

Test Method

Moisture Content of Mixed Asphalt Products

RC 211.01

1. Scope

This method is used to determine the moisture content of mixed asphalt products, which may contain added volatile matter. This method shall not be used if there is presence of volatile matter, other than water, which evaporates at temperatures less than 110°C, or 155°C, as applicable.

2. Apparatus

- (a) Oven—thermostatically controlled to operate at a temperature within the following ranges, with mechanical ventilation exhausting to a fume cupboard duct or outside atmosphere:
 - (i) 105°C to 110°C for mixes which are either cold or warm mixes or sampled from roadbeds
 - (ii) 105°C to 155°C for mixes sampled during hot mix asphalt production
- (b) Balance readable to 0.1 g with a limit of performance not exceeding 0.5 g.
- (c) Corrosion resistant metal dishes.

3. Procedure

- (a) Obtain a representative sample of asphalt in accordance with AS 2891.1. Reduce the size of the sample by quartering to obtain a test portion of minimum mass as shown in Table 1.

Nominal size of mix mm	Minimum mass of test portion g
<10	600
10	600
14	800
20	1000
>20	1200

- (b) Determine the mass of a clean dry metal dish and record its mass (m_1).
- (c) Place the test portion in the metal dish, spreading it evenly over the surface of the dish.

- (d) Determine the mass of the metal dish containing the test portion (m_2).
- (e) Place the dish with the test portion in the required oven and dry at the required temperature (105 or 155 °C) until constant mass is reached., as defined in step (i)
- (f) Remove the metal dish with the test portion from the oven.
- (g) Determine the mass of the metal dish (m_3) with the dried test portion while the dish is still warm to touch.
- (h) Place the dish with the test portion in the required oven and dry for at least an additional one hour, after the recovery of the oven.
- (i) Repeat steps (f) to (h) until the difference between successive determinations of m_3 after the additional drying in the oven for 1 hour increments, differs by not more than 0.1 per cent of the total sample.

4. Calculation

Calculate the moisture content (w) of the asphalt from the following equation:

$$w = \frac{m_2 - m_3}{m_3 - m_1} \times 100$$

- where
- m_1 = the mass of the metal dish, in grams
 - m_2 = the mass of the metal dish plus test portion prior drying, in grams
 - m_3 = the mass of metal dish plus dried test portion, in grams, at the last determination of mass in step (j).

5. Report

Report:

- (a) The moisture content to the nearest 0.1 per cent.
- (b) The temperature of the oven used.

Test Method - Revision Summary

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Date	Clause Number	Description of Revision	Authorised by
June 2013	Full document	Re-issued without change	Manager Construction Materials