



GRAIN SIZE ANALYSIS

The grain size distribution of soil fraction passing through 75 micron IS sieve can be carried out as per IS : 2720 (Part-IV) by pipette method or by hydrometer method.

●● HS10.35

Grain Size Distribution Apparatus (Pipette Method)

Test is performed as per IS:2720 (Part- IV)
The apparatus comprises of:-

- i) Pipette stand with moving carriage assembly fitted with a scale and holder for holding the pipette in position.
- ii) Sampling pipette 10 ml capacity fitted with a three way stop cock.
- iii) Sedimentation tube, 50 mm dia and approximately 350 mm long with mark at 500 ml volume.



HS10.35

ACCESSORIES:

HS10.35.1 Sampling Pipette
25 ml capacity

HS10.35.5 Sedimentation Tube
500 ml Capacity

HS10.35.2 Sedimentation Tube
1000 ml Capacity

HS10.35.3 Sampling Pipette
10 ml Capacity

●● HS10.37

Hydrometer

Test is performed as per IS:2720 (Part- IV).
Used for particle size analysis of soil in suspension when it has more than 10% of 75 micron IS sieve passing material. The scale on the hydrometer is marked from 0.995 to 1.030 in terms of density (g/ml) of suspension at 27⁰ C.



HS10.37

●● HS10.37.1

Hydrometer Glass Jar

Test is performed as per IS:2720 (Part- IV).
It is single marked 1000 ml glass cylinder without pour out, used to prepare the soil suspension for the determination of density by using HS10.37 Hydrometer. Supplied complete with the rubber bung.



HS10.37.1

●● HS10.40

Constant Temperature Bath

Internal dimensions 600 mm x 300 mm x 380 mm deep with clear glass sides.

Complete with heater, thermostat and agitating unit capable of maintaining temperature at 27⁰ ± 1⁰C. When ambient temperature is less than 27⁰ C. Wired for 220V, 50 Hz, 1 Phase operation.

ACCESSORIES:

HS10.40.1 Thermometer 0 to 100⁰C

●● HS10.45

High Speed Stirrer

The test is performed as per IS:2720 (Part- IV). The unit comprises of :-

- i) A mechanical stirring device, fitted with a motor which rotates a vertical shaft having a stirring pedal at a speed of 8000 to 10,000 r.p.m.
- ii) Dispersion cup made of brass.
- iii) Baffle for use with dispersion cup.



HS10.45

ACCESSORIES:

HS10.45.1 Dispersion Cup.

HS10.45.2 Baffle.

●● **HS10.47**

Sand Equivalent Test Apparatus

The apparatus is used to determine the relative proportion of fine dust or clay like material in soils or fine aggregates either in the laboratory or in the field.

It is performed as per IS:2720 (Part- 37). The apparatus consists of the following: -

- i) Measuring cylinder of transparent acrylic, graduated up to 380mm , complete with a rubber stopper.
- ii) One irrigator tube of stainless steel.
- iii) Siphon Assembly (without glass bottle) consisting of a rubber stopper with a long, bent copper tube, an air intake tube and rubber tube to connect to the irrigator tube, complete with a pinch clip.
- iv) Weighted foot assembly for sand level.



HS10.47

ACCESSORIES:

HS10.47.1 Graduated measuring cylinder of transparent acrylic with rubber stopper.

HS10.47.2 Irrigator tube.

●● **HS10.47.3**

Sand Equivalent Shaker, Hand Operated

Test is performed as per IS:2720 (Part-37). Used for shaking ingredients of graduated acrylic cylinder for Sand Equivalent tools. Motion of the carriage is through hand wheel. Hand Wheel is rotated at a speed so as to achieve about 175 strokes/min.



HS10.47.3

●● **HS10.47.4**

Sand Equivalent Shaker, Motorised

The system is same as HS10.47.3 except that the drive is through electric motor.

The motor drive operates the shaking mechanism at approximately 175 ± 2 strokes per minute through a stroke length of 8". Suitable for operation on 220V, 50 Hz, single Phase supply.