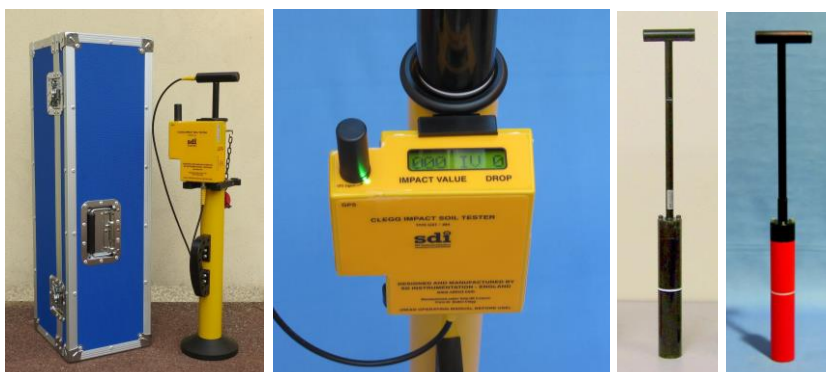


CLEGG IMPACT SOIL TESTER

Model TYPE CIST/884 Bumble Bee

4.5 kg and 2.25 kg Versions

(details may vary)



Features: Yellow Powder Coated Aluminium Guide Tube, Blue Shipping Case, Black Powder Coated Steel T-Handle, Black Powder Coated Steel Weight for the 4.5 kg Version or Red Powder Coated Aluminium Weight for the 2.25 kg Version

The Clegg Impact Soil Tester, also known as the Clegg Hammer, is a simple to use device consisting of two basic components: a flat-ended cylindrical mass and a guide tube. The mass, i.e. the hammer, is manually dropped from a predetermined height. Two basic hammer masses are available for this model in Australia: 4.5 kg (the "Standard Clegg Hammer") or 2.25 kg (the "Medium Clegg Hammer"). The hammer diameter of either is 5 cm, with the set height of drop being 45 cm. The Model Type CIST/884 Bumble Bee features data logging with GPS, with data downloadable wirelessly via Bluetooth to a PC or laptop with the Windows OS from XP and later, Windows 10 recommended, with the data readable in MS Excel. The 4.5 kg version has the TREND/CBR feature. When enabled, the processor computes a rule-of-thumb equivalent Field CBR which is displayed following that of the Impact Value, and based on Dr Clegg's 1986 revised general equation for a correlation between the 4.5 kg Clegg Hammer and percent CBR. The TREND component ensures that each drop compared to the previous falls within certain parameters, with the parameters being those used by British Gas in the UK.

The 4.5 kg CIST is the "general purpose" Clegg Hammer for roadworks, earthworks, unsealed airstrips, railway foundations, etc. The 2.25 kg CIST is used primarily for sports turf or sand testing, with it also suitable for earthworks compaction testing.

The output is based on the peak deceleration of the hammer's impact with the surface. For the 4.5 kg version, the output is in units of tens of gravities (Clegg units, C_{max} or C_m). Four successive drops of the hammer on the same spot constitute one test. When data logging, the test is logged when a fifth drop is made on the same spot. Likewise, to obtain a CBR value if the TREND/CBR feature is enabled. The test provides a soil strength/stiffness - or "hardness" - parameter known commonly as Clegg Impact Value (CIV), also known as Impact Value (IV), refer to AS 1289.6.9.1 and ASTM D5874. For the 2.25 kg 884 Bumble Bee, the output is in gravity units (seen as g_{max} or G_{max} or G_m), utilising one drop per test, as per ASTM F1702.

The Clegg Impact Soil Tester is used worldwide by road authorities, local governments, consulting engineers, contractors, construction & mining companies, testing laboratories, universities, the military, turf consultants, groundskeepers, etc.

For Pavement Design- The 4.5 kg Clegg Hammer output parameter is similar in concept to the California Bearing Ratio (CBR) and may be used as an alternative to CBR in both laboratory and field on unsoaked samples without surcharge. The Clegg Hammer output may be converted to a Clegg Hammer Modulus (CHM), analogous to an elastic modulus. (The 2.25 kg Medium Clegg Hammer has also been correlated to-date to CBR for values of less than 50%)

For Construction- The Clegg Hammer provides a means of process control by monitoring the effect of roller passes and checking variability. Percent compaction may be estimated by determining the Clegg value (termed an "As Compacted Target Strength") needed to achieve the desired density level for the given material, compaction equipment and determined compaction moisture condition.

For Evaluation- The 4.5 kg Clegg Hammer may be used to ensure adequate basecourse strength before sealing or proceeding with subsequent layers. It may also be used to monitor the effect of environmental changes and to investigate pavement failures. Statistical concepts can be applied to assess uniformity. Assessment of *in situ* conditions is also possible.

Low Cost- A Clegg Impact Test requires only one person and less than half a minute to perform. The output is displayed directly on the Clegg Hammer's digital readout unit upon completion of the test. The Clegg Impact Test can be performed by the supervisor himself or by the man on the job. Sensible application at the time of construction can reduce the risk of costly overworking or reworking.

Information- Information is available in the form of Papers, Reports, Technical Notes, Newsletters, etc. covering the theoretical basis, applications and correlation with other soil property tests such as "Proctor Density", Texas Class Number (TCN), Benkelman Beam, California Bearing Ratio (CBR), Falling Weight Deflectometer (FWD) and Elastic Modulus.