director
DIVISION OF MATERIALS

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