



Transport
Roads & Maritime
Services

Test method T263

Bulking of sand

OCTOBER 2012



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 T263 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T263

Bulking of sand

1. Scope

This test method sets out the procedure for the determination of the approximate volumes occupied by sand in a damp condition and when saturate. Sands may contain an amount of moisture which will cause them to occupy a larger volume than they would when dry or saturated. This feature is known as bulking and allowance for bulking is frequently required in concrete mixes when volume relationships are being used. The method is suitable for field use.

2. Apparatus

- (a) Measuring cylinder, 1000 mL
- (b) Glass stirring rod approximately 6 mm diameter, 450 mm long
- (c) Scoop, about 100 mm wide.

3. Test Portion

- (a) Sand shall be tested in the as-received condition and testing must be carried out as soon as possible after sampling.
- (b) Obtain, by quartering, a test portion of sand approximately 1500 g mass.

4. Procedure

- (a) Carefully pour sand into the measuring cylinder until the level reaches the 800 ml mark. Level the surface and gently remove any particles adhering to the internal surface of the measuring cylinder above the level. Note the height of sand when level.
- (b) Inundate the sand in the measuring cylinder by slowly adding water. Penetrate the sand with the stirring rod to ensure that water reaches the bottom of the sand. fill the measuring cylinder to the 1000 ml mark. Allow the sand to settle and note the height of sand.

5. Calculations

$$\text{Per cent Bulking} = \frac{A - B}{B} \times 100$$

Where A = height of damp sand
B = height of inundated sand

6. Reporting

Report the percentage bulking of the sand to the nearest 1%.