Transport Roads & Maritime Services

NSW GOVERNMENT

Test method T260

Organic impurities in fine aggregate (colour test)

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 T260 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T260

Organic impurities in fine aggregate (colour test)

1. Scope

This test method sets out the procedure for estimating whether organic compounds are present in fine aggregates in sufficient quantity to have a harmful effect of concrete-making properties, and to indicate whether further tests are necessary or desirable. This method conforms to the method described in Australian Standard 1141.

2. Apparatus

(a) 250 mL stoppered cylinder.

(b) Filter Funnel

(c) Measuring cylinder, 100mL

(d) Reagents:

(i) Sodium hydroxide

(ii) Tannic acid

(iii) Alcohol

(e) Standard reference colour consisting of suitably mounted superimposed acetate sheets comprising of Deep Amber (No. 33), Pale Yellow (No. 50) and Chocolate Tint (No. 55).

3. Test Portion

(a) Fine aggregate shall be tested in the condition in which it is received.

(b) Obtain, by quartering, a test portion of approximately 250 g mass.

4. Solutions Required

(a) **Sodium Hydroxide Solution:** 30 g sodium hydroxide in 970 ml of water to provide a 3% solution.

(b) **Reference Colour Solution:** 2 g of tannic acid shall be dissolved in 10 ml of ethyl alcohol and the solution diluted to 100 ml with distilled water, 2.5 ml of the resultant solution shall be added to 97.5 ml of 3% sodium hydroxide solution. The mixture shall be shaken vigorously and then allowed to stand in subdued light for one hour before use. The reference colour solution shall be used within two hours of preparation.

5. Procedure

(a) Pour about 50 ml of 3% sodium hydroxide solution into a 350 ml bottle. Add fine aggregate from the test portion to the 125 ml mark and adjust the sodium hydroxide level to the 200 ml mark with more solution (after removal of bubbles by shaking).

(b) Ensure that the bottle is securely stoppered, then vigorously shake for not less than 30 seconds taking care to ensure that all of the fine aggregate is thoroughly wet by the sodium hydroxide solution and that any lumps are dispersed. After shaking, allow the mixture to stand for approximately 24 hours.

(c) At the end of the 24 hour standing period, compare the colour of the liquid above the fine aggregate in the bottle with the colour reference colour solution which has been prepared one to two hours prior to the comparison being made. the reference colour solution must be contained in a clear glass bottle similar to that containing the fine aggregate under test. Alternatively, the colour of the liquid above the fine aggregate may be compared to the colour of a standard reference colour consisting of mounted transparent acetate sheets.

6. Reporting

(a) If the colour of the liquid above the fine aggregate is lighter than the reference colour, the amount of organic impurities present in the fine aggregate under test is probably not significant and the sample is reported as "Pass" on the test report.

(b) If the colour of the liquid above the fine aggregate is darker than the reference colour, the sample is reported "Fails" on the test report and desirability of performing further tests to assess the effect of organic impurities on the concrete-making properties of the fine aggregate under test should be considered.