

Experiment No. 1: MOISTURE CONTENT OF AGGREGATE

Aim: To determine the moisture content in aggregates by oven drying method.

Theory and Scope:

Moisture content is the percentage of water present in the aggregate, which affects the water-cement ratio in concrete mix design.

Apparatus:

- Weighing balance (accuracy 0.1g)
- Wire basket (for coarse aggregates)
- Water bath
- Tray
- Oven (temperature 100-110°C)

Procedure:

1. About 2 kg of aggregate sample is taken, washed to remove fines and then placed in the wire basket.
2. The wire basket is then immersed in water, which is at a temperature of 22°C to 32°C.
3. Immediately after immersion the entrapped air is removed from the sample by lifting the basket 25 mm above the base of the tank and allowing it to drop, 25 times at a rate of about one drop per second.
4. The basket, with aggregate are kept completely immersed in water for a period of 24 ± 0.5 hour.
5. The basket and aggregate are weighed while suspended in water, which is at a temperature of 22°C to 32°C.
6. The basket and aggregates are removed from water and dried with dry absorbent cloth.
7. The surface dried aggregates are also weighed.
8. The aggregate is placed in a shallow tray and heated to 100 to 110°C in the oven for 24 ± 0.5 hours.
9. Later, it is cooled in an airtight container and weighed.

$$\text{Moisture Content (\%)} = \frac{W1 - W2}{W2}$$

Observations:

Sl. No.	Descriptions	Observed Values
1	Weight of wet sample: W1 g	
2	Weight of oven dry aggregates: W2 g	
3	Moisture Content (%)	

Result: The moisture content of aggregate is _____