

# AGGREGATE TESTING

## ●● HA50.05

**Mechanical Rotating Sample Divider (Motorised) IS : 1607-1960**

For obtaining representative sample for sieve analysis. It is suitable for dry sands, fine powders, ores, refractory materials, mineral aggregates, pigments, powdered coal, soap, cement etc. Up to a maximum particle size of 3 mm.

The sampler consists of the following :-

- 1 A hopper with an adjustable orifice having six holes of 1.6 mm, 3 mm, 5 mm, 6 mm, 8 mm and 10 mm dia and a shutter.
- 2 A rotating spreader turning at approximately 440 rpm to distribute the sample over the trough. Suitable for operation on 220v, 50 Hz, single phase supply.

## ●● HA50.10

**Riffle Sample Divider (13 mm) IS : 1607-1960**

For sampling aggregates, ores, refractory materials, pigments, powdered coal, soap, cement etc. It consist of the following :-

- i) a metal box mounted on legs and fitted with 14 chutes of 13 mm width each.



HC50.10

- ii) Three collecting pans,

## ●● HA50.15

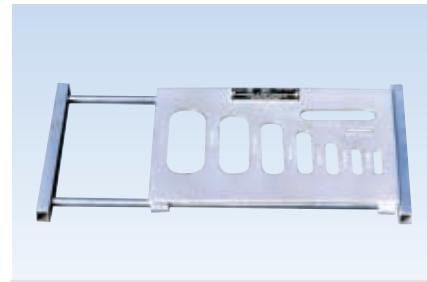
**Riffle Sample Divider (25 mm)**

Same as HA50.10 except that it has 16 chutes of 25 mm width and three pans.

## ●● HA50.20

**Thickness Gauge IS:2386 (part 1)- 1963**

Used for determining the Flakiness Index of aggregates. It consists of a panel having accurately cut slots of different standard lengths and widths.



HC50.20

## ●● HA50.25

**Length Gauge IS : 2386 (part - 1) 1963**

Required for determining the elongation index of coarse aggregate. It consists of a metal plate on which 8 steel pins are vertically mounted with specified distances in between. This assembly is mounted on a hardwood base.



HC50.25

## ●● HA50.30

**Cylindrical Measures IS : 2386 (Part - III) -1963, IS : 10079-1982**

Required for determining the bulk density or unit weight of aggregates.

Three calibrated cylindrical measures one each of 3 litre, 15 litre and 30 litre capacity made out of steel sheet with handles, com-



HC50.30

plete with one tamping rod 16 mm dia x 60 cm long rounded at one end.

## ●● HA50.35

**Metal Measures IS : 1199-1959, IS : 10078-1982**

For determining the weight per cubic meter, yield, cement factor etc. freshly mixed concrete. The set comprises one each of 10 litre and 20 litre capacity cylindrical measures complete with handles.

●● **HA50.40**

**Density Basket**  
IS : 2386 (Part III) - 1963

For determination of specific gravity and water absorption of aggregate. It is made of G.I. wire-mesh of approximate size 20 cm dia x 20 cm high. Complete with handle.



HC50.40

●● **HA50.43**

**Buoyancy Balance**

Buoyancy balance is a multi purpose type of unit with electronic balance for the determination of density of the sample, weight in water, volume of the sample, or for analysis of fresh concrete.



HA50.43

The unit consists of a tubular frame, a carriage connected through chain to a ratchet. Balance is kept on the top of the table and has a hook for hanging the specimen. Powel and ratchet is provided to raise the plate form along with the plastic container filled with water. Balance has the capacity of 16kg.

●● **HA50.45**

**Filler Compaction Apparatus BS : 812-1967**

For determining voids of dry compacted filler.

It comprises the following :-

- i) A cylinder moving on two guides fixed to the base.
- ii) A plunger graduated in centimeters with a vernier scale.

●● **HA50.50**

**Sand Absorption Cone and Tamper ASTM C 128-84, AASHTO T 84**

For determining the slump of fine aggregate in estimation of absorption of fine aggregate.

It consists of the following :-

- i) A metal mould in the form of frustum of a cone 40 mm dia at the top, 90 mm dia at the bottom and 73 mm in

height.

- ii) A metal tamper having a flat circular tamping face 25 mm dia and weighing 340 g approximately.

●● **HA50.55**

**Deval Attrition Testing Machine IS : 2386 (part IV) - 1963**

For determining the abrasion value of coarse aggregate. It consists of the following :-

- i) Two hollow cast iron cylinders closed at one end and fitted with tightly fitting covers at the other and mounted on a shaft at an angle of 30° to the axis of the shaft. The cylinders are of 20 cm internal diameter and 34 cm deep.
- ii) A shaft adjusted to rotate at 30-33 rpm by reduction gear mechanism operated by a motor.
- iii) A revolution counter. Suitable for operation on 440 V, 50 Hz, 3 phase supply.

●● **HA50.555**

**Deval Attrition Testing Machine IS : 2386 (part IV) - 1963**

Same as HA 50.55 except that it has a digital preset counter.



HA 50.55

## ●● HA50.60

Los Angels Abrasion Testing Machine  
IS : 10070-1982

### OPTIONAL ACCESSORIES :

HA50.60.1 Pre-set Counter.



HA50.60

Used for estimation of abrasion value of coarse aggregate.

The machine comprises the following :-

- i) A hollow steel cylinder mounted on a sturdy frame on ball bearings capable of rotating about its axis in a horizontal position.
- ii) A detachable shelf fitted inside the cylinder at a distance of 1250 mm from the opening measured along the circumference in the direction of rotation.
- iii) A motor with reduction gear which runs the drum at 30-33 rpm.
- iv) A tray.
- v) A revolution counter.
- vi) Abrasive charge consisting of

12 steel ball approximately 48 mm dia and each weighing between 390 and 445 g. Suitable for operation on 440 v, 50 Hz, 3 phase supply.

## ●● HA50.560

Los Angels Abrasion Testing Machine

The machine is same as HA 50.60 except that it has pre-set electronic counter

### OPTIONAL ACCESSORIES :

HA50.60.1 Pre-set Counter.

HA50.60.2 Steel Balls. (Set of 12)

●● **HA50.70**

**Dorry Abrasion Testing Machine BS : 812-1967**



For determination of the resistance of aggregates to surface wear by abrasion. The apparatus comprises the following :-

- i) A circular disc mounted on a reduction gear driven by an electric motor at about 28-30 rpm.
- ii) Two large trays for holding the sample.
- iii) Two small trays for sample.
- iv) Two conical hoppers for sand.
- v) Two sample try holders.
- vi) Two sets of weights for loading the samples.
- vii) A revolution counter.

Suitable for operation on 220 V, 50 Hz, single phase supply.

●● **HA50.75**

**Aggregate Impact Test Apparatus IS : 9377-1979**

Required for determining the Impact Value of coarse aggregate.

It consists of the following :-

- i) A heavy circular base with two vertical

- ii) guides fitted with a cross bar at the top.
- ii) A hammer of 13.75 kg mass which can be raised and allowed to fall freely

- iii) through 380 ±5 mm with locking arrangement.
- iii) A cylindrical cup, a metal measure and a tamping rod 10 mm dia x 230 mm long.



HA50.75

●● **HA50.80**

**Aggregate Impact Test Apparatus with Counter**

Same as HA50.75 but fitted with an automatic blow counter.

●● **HA50.85**

**Aggregate Crushing Value Apparatus (75 mm) IS: 9376-1979**

Used for determining the Aggregate Crushing Value, The apparatus consists of a steel cylinder 75 mm dia, a plunger and a steel base plate. The surfaces coming into contact with the aggregate are case hardened.



HC50.85

●● **HA50.90**

**Aggregate Crushing Value Apparatus (150 mm) IS :9376-1979**

Same as HA 50.85 but with 150 mm dia steel cylinder and plunger.

## ●● HA50.95

### Reaction Container Conforming to IS:2386 (Part VII)

The reaction container is one of the important apparatus, required for determination of the Potential Alkali Reactivity of aggregates by chemical method when used in concrete having high alkali cement. It is made from stainless steel and fitted with air tight cover, held in position with special clamp.



HC50.95

## ●● HA50.100

### Tile Abrasion Testing Machine IS : 1237-1980, IS : 1706 - 1972

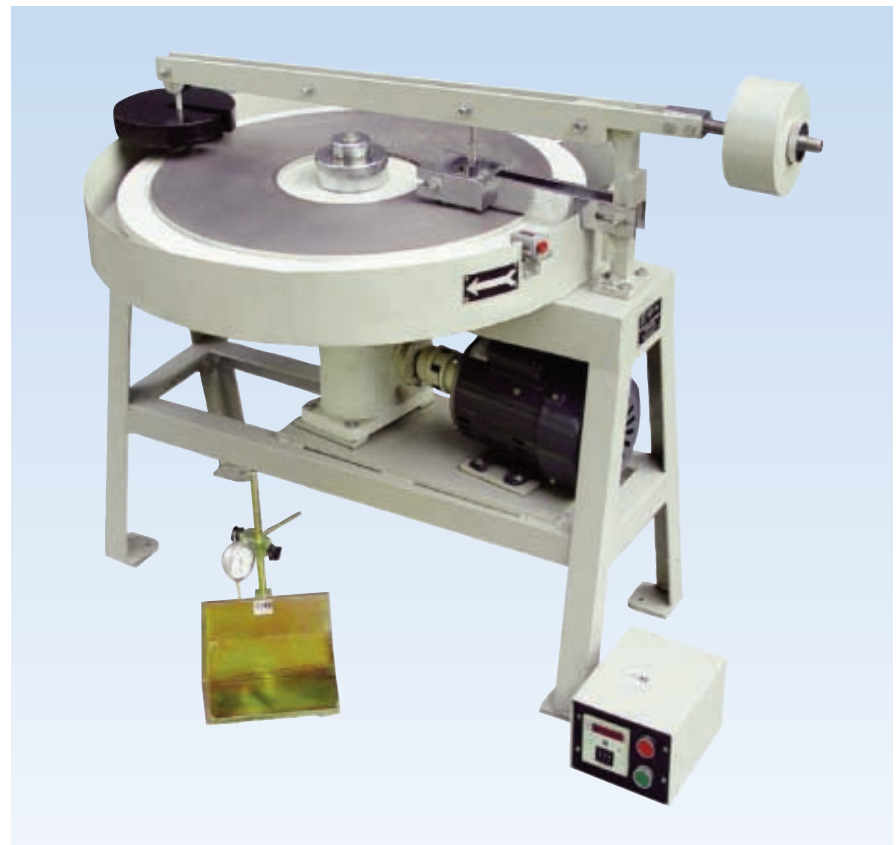
Used for determining the resistance of flooring tiles to wear or abrasion.

It consists of the following :-

- i) A grinding disc furnished with a replaceable grinding path and rotating horizontally about its vertical axis.
- ii) A circular tray enclosing the grinding disc.
- iii) Holding device for test specimen.
- iv) Reduction gear coupled to a motor for operation on 220 v, 50 Hz, single phase supply electronic.
- v) Revolution counter. (Preset cumulative).
- vi) A 7.5 kg weight to apply 30 kg load on specimen through lever.

### ACCESSORIES :

Thickness Measurement Jig with 0.01 mm x 25 mm dial gauge.



HA50.100

### ●● HA50.103

#### Resistance to abrasion machine for Horizontal concrete surfaces As per ASTM C: 779/C779M-00

The function of the apparatus is depending upon the abrasive action of the flat faces of three 60mm diameter, cold-rolled steel revolving disks, each attached to motor driven (220V, 50Hz, single phase) vertical shafts which also revolve about a vertical axis. Cups attached at the top of the shaft of each disk are loaded with lead shot to produce uniform total load of 22N. The disks are free floating. Each disc rotates around its own axis at 280r.p.m while at the same time it rotates in the circular path at 12r.p.m.



HA50.103

### ●● HA50.105

#### Accelerated Aggregate Polishing Machine IS : 2386 (Part V)-1963

Used for polishing the road aggregate specimens for determining the polished stone value.

It consists of :-

- i) A road wheel suitable for clamping 14 road stone specimens on its periphery.
- ii) A rubber tyred wheel fitted with a lever system to exert a load of 40 kgf.

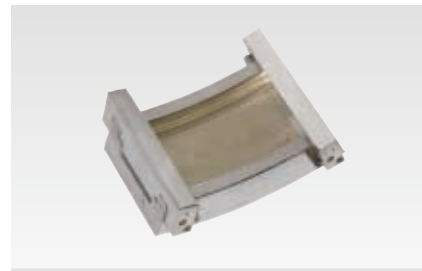
- iii) An electrically operated vibrating hopper unit for feeding emery powder over the road wheel.
- iv) A water reservoir for feeding water into hopper.
- v) Seven moulds for the preparation of samples.

Suitable for operation on 220v, 50 Hz, single phase supply.

#### ACCESSORIES :

HA50.105.1 Rubber tyre.

HA50.105.2 Moulds (Set of 14)



HC50.105.2



HA50.105

### ●● HA50.107

#### Skid Resistance Tester

This apparatus consists of a spring-loaded rubber shoe mounted on a pendulum arm. The pendulum arm can be adjusted vertically from a rigid support column when in operation. The base has three adjustable feet so that the swing of the pendulum during test moves through a truly circular path while in operation directly on a road surface. An essential feature of this apparatus is the fact that the slider is made from a carefully graded rubber specially selected and certified by Transport and Road Research Laboratory of Great Britain. All bearing and working parts are enclosed.