Test method T131

Unconfined compressive strength of road construction materials (Blended in the laboratory with cementitious binders)

OCTOBER 2012
Note that Roads and Maritime Services is hereafter referred to as ‘RMS’.

The most recent revision to Test method T131 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.
Test method T131

Unconfined compressive strength of road construction materials (Blended in the laboratory with cementitious binders)

1. Scope
This test method sets out the procedure to determine the Unconfined Compressive Strength (UCS) of remoulded road construction materials (including earthworks).

The method uses Standard or Modified compaction.

2. General
(a) The method is applicable to road construction materials that are blended in the laboratory with cementitious binders.
(b) For samples taken in the field that are either self-cementing or have been blended with a cementitious binder, use T116.
(c) The method is applicable to that portion passing a 19.0 mm AS sieve.

3. Apparatus, Preparation, Procedure, Calculations and Reporting
This test method is identical to T116 except for the time constraints in Table 1 and the following amendments:

(i) Preparation requirements are listed in Table 2 of T105.
(ii) Step 2(i) delete reference to T111 and T162 and replace with:

T130 Dry Density/Moisture Relationship of Road Construction Materials (Blended in the Laboratory with Cementitious Binders)

(iii) Step 4(c) replaced with Determine the OMC of the -19 mm fraction according to T130.
(iv) Step 5.1 Moulding is to include the following amendments:

5.1(c) Remove the sample from the sealed container
Add the required mass of binder ($M_B$) calculated in T105. Mix the sample and record the time at the commencement of mixing.

Immediately adjust the moisture content to OMC ±0.5% as determined in Step 4(c). Thoroughly mix the sample.

NOTE: The calculation for the quantity of water is according to T105 Process (A.9).

Store the sample in a loose state in a sealed container at 23°C ± 2°C and cure for the period specified in Table 1.

NOTE: If stored at a temperature outside the specified range, record and report the temperature.

Remove the sample from the container after the time specified in Table 1 and thoroughly remix the sample.

NOTE: Take care to avoid loss of moisture during moulding.

5.1 (g) Level the specimen to the top of the mould by means of the straightedge. Patch any holes developed in the surface by replacing coarse material with smaller sized material. Alternatively, make up a slurry of some of the excess material and trowel the slurry on the top surface of the specimen to provide a smooth and level surface. Record the time.

(v) Include in the report the type, sources and percentage of binder used, and reference to this test method.
Table 1 - Time Constraints

<table>
<thead>
<tr>
<th>Test Method/Steps</th>
<th>Description</th>
<th>Time constraint (i)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Fast Setting Binder</strong> (Working time &lt; 4 hrs)</td>
</tr>
<tr>
<td>T131 5.1(c)</td>
<td>Incorporate binder into each sample</td>
<td>Start of timing</td>
</tr>
<tr>
<td>T131 5.1(c)</td>
<td>Curing period.</td>
<td>Approximately 15 mins after incorporating binder</td>
</tr>
<tr>
<td>T131 5.1(g)</td>
<td>Completion of moulding each sub-sample.</td>
<td>Within approximately 30 mins after incorporating binder</td>
</tr>
</tbody>
</table>

*NOTE:* (i) *Working time as defined in T147*