



3032 LIGHT WEIGHT DEFLECTOMETER (LWD)



Dynatest Light Weight Deflectometer (LWD) Model 3032 is a portable dynamic plate loading device designed for compaction quality assurance (QA) and determination of the modulus of unbound or partially bound material including thin asphalt layers, unbound granular aggregate base, partially stabilized base layers, subgrade soil and etc. The LWD is suitable for testing in difficult to access areas, e.g. trenches, narrow channels, etc.

Dynatest LWD is designed to determine the "surface modulus" (often termed stiffness)—a response of the underlying structure, in terms of a transient deflection, to the dynamic stress applied through a circular bearing plate. Dynatest LWD is also capable of determination of the "layer modulus" using the Dual Plate System (DPS) and additional geophones. Transport cases available: single case for shipping fully assembled or multiple cases for easier handling.



■ COMPLIANCE WITH INDUSTRY STANDARDS

ASTM E2583-07 (2015) “Standard Test Method for Measuring Deflections with a Light Weight Deflectometer (LWD)”

U.K. Interim Advice Note 73/06 Revision 1 (2009) “Guidance for Road Pavement Foundations”

■ COMPLIANCE WITH INDUSTRY STANDARDS FOR COMPACTION

NCHRP 10-84 “Modulus-Based Construction Specification for Compaction of Earthwork and Unbound Aggregate”

TPF 5(285) “Standardizing Lightweight Deflectometer Measurements for QA and Modulus Determination in Unbound Bases and Subgrades”

Italy UNI11531-1: 2014 “Construction and maintenance of civil infrastructure works—Criteria for the use of materials—Part 1: Lands and mixtures of unbound aggregates”

BS 1924-2:2018 “Hydraulically bound and stabilized materials for civil engineering purposes”

CEN/TS 17006:2016 “Earthworks. Continuous Compaction Control (CCC)”

■ KEY OPERATIONAL FEATURES

Precision load cell to measure the impact load-time history and peak magnitude

22 lbs (10 kg) standard weight or optional 11 lbs (5 kg), 33 lbs (15 kg) or 44 lbs (20 kg) drop weight setups applying up to 3,300 lbf (15 kN) impact force

Center seismic transducer (geophone) to measure the deflection time history (by single integration of velocity) and peak value on materials through a hole in the loading plate

Sensor locking plug feature optionally allows center geophone to measure plate deflection

Dual Plate System (DPS) for quick and easy switching between the 11.8 in (300 mm) and 5.9 in (150 mm) loading plate diameter

A 3.9 in (100 mm) plate diameter is included, and an optional 7.8 in (200 mm) plate is available

Lever to ensure that the geophone is centered and seated correctly

Movable release handle and laser engraved scale on the weight guide shaft for easy setting of the desired drop height/stress level

Enhanced Bluetooth module with high stability and extended range, allows data collection with your phone using the cross-platform LWD Mobile app on: Android, iOS (Apple), and Windows

Up to 50 hours idle time per charge

Micro-USB charging port

Ability to perform tests while charging

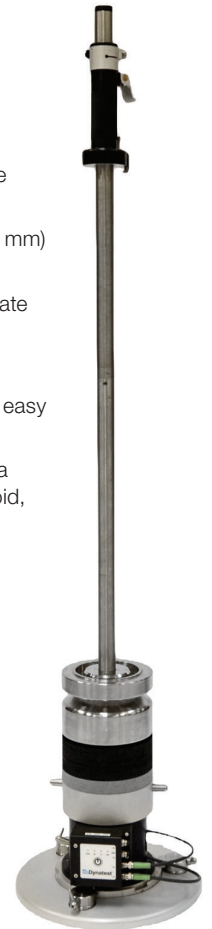
Dust and splash proof (IP56) electronics for safe outdoor use

Lightweight with total basic configuration weight of 48 lbs (22 kg)

GPS capability through phone

Optional items:

- Two external geophones with extension bar
- Transportation trolley for easy hauling of the LWD along the test site



LWD Application Software Functionality	LWD Lite	LWD Pro
Create hierarchal databases for data collection (project, session, and location)	x	x
Input data collection attributes, assumptions & comments	x	x
Ability to collect real time GPS location	x	x
Ability to capture and tag photo images on each test location	x	x
Offline data acquisition	x	x
Instant surface modulus results, figures, summary tables, and statistics on location, session, and project level	x	x
Data export and sharing for post-processing with LWDmod	x	x
Compaction quality control and statistics module providing different compaction criteria to determine percentage compaction according to		x
NCHRP 10-84 Compaction Specification, TPF 5(285) Compaction Specification, UNI11531-1: 2014 Italian Compaction Specification, BS 1924-2:2018 UK Compaction specification		x
Immediate visual summary of information through GIS integration		x

LWDmod Analysis Software Functionality	LWDmod Lite	LWDmod Pro
Create database	x	x
Import and edit LWD data	x	x
Export test results to Excel or Word for further analysis	x	x
Output compaction results shown & calculated in Dynatest LWD 3032 Pro App to an Excel spreadsheet via LWDmod Lite	x	x
Export to UK requirements—IAN 73	x	x
The following data can be selected during the export process: point number, location, drop number, time, plate size, load, stress, distance 1, distance 2, distance 3, deflection 1, deflection 2, deflection 3, surface deflection moduli, deflection offset, loss of energy, air temperature, surface temperature, material temperature, GPS/notes, time histories and compaction	x	x
Data Visualization—including figures and summary tables		x
Data Analysis—including back calculation of layer moduli, non-linearity of subgrade modulus, estimation of the layer thickness, distance to bedrock, required overlay thickness, output percentage compaction (requires LWDPro), etc.		x