



Transport
Roads & Maritime
Services

Test method T567

Settlement rate of bitumen emulsion

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Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added. AS No. Altered to 2341.27	D.Dash	Jan 2000
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T567 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T567

Settlement rate of bitumen emulsion

1. Scope

This test method sets out the procedure for determining the degree of sedimentation of the (emulsified) bitumen globules from the emulsion, on standing undisturbed. The test provides a means of evaluation of the stability of the emulsion as it is affected by the particle size distribution and dispersion of the disperse 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.

2. Apparatus

- (a) Two x 500 mL glass-stoppered glass measuring cylinders, graduated at each 5mL, and of outside diameter 50 ± 5 mm, to be fitted on the sides with two glass stopcock at graduations 50 mL and 450 mL. The stopcocks must have a minimum bore of 4 mm.
- (b) Glass stirring rod.
- (c) Two 250 mL beakers.

3. Procedure

3.1 General

- (a) Stir the sample of emulsion until thoroughly mixed and pour 500 mL into each of the two glass measuring cylinders.
- (b) Stopper the measuring cylinders and allow them to stand undisturbed in the laboratory at a temperature of 23 ± 2 °C for seven days.
- (c) After standing for this period, remove approximately the top 50mL 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 apparent bitumen content of each by means of Test Method T560.
- (e) After removal of the top sample, drain off and discard the next 400 mL from each chamber by opening the bottom stopcock. Thoroughly mix the emulsion remaining in each of the two cylinders and determine the apparent bitumen content of each by means of Test Method T560.

4. Calculations

Calculate the settlement rate as follows:

$$\text{Settlement rate (7 days)} = B - A$$

Where:

A= Average apparent bitumen content from the top samples, and

B= Average apparent bitumen content from the bottom samples.

5. Techniques

- (a) Do not allow the settlement cylinders to stand in the sunlight or other form of radiated energy likely to cause convection currents in the emulsion.
- (b) Wipe any bitumen emulsion from stopper as this will cause sticking of the stopper in the neck of the glass cylinder.