

CALIFORNIA BEARING RATIO

The California Bearing Ratio Test (CBR Test) is a penetration test developed by California State Highway Department (U.S.A.) for evaluating the bearing capacity of sub grade soil for design of flexible pavement.

Tests are carried out on natural or compacted soils in water soaked or un-soaked conditions and the results so obtained are compared with the curves of standard test to have an idea of the soil strength of the sub grade soil.

Laboratory CBR Apparatus meets the essential requirements of IS : 2720 (Part XVI) with the mould as per of IS : 9669. The field CBR Apparatus meets the requirements of IS : 2720 (Part XXXI).

●● HS20.05

Laboratory CBR Apparatus, Hand Operated

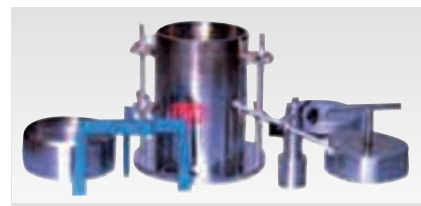
The apparatus consists of :-

- i) Hand Operated Load Frame, capacity 5000 kg (50 KN).
- ii) CBR Mould 150 mm base plate and collar inner dia x 175 mm high.
- iii) Cutting collar.
- iv) Perforated swell plate.
- v) Spacer disc.
- vi) Metallic ring made of mild steel.
- vi) Metal tripod aluminium.
- viii) Penetration Piston Assembly.
- ix) Proving ring 10 kN capacity.
- x) One surcharge weight, 2.5 kg, annular.
- xi) One surcharge weight, 2.5 kg slotted.

(Dial gauges are not included in the standard outfit and are to be ordered separately).



HS 20.05



CBR ACCESSORIES

●● HS20.10

Laboratory CBR Apparatus (Motorised)

Same as HS20.05 except that the unit is supplied with motorized load frame having single rate of strain of 1.25 mm/m. Suitable for a power supply of 220v, 50 Hz, single phase.



HS20.10

ACCESSORIES:

HS20.05.1 CBR Mould Assembly.

HS10.76 Compaction Rammer, 2.6 kg x 310 mm fall.

HS10.77 Compaction Rammer, 4.89 kg x 450 mm fall.

HS20.05.3 Surcharge weight, annular, 5 kg.

HS20.05.4 Surcharge weight slotted, 5 kg.

HS29.15 Dial gauge 0.01 mm x 25 mm.



●● HS20.15

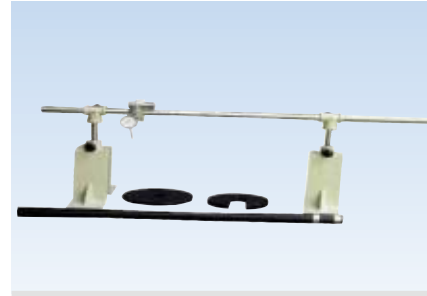
Field CBR Test Apparatus

The equipment consists of the following:

- i) Loading jack screw type, capacity 10,000 kg (100 kN).
 - ii) Penetration piston assembly.
 - iii) Set of 7 extension spacers with connectors.
 - iv) Dial Gauge support of @1.500m length.
 - v) Surcharge weights slotted.
- 5 kg weight 215-250 mm dia - Two.
- 10 kg weight 215-250mm dia- two.
 - vi) Surcharge weight, annular, 5 kg, 250 mm dia - one.
- (Proving ring and dial gauges are not included with standard outfit and are to be ordered separately specifying range and sensitivity).



HS20.15



DATUM BAR

●● HS20.30

North Dakota Cone

It consists of :-

- i) A shaft with a steel cone of angle 15° attached to one side of the shaft and sliding vertically in a frame.

The movement of the shaft relative to frame is measured by means of a rod graduated in mm.
- ii) A set of weights, (5 kg each, 7 Nos.)

●● HS20.40

Swell Pressure Test Apparatus

Test is performed as per IS:2720 (Part-XLI). For measuring the swelling pressure of partially saturated soils when subjected to saturation.

The apparatus consists of :-

- i) Load frame, 5000 kg (50 kN) capacity, hand operated.
- ii) Mould with 100 mm internal dia x 127.3 mm high, 1000 cm³ volume.
- iii) Proving Ring 250 kg (2.5 kN) capacity with load transfer bar and steel ball.
- iv) Soaking tank 25 cm dia x 20 cm high.

●● HS20.45

Portable Swelling Pressure and Heave Evaluating Apparatus

The unit is light weight and portable, which can be easily carried to the site.

The equipment comprises of :-

- i) Light weight aluminium alloy base with pillar provided with brackets to hold proving ring for estimation of swell pressure and dial gauge to record the soil heave.
- ii) Ring assembly, complete with saturation tank, bottom porous stone, consolidation ring 60 mm dia, acrylic loading pad with a central hemispherical recession to hold the steel ball in position for uniform vertical loading of the test specimen.
- iii) Dial gauge 0.01 mm x 25 mm travel.
- iv) Proving Ring 25 kgf with calibration chart.
- v) Spacer block for preparation of test specimen, rammer, scoop.



HS20.45