Dynatest®

8081 HEAVY WEIGHT DEFLECTOMETER (HWD)

Dynatest, the original commercial developer and the **world's largest supplier** of the Falling Weight Deflectometer (FWD) and designer of the first Heavy Weight Deflectometer (HWD) with much higher loading capability to meet the needs of airports and pavement agencies with extra thick, stiff pavement structures. The Dynatest HWD can easily simulate and measure the load levels and response of the larger aircrafts such as the Boeing 747/777 and the Airbus A380. The load is produced by dropping a large weight on a set of rubber buffers on a bracket connected to a circular load plate. The load pulse applied is designed to simulate the design vehicle. The load and deflection are measured with an extremely accurate load cell and deflection sensors

The post processing software, Dynatest ELMOD (Evaluation of layer Moduli and Overlay Design) can be used to back calculate the pavement layer moduli based on the impact load and surface deflection basin. The results can effectively be used for the evaluation of pavement structural condition and overlay design based on empirical or mechanistic-empirical pavement design guides. The HWD data can also be used to calculate the degree of load transfer between adjacent concrete slabs, and to detect voids under slabs in rigid pavements.

We have found that the Dynatest HWD to be easy to operate, reliable and more importantly, their support is friendly and readily available. The accompanying software is very comprehensive and capable of producing full range of analyses. We recommend Dynatest HWD which gives quality and high accuracy measurement.

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Designation: Technical Manager
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Unique features of the Dynatest Heavy Weight Deflectometer

- Output Links to ELMOD
- Connects to both IDS and GSSI GPR, most just connect to GSSI
- certified by CROW and TRL correlation trials
- Support and backup
- The HWD is foldable to a maximum height of 1,6 meters and maximum length of 2,7 meters allowing for easy transportation by air
- Modular systems, such as paint sprayer and safety signs can be activated through the field program
- 2 COM ports to allow the trailer processor to be interrogated setup and diagnosis purposes, locally or via the internet
- Load weight up to 320kN

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KEY FEATURES

Nondestructive structural testing device

Ideal for comprehensive testing for mechanistic-empirical analysis and design

Very wide loading range—30–320 kN; suitable for testing a variety of paved and unpaved roadways, parking lots and airfield surfaces

Allowing for simulation of new large aircraft such as A-380 and B-777

Excellent repeatability

Single person operation

Quiet operation

Accommodating up to 15 deflection sensors

Up to 60 test points per hour

AASHTO R32-11 calibration protocol compliant

Passes TRL correlation trials

STANDARD EQUIPMENT

Four segmented loading plate with swivel accommodates uneven or rutted pavement surfaces

Air/Pavement Temperature Sensors

Distance Measuring Instrument (DMI)

AVAILABLE UPGRADE OPTIONS

Folding trailer for ease of shipment

Global Positioning System (GPS)

Additional deflection sensors (up to 15)

Camera system for plate location or Right of Way Imaging

On board generator for standalone operation

Towing vehicle

Trailer mounted light(s) or strobe(s)

Rear or rear and transverse sensor extension bars

GSSI or IDSGround Penetrating Radar

Spare parts kit

Tool kit

FWDWin FIELD SOFTWARE

FWDWin intuitive and user-friendly software facilitates data collection in the field

Supports multiple languages

Stores the HWD data in Access (.mdb) databases for further process

Generates the following legacy formats: .fwd, .f25, .PDDX

Real-time plotting of the surface moduli along the test sections

ELMOD SOFTWARE

Evaluation of Layer Moduli and Overlay Design

Dynatest's ELMOD software may be used for the analysis and design of flexible, rigid, and composite pavements

Allows quick data reduction and analysis of HWD load/deflection measurements

Capable of backcalculation of the layer moduli, for a typical drop sequence in less than a second

Fast calculation of the seasonally adjusted moduli, residual life of the pavement, and required overlay thickness for a given service life

For maintenance and rehabilitation (M&R), the LCCA (Life Cycle Cost Analysis) module allows the user to select the optimum M&R solution for a pavement section according to cost/benefit ratios

For analysis of airfield pavements, the optional PCN module calculates PCN in accordance with the ACN/PCN method, as described in the ICAO and FAA design manuals

Dynatest offers 24/7 technical support