



**Transport**  
Roads & Maritime  
Services

# Test method T434

## Water-soluble fraction of fine material

OCTOBER 2012



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## Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D.Dash	May 1999
		Date on Test Method Revised to Agree with Date on Revision Summary	D.Dash	Feb 2001
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	October 2012

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

The most recent revision to Test method T434 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

# Test method T434

## Water-soluble fraction of fine material

### 1. Scope

This test method describes the procedure for the determination of the water-soluble fraction of fine materials such as fillers for asphalt. It conforms to the procedure described in Australian Standard 1141.8

### 2. Apparatus

- (a) A Balance of at least 100 g capacity, readable and accurate to 0.01 g within the operating range.
- (b) A 200 mL Erlenmeyer flask.
- (c) A mechanical shaker or stirrer.
- (d) A thermostatically controlled oven with good air circulation, capable of maintaining a temperature within the range of 105°C to 110°C.
- (e) A sintered glass crucible, G4 with plate 30 mm diameter.
- (f) Wash bottle.

### 3. Procedure

- (a) Dry the material to constant mass in the oven at a temperature of 105°C to 110°C.
- (b) Weigh the 200 mL Erlenmeyer flask and record its mass.
- (c) Place approximately 10 g of the dried material into Erlenmeyer flask, weigh flask and contents.
- (d) Calculate the mass of the material ( $m_1$ ) to the nearest 0.01 g and add 100 mL distilled water at  $23 \pm 2^\circ\text{C}$ .
- (e) Shake well by hand until no lumps can be observed; then with the mechanical shaker or stirrer agitate at laboratory room temperature for a period of 1 hour.
- (f) Filter the material through a previously weighed sintered glass crucible which has been dried to a constant mass at 105°C to 110°C, and wash all residue from the flask into the crucible with distilled water from a wash bottle.
- (g) Wash the residue in the crucible with three separate quantities of distilled water, draining completely between washings.
- (h) Dry the crucible and residue to constant mass in an oven at 105°C to 110°C.
- (i) Determine the mass of the dried crucible and residue to the nearest 0.01 g. Calculate the mass of the residue ( $m_2$ ).

### 4. Calculations

Calculate the water soluble fraction, as a percentage, by the following formula:-

$$\text{Water soluble fraction} = \frac{m_1 - m_2}{m_1} \times 100$$

Where  $m_1$  = initial mass of material before leaching, in grams.

$m_2$  = mass of dried material, in grams.

**5. Reporting of Results**

Report the water-soluble fraction, as a percentage, to the nearest whole number.

**6. Repeatability**

The water-soluble fraction as a percentage obtained by one operator using the same equipment in one repeat test on different test portions drawn from the same sample should not differ by more than 2.