

HMP LFG PRO LIGHT DROP WEIGHT TESTER LIGHT WEIGHT DEFLECTOMETER (LWD)

*Also referred to as.



For Rapid On Site Determination of Modulus And Compaction Quality of Soils, Non-cohesive Sub-bases, Sub-grade & Formation.

The HMP LFG Pro is a light weight deflectometer that provides a dynamic plate load test employing a portable impulse plate load test device to determine the **soil bearing resistance** and **compaction quality of soils** and non-cohesive sub-bases, on site & taking **only 2 minutes per test**. Built-in soil layers can easily be tested without load abutment, facilitating quick assessments of test lots even under limited space conditions. The test method is suited for **coarse-grain and mixed grain soils** having a **maximum grain size of 63mm** and can be used to determine the dynamic modulus of deformation of soil (resilience) **Evd**. **HMP LFG PRO** is in association with **HMP Germany**.

Compliance :

- The equipment is in compliance to **ASTM E2835**, standard test method for measuring deflection of unbound layers using portable impulse plate load test device.
- In conformance with the german technical test standard for soil and rock in road & railway construction TP BF-STB part B 8.3/issue 2003.
- The LFG provides measurements that have direct correlation to static load test (DIN 18134, BS1377, ASTM D1194/1195/1196) & Proctor test (Dpr)*.

Standards :

The following harmonised standards have been applied :

EN 50 065-1, DIN EN 292/T1, EN 50 081-1, DIN EN 292/T2, EN 50 082-1, DIN EN 614/T1, EN 55 011, DIN EN 894-1 EN 55013, DIN EN 894-2, EN 55 014, DIN EN 1050, EN 55 020, DIN EN 60 204/T1, EN 55 022, EN 61 000, DIN EN ISO 9241-10

The following national standards, directives and specification have been applied : DIN 8418, DIN 31 000, DIN 18 134, DIN 66 055

Applications :

- Railway construction.
- Road construction.
- Earth works.
- Pipe & canal construction.
- Examination of foundation fillings.
- Compaction monitoring in Pipe & Cable trenches.

Advantages :

Advanced electronic measurement unit : Large illuminated graphic display (15 rows) with simple menu navigation for defining settings, measure, print, save or transfer of data & displaying the settlement curves.

Fast and cost saving :

- Time-saving (maximum **2 minutes per** measuring point).
- No vehicle required.
- Immediate on-site evaluation of test results.

Easy to handle :

- Low tester weight, small components, human-engineered.
- Easy to operate and carry by one person.
- Testing in difficult-to-reach locations.

Greater Capability In Relation To Other Test Methods :

- Can be used even in coarse grain or gravelly soils.
- Can be used in close proximity to metal elements.
- Depth of influence provides information of deeper zones.
- LFG in many cases is the only instrument that can provide directly measured, repeatable and quantifiable quality assurance records.

Reliable and precise :

- Calibrated by approved calibration institute.
- Complies with the latest state-of-the-art technology.
- Field tested, successful in use throughout the world.

Only 2 minutes to the Test Result :

Prepare :

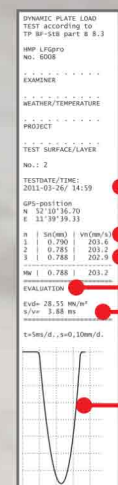
Prepare the test ground by positioning the machine on the surface and pre compact the test surface using the equipment itself by dropping the weight 3 times.



* Cross assignment correlation table can be provided on request.



Transportation Trolley



TEST
3
MINUTES

The print-out contains the following data date, time

settlements
settlement speed v

dynamic deformation modulus E_{vd}
path-to-speed ratio s/v

Printout via Thermalprinter

HMP LFG PRO LIGHT WEIGHT DEFLECTOMETER

LIGHT WEIGHT DEFLECTOMETER (LWD)



Measure :

- Press (Power) to switch on the settlement measuring instrument.
- Perform 3 impacts in succession.
- The settlement value in mm is displayed after each impact.
- After completion of the test, the average settlement, the deformation modulus, the path to-speed ratio and the settlement curve are calculated.
- Settlement curves can be viewed on site itself.

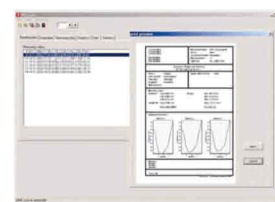
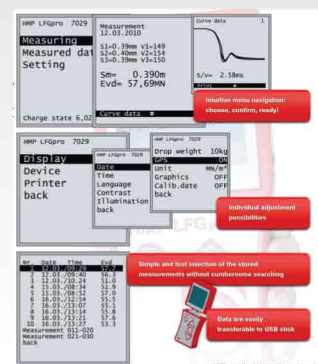
On Site Documentation Of Test Results & Data Storage :

- Printing of measured data from memory for documentation purposes at any time and in any place. **Thermal printer is integrated** with the LFG Pro unit in the protective case.
- Instrument is compatible with external **GPS receiver** & coordinates are logged with the test result for a permanent record of location of test.
- **Up to 1000 tests** can be stored.

Evaluation Via PC Software (*) :

Series of measured data **can be transferred** to a PC for evaluation by **software**.

- **Evaluate, revise & archive measured values** on PC.
- Comfortable processing of the protocol by means of a special software program.



Evaluation Via PC Software

TECHNICAL SPECIFICATION :

	HMP LFG PRO	HMP LFG PRO (15)
Loading Mechanism :		
Drop Weight	10.0 kg	15.0 kg
Total Weight	15.0 kg	20.0 kg
Max. impact force	7.07 kN	10.605 kN
Duration of impact	17.0 ± 1.5 ms	13.5 ± 1.5 ms
Material	zinc coated/hard-chrome plated steel	
Load Plate :		
Diameter	300 mm	
Plate thickness	20 mm	
Total weight	15 kg	
Material	zinc coated steel	
Electronic Settlement Measuring Instrument :		
Power supply	4 X R6 batteries	
Dimensions	216 mm X 90 mm X 40 mm	
Settlement measuring range	0.1 to 2.0 mm ± 0.02 mm	
Measuring range E _{vd}	E _{vd} < 225 MN/m ²	
Temperature range	0 to 40°C	
Storage capacity of measured data	1000 series	
Menu navigation	Selectable	
Language	12 languages selectable	
Item Code	ST-LFG PRO	ST-LFG PRO 15

Applicable Codes :

TP BF-StB B 8.3 issue 2003

Engineering code for soil and rock in road construction.

ZTV E-StB 09 German additional terms of contract and rules for earthwork in road construction.

ZTV A-StB 97 German additional terms of contract and rules for excavation in traffic access.

RIL 836, Deutsche Bahn AG (NGT39) Guideline for the use of the Light Drop-Weight Tester in railway construction.

UNE 103807-2:2008 Plate load test by means of the Light Drop Weight Tester-part 2: fixed plate, dm 2r = 300 Mn, method 2 (SPAIN).

TB 10102-2004, J338-2004 Standard for soil testing in railway construction (CHINA).

RVS 08.03.04 march2008 Compaction control by means of the dynamic plate load test (AUSTRIA).

Product Supply :

- Loading Mechanism with bubble level.
- Load plate with acceleration transducer.
- Electronic settlement measuring instrument with features :
 - * Intuitive menu navigation.
 - * Displaying and storing of settlement data, settlement speed (relation s/v) and deformation modules E_{vd}
 - * Storage capability for upto 1000 tests.
 - * Interface for thermal printer and PC.
- Thermal Printer with 1.8Ah NiMH battery power pack, battery charger (100~240V) and vehicle charger (12~16V) connecting cable, 5 thermal paper rolls.
- Software for protocol to evaluate, revise and archive the measured values on PC provided with PC connecting cable, USB adaptor & instruction manual.
- Protective case
- 2 Wheel transportation trolley for easy movement of equipment at site.