

## Determination of Moisture Content Oven Dry Method - Method Statement

Lab Test Reference:

Your Personal Reference i.e. 01\_01

British Standard Reference

BS812 : Part 109: 1990

Principal Apparatus as follows:-

It is suggested that each of the pieces of equipment should be given an Inventory Number

- i. A ventilated drying oven controlled to maintain a temperature of  $105 \pm 5$  deg. C. Inv No. xxx
- ii. Electronic Balance to weigh at least 30kg to 0.1g. Inv No. xxx
- iii. Clean non corrodible air-tight container about 3kg capacity.
- iv. Metal scoop about 200mm long and 120mm wide.

General laboratory ware.

### 1. Preliminaries

- 1.0 A designated area will be used to perform this test and a clear area of bench must first be allotted before this test proceeds.
- 1.1 Ensure that the Sample Number and the Test Schedule correspond.
- 1.2 Obtain the Test Worksheet No.xxx from Cabinet.
- 1.3 Ensure that the oven has had a recent calibration and is in working order. Only ovens designated for moisture content determination shall be used.
- 1.4 Ensure that the balance is reading accurately and the calibration certificate is valid.
- 1.6 The appropriate log will then be signed accepting that the equipment is in a satisfactory condition before testing begins.

### 2. Standard Test Method

- 2.0 The aggregate used in this test will have been obtained from a bulk sample that was initially taken and prepared in the manner described in Clause 5 of BS812: 1989 Part 102.

- 2.1 The test portion should have a minimum mass as shown in Table 1 below:-

Table 1

Nominal Size of Aggregate(mm)	Minimum Mass of Test Portion(kg)
63	15
50	10
40 to 20	5
20 to 10	2
10 to 5	1
less than 5	0.5

- 2.2 A container plus lid will be weighed to the nearest 0.1g and the weight recorded on the test sheet as (mass  $M_1$ ).
- 2.3 The sample will be placed in the container and lid replaced.
- 2.4 The container with the sample will then be weighed to the nearest 0.1g and the weight recorded on the test sheet as (mass  $M_2$ ).
- 2.5 Remove the lid from the container and place the sample, container and lid in the oven and dry at a temperature of  $105 \pm 5$  deg C for a period of 16 to 24 hrs.
- 2.6 Remove these from the oven, replace the lid and allow to cool for .5 to 1 hour.
- 2.7 Weigh to the nearest 0.1g and record the weight on the test sheet as (mass  $M_3$ ).
- 3.0 Calculation of Result
- 3.1 The moisture content will be calculated as follows:-
- $$\text{Moisture Content (\% dry mass)} = \frac{(M_2 - M_3)}{(M_3 - M_1)} \times 100$$
- 4.0 Reporting Result
- 4.1 The moisture content will be reported to the nearest 0.1% stating that it is by dry weight, in accordance with BS812 Part 109 : 1990, and also stating whether a sampling certificate is available.
- 4.2 The method of test used shall also be stated.