

# CONSISTENCY AND WORKABILITY

## ●● HC37.60

### Slump Test Apparatus IS : 7320-1974

Used for determination of slump of fresh concrete mix as a measure of its consistency where the nominal size of aggregate does not exceed 38 mm.

It comprises the following :-

- i) A slump cone 100 mm dia at the top, 200 mm dia at the bottom, and 300 mm high with two cleats and lifting handles.
- ii) A base plate with clamping arrangement for the slump cone and a swivel handle which also serves as the datum for measuring the slump.
- iii) A tamping rod 1.6 cm dia and 60 cm long with one end rounded and graduated from 0 to 15 cm in 0.5 cm spacing to measure the slump.



HC37.60

### ACCESSORIES :

HC37.60.01 Tamping Rod.

HC37.60.02 Cone only.

## ●● HC37.65

### Vee-Bee Consistometer IS : 10510-1983

Used for estimation of consistency of concrete mix by determination of the time required for transforming sample of fresh concrete in the form of a frustum of a cone into a cylinder by standard vibration.

The apparatus consists of the following: -

- i) A slump cone 100 mm inside dia at top, 200 mm inside dia at base and 300 mm high.
- ii) One container for the slump cone with two clamps and lifting handles.
- iii) A vibrating table mounted on rubber shock absorbers and having a swivel arm attached on one side. The swivel arm carries a funnel on one side and a graduated rod with a perspex disc on the other side. The rod is graduated in centimeters to measure the slump and volume in the cylinder after vibration Suitable for operation on 440 V, 50 Hz, 3 phase supply.



HC37.65

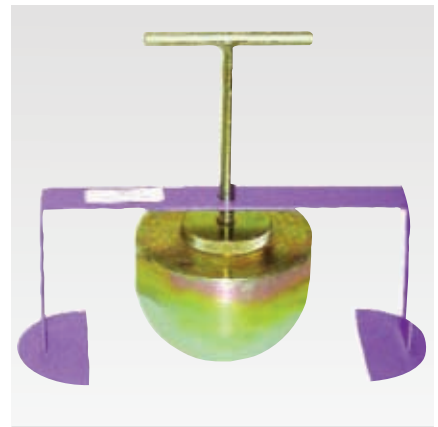
## ●● HC37.70

### Kelly Ball Penetration Apparatus ASTM C-360

Used for estimation of workability of portland cement concrete in terms of depth of penetration of a hemispherical metal weight into the plastic concrete. Double of Kelly Ball reading indicates approximately the slump of the concrete tested.

The apparatus consists of the following :-

- i) A hemispherically shaped mild steel weight of approximately 14 kg with graduated handle.
- ii) A stirrup frame which guides the hemispherical weight and also serves as datum for measuring penetration of the ball.



HC37.70

## ●● HC37.75

### Compaction Factor Apparatus IS:5515-1983

Used for determination of compaction factor of fresh concrete with nominal maximum size of aggregate not exceeding 40 mm as a measure of its workability. It is particularly suitable for mix of stiffer consistency.

It comprises the following :

- i) Two conical hoppers with trap doors.
- ii) One cylindrical receiver 0.005 cu. m. volume.
- iii) A welded steel stand for mounting the hoppers and the receiver co-axially at specified distances.
- iv) Two trowels.
- v) One hand scoop.
- vi) One standard tamping rod 16 mm dia x 600 mm long.



HC37.75

### ACCESSORIES :

HC37.75.01 Tamping Rod.

HC37.75.02 Metal Scoop.

HC37.75.03 Lid for cylinder.

## ●● HC37.80

### Pocket Concrete Penetrometer

It is a versatile quick and handy instrument for evaluation of 'Initial Set' of concrete mortar both in the laboratory as well as in the field.

The instrument consists of a barrel and sleeve enclosing a calibrated spring. The barrel is graduated from 0 to 50 kg/sq cm and carries a friction ring which acts as a cursor. The penetration needle of 0.3 sq. cm sectional area, is an integral part of the barrel and is marked at 25 mm from the end.

In operation the plunger is pushed into the concrete mortar upto the marked line and the penetration resistance offered by the concrete mortar is directly indicated on the barrel in kg/sq.cm. The 'INITIAL SET' is considered to have been reached when the penetration resistance offered by the mortar is 35 kg/sq.cm.

Supplied complete in a carrying case.



HC37.80

## ●● HC37.85

### Mortar Penetrometer IS : 8142-1976

It is used for determination of rate of hardening of mortar sieved from concrete mixtures and estimation of the effects of such variables like temperature, cement content, mix proportion and admixtures etc on the setting time and hardening characteristics of concrete.

The equipment comprises the following:

- i) A barrel enclosing a calibrated spring and a plunger with a stem graduated from 0-60 kgf in 1 kgf division. A handle is fixed to the stem at the top.
- ii) Two needle shanks marked at 1.25 cm intervals.
- iii) Six needle points with cross sectional areas 645, 323, 161, 65, 32 and 16 sq. mm.



HC37.85

## ●● HC37.90

### Standard Cone Apparatus IS:2250-1981

Used for the determination of consistency of masonry mortar. It consists of the following:-

- i) A standard cone 75 mm base dia x 150 mm high with a bearing rod. Total weight  $300 \pm 2$  g.
- ii) A conical container 150 mm dia at top and 180 mm deep.
- iii) A platform for the container.
- iv) Penetration measuring apparatus comprising a base with an upright bearing rod carrying a vertically adjustable bracket. The bearing rod of the Standard Cone passes through the lower bracket arm which houses a clamping and release mechanism. The upper bracket arm carries a dial, graduated to read 1/10th of a mm and a rack and pinion arrangement with a pointer.
- v) A 25 mm square tamping bar 200 mm long.



HC37.90

## ●● HC37.95

### Water Retention Apparatus IS : 2250-1981, IS : 10850-1984

For the determination of water retentivity of mortar. The apparatus comprises the following:-

- i) One perforated dish, brass.
- ii) One brass funnel with rubber gasket.
- iii) One liter flask with a three way stop cock and a rubber bung.
- iv) A manometer made of Perspex.
- v) A pressure control device made of Perspex.
- vi) A wooden stand for mounting the apparatus assembly.
- vii) An aspirator bottle with rubber tubing for vacuum.

## ●● HC37.100

### Water Retention Apparatus IS : 2250-1981, IS : 10850-1984

Same as HC37.95 except that it has a vacuum regulator and a vacuum gauge for the measurement of vacuum. The system is supplied complete with vacuum pump.

## ●● HC37.595

### Water Retention Apparatus IS : 2250-1981, IS : 10850-1984

Same as HC37.100 except that it has an electronic sensor for the measurement of vacuum. The system is complete with readout unit and vacuum pump.



HC37.595