Test Method T862

Stability of wax emulsion curing compound

Issue No. 3.0 | 19 April 2022

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About this release

Title:	Stability of wax emulsion curing compound
Test method number:	T862
Author:	Materials Technology
Authorised by:	Senior Engineer Pavements

Summary of changes

Issue number	Clause number	Revision description	Authorised by	Publication date
Issue 3.0	All 1 5 6	Reformatted TfNSW template Reference method corrected and updated Report requirements for test method clarified Complete references added.	Senior Engineer Pavements	April 2022
Ed 2/ Rev 0		Reformatted RMS template	J Friedrich	November 2012
Ed 1/ Rev 0		Reformatted and Revision Summary Added	D.Dash	Jun 2001

Note: The functions of the former State Government agency Roads and Maritime Services (RMS or Roads and Maritime) are now administered by Transport for NSW.

Contents

List of equations

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1 Scope

This test method sets out the procedure for determining the degree of separation of the (emulsified) wax globules from the emulsion, on standing undisturbed. The test provides a means of evaluating the stability of the emulsion as it is affected by the particle size distribution of the wax phase. The test does not necessarily provide an indication of related phenomena in the assessment of stability, namely flocculation and coalescence. The method is derived from AS/NZS 2341.27:2008.

2 Equipment

(a) Two (2) 500 mL stoppered glass measuring cylinders, graduated at intervals of 5 mL, and of outside diameter 50 ± 5 mm, fitted on the sides with glass stopcocks at graduations 50 mL and 450 mL. The stopcocks must have a minimum bore of 4 mm.

(b) Glass stirring rod.

(c) Two (2) 250 mL beakers.

3 Procedure

(a) Stir the sample of emulsion until thoroughly mixed taking care to exclude entrainment of air bubbles and pour 500 mL into each glass measuring cylinder.

(b) Stopper the measuring cylinders and allow them to stand undisturbed in the laboratory at a temperature of 23 ± 2 °C for seven (7) days.

NOTE: Do not allow the settlement cylinders to stand in sunlight or other form of radiated energy likely to cause convection currents in the emulsion.

(c) After standing for this period, remove approximately the top 50 mL of emulsion from each cylinder, without disturbing the balance, by opening the top stopcock. Collect the layers in two 250 mL beakers.

(d) Mix each portion thoroughly and determine the non-volatile content of each by means of Test Method T865.

(e) After removal of the top sample, drain off and discard the next 400 mL from each cylinder by opening the bottom stopcock. Thoroughly mix the emulsion remaining in each of the two cylinders and determine the non-volatile content of each by means of Test Method T865.

4 Calculations

Calculate the settlement rate as follows:

$$\text{Settlement rate (7 days) (\%)} = A - B \qquad \ldots 4(1)$$

Where:

A = Average non-volatile content from the top samples (%).

B = Average non-volatile content from the bottom samples (%).

Equation 4(1). Settlement rate (7 day) (%) calculation

5 Reporting

Include the following data and results in the report:

(a) Sample details including date of manufacture or batch number, and date sampled.

(b) Settlement rate of the wax emulsion curing compound as a percentage, to the nearest 0.1%.

(c) Reference to this test method.

6 References

The following documents are referred to in this test method:

- AS/NZS 2341.27:2008 *Methods of testing bitumen and related roadmaking products – Method 27: Determination of sedimentation*
- T865 (2012). *Non-volatile content of concrete admixtures and curing compounds*, Transport for NSW.

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