



**Transport**  
Roads & Maritime  
Services

# Test method T381

## Relative compaction of pavement concrete

SEPTEMBER 2014



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## Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
Ed 1/ Rev 0	All	Initial issue – Draft for comment	G. Ayton	May 2013
Ed 1/ Rev 1	All	Reformatted Roads and Maritime template	J Friedrich	September 2014

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

The most recent revision to Test method T381 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

# Test method T381

## Relative compaction of pavement concrete

### 1. Scope

This test method describes the procedure for determining the relative compaction of pavement concrete.

### 2. General

This method is applicable for concrete pavement Base.

### 3. Relevant Roads and Maritime Services Specification

Specification R83 - Concrete Pavement Base.

### 4. Apparatus

No additional apparatus is required.

### 5. Procedure

#### 5.1 Mass per Unit Volume (MUV)

Determine the Core MUV in accordance with R83.

Determine the Representative Cylinder Unit Mass (RCUM) in accordance with R83.

Determine the Representative Beam Unit Mass (RBUM) in accordance with R83.

#### 5.2 Calculation of Relative Compaction

- (a) Plain concrete pavement (PCP), jointed reinforced concrete pavement (JRCP) and continuously reinforced concrete pavement (CRCP)

$$\text{Relative Compaction} = \text{MUV}_{\text{core}} / \text{RCUM} \times 100\%$$

Where:

$$\text{MUV}_{\text{core}} = \text{mass per unit volume of the core (kg/m}^3\text{)}$$

$$\text{RCUM} = \text{representative cylinder unit mass (kg/m}^3\text{)}$$

- (b) Steel-fibre reinforced concrete (SFRC)

$$\text{Relative Compaction} = \text{MUV}_{\text{core}} / \text{RBUM} \times 100\%$$

Where:

$$\text{MUV}_{\text{core}} = \text{mass per unit volume of the core (kg/m}^3\text{)}$$

$$\text{RBUM} = \text{Representative beam unit mass (kg/m}^3\text{)}$$

### 6. Reporting

Include the following data and results in the report:

- a) The details of sampling location of road section.
- b) The Relative Compaction to the nearest 0.1%.
- c) Reference to the method used to determine the MUV, RCUM and RBUM.
- d) Reference to this Test Method.