

METHOD B6

THE DETERMINATION OF ORGANIC IMPURITIES IN SAND FOR CONCRETE

SCOPE

This test describes a procedure for the approximate estimation of the presence of organic materials in natural sands for use in cement mortar or concrete by suspending the sand in a NaOH solution and comparing the colour with a standard reference colour. The principal value of the test is to warn that further tests are necessary before the sands can be approved (see 5.1).

2 APPARATUS

2.1 350 ml clear glass medicine bottles on which the 125 ml and 200 ml levels have been marked.

2.2 Reagents

2.2.1 A 3% (m/v) sodium hydroxide solution: 30gram sodium hydroxide (CP) in 1000 ml of distilled or demineralised water.

2.2.2 Reference solution:

Add 2,5 ml of a 2 % (m/v) solution of tannic acid in 10 % (V/V) ethanol to 97,5 ml of the sodium hydroxide solution prepared in 2.2.1. Put the solution in a 350 ml clear glass medicine bottle, stopper it, shake it vigorously and allow it to stand for 23 h. Then shake the bottle again and allow it to stand for 1 h before use.

3 METHOD

3.1 Quarter down the field sample of the sand to be tested to obtain a test sample of approximately 0,5 kg. The sand should be moistened slightly to prevent the loss of dust and fines during quartering.

3.2 Fill the clear glass medicine bottle to the 125 ml mark with the sand. Add sodium hydroxide solution until the combined volume of the sand and solution, after shaking, is 200 ml.

Stopper the bottle, shake it vigorously, and allow it to stand for 24 h

3.3 Compare the depth of colour of the liquid layer above the sand with that of the reference solution. (A colour depth comparator can be used if desired, see 5.2.) Indicate on Form B4/2 whether the colour is lighter, darker or equal to that of the reference standard.

4 CALCULATIONS

There are no calculations.

5 **NOTES**

- 5.1 This test does not show up all organic impurities, for instance sugar, and does not give dependable results but it is useful as a rapid method.
- 5.2 If the colour of the liquid layer is darker than that of the reference solution, further tests should be carried out to determine the presence or quantity of organic impurities present.

REFERENCE

SABS Method 832