Transport Roads & Maritime Services

NSW GOVERNMENT

Test method T131

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

OCTOBER 2012

Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D. Dash	May 1999
		Headings 5. on renumbered 10. Calculation-Formula Corrected	D. Dash	Feb 2000
		Amendment of Section 5.	D. Dash	Aug 2002
Ed 2/ Rev 0	All	New issue. Corrected ambiguity between T116 and T131. Preparation of binder moved to T105. Consistent with T116.	G Donald	Sept 2007
Ed 2/Rev 1	3(ii)5.1(b)	Tolerance for OMC changed to ±0.5%.	D Hazell	July 2008
Ed 2/Rev 2	3(ii) & Table 1.	Update reference to Steps in T116.	D Hazell	July 2009
Ed 2/ Rev 3	3(ii) & (iv)	Update reference to Steps in T116.	D Hazell	Jan 2010
Ed 3/ 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 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° ± 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

Test Method/ Steps	Description	Time constraint (i)	
		Fast Setting Binder (Working time < 4 hrs)	Slow Setting Binder (Working time > 6 hrs)
T131 5.1(c)	Incorporate binder into each sample	Start of timing	Start of timing
T131 5.1(c)	Curing period.	Approximately 15 mins after incorporating binder	Approximately 1 hr after incorporating binder
T131 5.1(g)	Completion of moulding each sub-sample.	Within approximately 30 mins after incorporating binder	Within approximately 1¼ hrs after incorporating binder

NOTE: (i) Working time as defined in T147