

CLEGG IMPACT SOIL TESTER TYPE CIST/883 – 2.25 Kg

Tool for Checking Hardness and Stiffness of Sports Surfaces



Introduction: - The 2.25 Kg CIST/883 Clegg Impact Soil Tester designed and manufactured by SD Instrumentation Ltd provides an easy and straightforward means for measuring the hardness condition of both natural and synthetic sports surfaces. The equipment consists of a 2.25 Kg sports compaction hammer operating within a vertical guide tube.

The Hammer falls through the guide tube when released and strikes the surface under test, decelerating at a rate determined by the stiffness of the material within the region of impact.

The readout is clamped to the guide tube and the displayed reading is viewed from the top during use. Single button operation design provided for easy use.

Data Logging Feature:- On board data logging and data storage with wireless data transfer facilities are features provided with the instrument. Users can download their test results from site to PC, wirelessly, using the PC software supplied with the instrument.

Surface Testing:- The 2.25 Kg Clegg hammer provides good prediction of ball bounce for cricket surfaces and football pitches. Also used for equestrian surface checks the instrument is used to confirm uniform surface characteristics over play areas and horse tracks. The Tester provides a quick and accurate method for monitoring variations in strength and for helping to determine the uniformity of an area. An example of its simplest application is to help determine soft spots or hard areas.

Operating Principle:- The Tester consists of a 2.25 Kg compaction hammer operating within a vertical guide tube. The Hammer falls through the tube when released and strikes the surface under test, decelerating at a rate determined by the stiffness of the material within the region of impact. The readout registers the hardness values in units of Gravities (Gm). The Gm value is an indication of soil strength.

Tough Design:- The CIST/883 Clegg Impact Soil Tester is a very rugged design suitable for prolonged use in damp, dirty and harsh site environments. The CIST/883 readout unit is made from high strength alloy that has been proven to last for decades. The unit runs from 2 x AA batteries for typically 12 months operation. The CIST/883 Clegg Impact Soil Tester is a compact and reliable instrument. An aluminium Transit & Storage Case is included.



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How to Carry out a Test:- Carrying out a test is quick and straightforward. The guide tube is placed in position vertically on the surface to test. The digital readout located on the guide tube during testing means there is no need to hold the readout by hand. The hammer is raised until the white line is level with the Guide Tube as shown in the picture on the right. The hammer is then allowed to fall freely. The drop value is displayed in Gravities (Gm) and this is stored in the readout flash memory against time and date. The standard supplied equipment is fitted with one drop operation and each and every drop is stored against its own time and date. An optionally supplied feature allows 3 drops to be taken at each location; the third drop being used as the measurement value of interest.

The picture below shows a 107 Gm third drop reading on the backlit display.



Results from Testing:- The stiffness - or 'hardness' of the surface as related to ball bounce and roll can be quickly established and it is easy to monitor stiffness changes due to moisture changes, grass growth and wear throughout playing seasons. Californian Bearing Ratio Calculation (%CBR) can be enabled (with 3 drop option only) along with a quality assurance algorithm to check the validity of the surface under test. The test data is recorded in the instrument and it is downloadable to a computer wirelessly by Bluetooth.

Specification and Ordering Code

<u>CIST/883 Specification:-</u>	<u>Order Code:- CIST/883/2K25/Stor/Blu</u>
Model Number	: CIST/883/2K25K/Stor/Blu.
Hammer Weight	: 2.25 Kg.
Readout Display (<i>alphanumeric</i>)	: Vertical display with readout clamped to Guide Tube – backlit, easy to view.
Readout Range	: Up to 800 Gravities (Gm) in 1 Gm steps.
Power Source	: Low power 3V: From two 'AA' batteries located in sealed compartment. 12 month typical battery life.
Power 'On' & Controls	: Single push button. Auto switch off after 5 minutes from last reading.
Data Storage in Readout	: Flash Memory for up to 10,000 x drop test readings (or optionally 3-drop readings). Each field contains the Gm reading(s), time & date of each test & result validity pass/fail flag (3-drop reading option).
Data Transfer Method	: Bluetooth Wireless data transfer. No cables & hence hassle free connection to Windows XP, Vista & Windows 7 / 8 PC's.
Data Type when Transferred	: Comma Separated Variable (CSV) data for manipulation in third party packages such as Microsoft Excel™. 9,999 x Gm drop test storage & output.
Readout Displaying %CBR	: Software Selectable %CBR display from CIST/883 LCD.
Readout Q. A. Firmware (3-drop reading option only).	: Software Selectable TREND Algorithm checks inter-Gm readings & Readout advises user if surface being tested has failed (Readout displays 'ABORT').
System Software	: PC Software provided from SDI to facilitate data transfer, real time test view, time/date setting and configuration set-up. Very easy to use.
Transit & Storage Case	: Type CIST/ATS/15. Aluminium case for added protection in transit.
Size & Weight (approx).	: 71 x 13 x 13 cm. Instrument weight 4.6 Kg. Packed weight in case 10Kg.
Warranty	: 12 months.

Specifications subject to change without prior notice


SD INSTRUMENTATION (SDi)
 Top Farm, Tellisford, Bath, BA2 7RL, ENGLAND
 Tel : +44 (0)1225 355 169 Fax : +44 (0)1225 355 893
 email: simon@sdinst.plus.com web: www.sdinst.com

