Test method T381

Relative compaction of pavement concrete

SEPTEMBER 2014
### Revision Summary

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

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)
   \[
   \text{Relative Compaction} = \frac{\text{MUV}_{\text{core}}}{\text{RCUM}} \times 100\%
   \]
   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)
   \[
   \text{Relative Compaction} = \frac{\text{MUV}_{\text{core}}}{\text{RBUM}} \times 100\%
   \]
   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.