

CBR EQUIPMENT

WS 4500 TO WS 4513 BS California Bearing Ratio (Laboratory)

WS 4500 DIMENSI CBR mould body

This mould is part of the equipment used for the laboratory evaluation of subgrade and subbase course materials in road construction. **Standards : BS 1377, 1924.** Made of plated steel with both ends threaded to fit the base or collar. Weight approx. 3 kg net.

- Internal : 152 mm \pm 0.5 mm * Internal effective height : 127 mm

WS 4500-1 DIMENSI Split CBR mould body

This mould is part of the equipment used for the laboratory evaluation of subgrade and subbase course materials in road construction. **Standards : BS 1377, 1924 para. 7.2.2.2.** Made of plated steel with both ends threaded to fit the base or collar. Weight approx. 3 kg net.

- Internal : 152 mm \pm 0.5 mm * Internal effective height : 127 mm

WS 4501 DIMENSI Extension collar

For use with WS 8000 mould body. **Standards : BS 1377, 1924.** Made of plated steel. Internal dia. : 152 mm \pm 0.5 mm, Height : 50 mm. Weight approx. 1 kg net

WS 4502 DIMENSI Perforated base plate

For use with WS 4500 mould body when carrying out swelling or soak tests. **Standards : BS 1377, 1924.** Made of plated steel. Weight approx. 1.8 kg net

WS 4503 DIMENSI Solid base or top plate

For use with WS 8000 mould body as a base or top plate. **Standards : BS 1377, 1924.** Made of plated steel. Weight approx. 1.8 kg net

WS 4504 DIMENSI Cutting collar

Fitted to the top of WS 8000 mould body to take an undisturbed sample from the site. **Standards : BS 1377, 1924.** Made of plated steel. Weight approx. 1 kg net

WS 4505 DIMENSI "C" Spanner

Used to mount and dismount the collar from the mould body. Two are required for the operation. **Standards : BS 1377, 1924.** Made of plated steel. Weight approx. 1 kg net.

WS 4506 DIMENSI Tool for base plate

Used to mount or remove the solid or perforated base plate from the mould. **Standards : BS 1377, 1924.** Weight approx. 1 kg net.

WS 4507 DIMENSI Compaction plug with handle

Used for compaction. **Standards : BS 1377, 1924.** Manufactured from plated steel 150 mm \pm 0.5 mm dia. x 50 mm \pm 1 mm high. Complete with lifting handle. Weight approx. 7.2 kg net.

WS 4508 DIMENSI BS Annular surcharge weight. 2 kg

Used to simulate the overburden of material that will be experienced by the soil under test after construction. **Standards : BS 1377, 1924.** Made from plated steel. Weight approx. 2 kg net.

WS 4509 DIMENSI BS Split surcharge weight. 2 kg

Used to simulate the overburden of material that will be experienced by the soil under test after construction. **Standards : BS 1377, 1924.** Made of plated steel. Weight approx. 2 kg net.

WS 4510 DIMENSI CBR Tamping bar

Steel plated bar 12.7 mm dia. x 380 mm long. Weight approx. 400 g net

WS 4511 DIMENSI Straight edge

Used to strike off excess soil from the mould after compaction

Accessories

BS Compaction rammer

BS Modified compaction rammer

Whatman filter paper No. 1 x 150 mm dia. Pack of 100

WS 4512 DIMENSI Perforated plate with adjustable stem (swell plate)

For placing on top of the soil sample to enable monitoring of the swelling. **Standards : ASTM D 1883, AASHTO 193, UNI 10009, CNR, LCPC, BS 1337.**

Manufactured from plated steel. Diameter 5 7/8 in. (149.2 mm). Weight approx. 1 kg

WS 4513 DIMENSI Dial gauge tripod. Used to support the dial gauge for monitoring the swelling of CBR samples. **Standards : ASTM D 1883, AASHTO T 193, UNI 10009, CNR, BS 1377, LCPC.** Made from a special non-corrodible alloy. Weight approx. 0.3 kg



CBR EQUIPMENT

WS 4513/1 TO WS 4527 Motorised Penetrometers & Field CBR Apparatus

WS 4513/1 DIMENSI Dynamic Motorised Penetrometer, consists of the following :

- Drigg-Stratton petrol engine, 4 HP with tank
- Hydraulic pump
- Hydraulic Oleodynamic cylinder with double action for the extraction of the rods from the soils
- Weight of 21 kg plus additional 10.1 k.

Supplied complete with :

- n°9 penetration rods in special steel, length 1000mm
- n°9 steel lining tubes for the lateral anti-friction
- n°5 expendable points and 1 recoverable point 10 cm².

WS 4513/2 DIMENSI Static Motorised Penetrometer 50 kN, consists of the followings :

- Drigg-Stratton petrol engine, 4 HP with hydraulic pump
- Stabil steel indeformable bearing structures that is fix to the ground by means of 3 anchors.
- Hydraulic Oleodynamic cylinder with double action for the extraction of the rods from the soils
- Two precision manometers to measure Sp-Si-St values

Supplied complete with :

- n°3 heavy screw anchors for anchorage
- n°10 penetration rods in special steel, length 1000mm
- n°10 inside rods, length 100 mm
- Hardened steel point "Begemann" type.
- Total weight 231 kg.

WS 4514 DIMENSI 45kN capacity mechanical jack

Used to perform in-situ CBR test, or to be lifted on to **WS 4515** conversion frame for laboratory tests. The body (aluminium alloy), houses the worm and wheel. The plunger can be adjusted in height by a quick release device and the load can be easily applied by rotating the handle. Total height : 254 mm. Weight : 8.5 kg.

WS 4515 Mankopuri Conversion frame for laboratory CBR test.

To perform laboratory CBR test using part of the components of the field CBR test set. Material - steel protected against corrosion. Dimensions : 360 x 240 x 1060 mm. Weight : 26 kg. **Standards** : BS 1377, BS 1924, ASTM D 1883, AASHTO T 193, UNI 10009, LCPC.

Accessories

WS 4516 DIMENSI 40 kN capacity load ring

WS 4517 DIMENSI Adjustable CBR penetration piston

WS 4518 DIMENSI Penetration dial gauge

WS 4519 DIMENSI Adjustable dial gauge holder

WS 4520 DIMENSI Field CBR test set

For use the in-situ determination of the bearing capacity of soils used in road construction. **Standards** : **BS 1377**. The complete set includes :

WS 4514 45 kN capacity mechanical jack. Weight 8.5 kg.

WS 4516 40 kN capacity load ring. Weight 4 kg

WS 4517 Adjustable CBR penetration piston. Weight 2.2 kg

WS 4521 Set of extensions rods : 2x102 mm long, 1x305 mm long, 1x610 mm long, 1x915 mm long, 2 adaptors. Total weight 33 kg.

WS 4522 Datum bar assembly including two tripod stands and a 1220 mm length aluminium bar. Weight 7 kg.

WS 4523 Penetration dial gauge 25 x 0.01 mm graduation.

WS 4524 9 kg Slotted surcharge weight

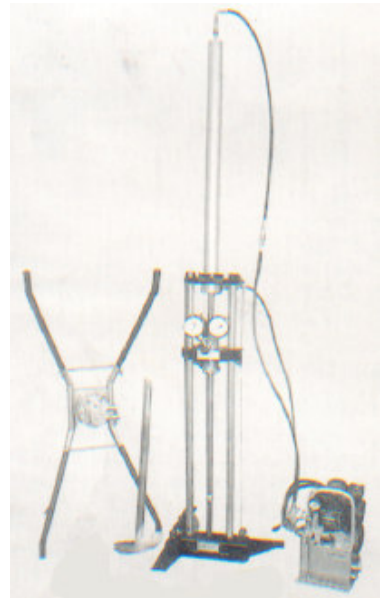
WS 4525 4.5 kg Slotted surcharge weight

WS 4526 4.5 kg Annular surcharge weight

Total weight 70 kg.

Accessories

WS 4527 DIMENSI Land rover bracket. For fitting loading jack to a vehicle.



WS 4520 Mankopuri Field/Lab CBR Test Set

CBR EQUIPMENT

WS 4528 to WS 4530 CBR Test Machine & CBR Hand Operated & CBR / Marshall

WS 4528 DIMENSI Motorised CBR Testing test machine has been designed for load up to 50 kN. Wired for 220-240V, 50Hz, 1pH. Two speed provided and achieved by a built-in gear box to perform laboratory CBR tests to BS 1377 and ASTM D 1883. This bench mounting machine incorporated of a twin column frame. The machine is supplied complete with load proving ring, penetration piston, dial gauge and dial gauge holder. Penetration speed 1.27 mm/min and 1 mm/min. Specification :

Dimensions : 560 x 370 x 1200 mm high
Maximum vertical clearance : 800 mm
Horizontal clearance : 255 mm
Platen diameter : 133 mm
Platen travel : 100 mm
Weight : 46 kg

WS 4529 DIMENSI CBR HAND OPERATED PRESS

UNI 10009; BS 1377, 1924; ASTM D1883, D3668, D4429, AASHTO T193; LOPC. Consisting of a rigid two-column frame; the upper beam is equipped with a ball joint and its height is adjustable by means of threaded ring nuts.

It works by means of a hand operated jack, operated by the technician by means of a crank.

Max. capacity : 50 kN
Max. available vertical clearance : 320 mm
Upper beam adjustment : 460 mm
Horizontal clearance : 270 mm
Lower plate travel : 100 mm
Dimensions : 450 x 380 x 1480 mm
Weight : 88 kg.

WS 4530 DIMENSI CBR / MARSHALL MOTORISED TWO-SPEED PRESS, BS 1377, 1924. It consist of a rigid two-column frame; the upper beam is equipped with a ball joint and its height is adjustable by means of threaded ring nuts.

Operated by a motor or motorgear started by a lever, according to the required test speed.

Provided with double stop, so to arrest the lower plate automatically.

Complete with control panel with main switch and up/down reverser.

Max. capacity : 50 kN
Test speed : 1 - 50.8 mm/min
Max. available vertical clearance : 320 mm
Upper beam adjustment : 460 mm
Horizontal clearance : 270 mm
Lower plate travel : 100 mm
Power supply : 1 x 220-240 V 50 Hz
Dimensions : 560 x 380 x 1480 mm
Weight : 117 kg.



WS 4528 Mankopuri Motorised CBR Machine Power For 220-240V, 50Hz, 1pH