

#### **4. DETERMINATION OF FINENESS OF CEMENT.**

( IS : 4031 – part – 3 )

##### **Object:**

To determine the fineness of cement by dry sieving.

##### **Apparatus:**

- a) Standard balance with 100 gm. weighing capacity.
- b) IS : 90 micron sieve confirming to IS : 460 – 1962 and a Brush.

##### **Procedure:**

- a) Break down any air-set lumps in the cement sample with fingers.
- b) Weigh accurately 100 gms of the cement and place it on a standard 90 micron IS.sieve.
- c) Continuously sieve the sample for 15 minutes.
- d) Weigh the residue left after 15 minutes of sieving. This completes the test.

##### **Result:**

The percentage weight of residue over the total sample is reported.

$$\% \text{ Weight of Residue} = \frac{\text{Wt.of Sample Retained on the Sieve}}{\text{Total Weight of the Sample}}$$

##### **Limits:**

The percentage residue should not exceed 10%.

##### **Precautions:**

Sieving shall be done holding the sieve in both hands and gentle wrist motion, this will involve no danger of spilling the cement, which shall be kept well spread out on the screen. More or less continuous rotation of the sieve shall be carried out throughout sieving.

Washers, shots and slugs shall not be used on the sieve. The underside of the sieve shall be lightly brushed with a 25 or 40 mm bristle brush after every five minutes of sieving.

Mechanical sieving devices may be used, but the cement shall not be rejected if it meets the fineness requirement when tested by the hand method.