

➔ Benefits

The FWD is used worldwide from the hottest and driest deserts, to the humid tropics and the cooler polar regions.

- Automated and rapid structural pavement testing applicable to pavements all over the world
- Determines the layer of failure, rather than simply determining the bearing capacity
- The use of the FWD provides accurate, reproducible and repeatable structural data
- The automated load or deflection sensing ensures consistent data
- Automated and real-time monitoring of load cell, geophones and data variations ensures high quality of collected data
- Uses mechanistic-empirical analysis applicable to most of pavement structures

➔ Usual Operation

Structural Evaluation is a proactive study of pavement that enables clients and road owners to produce more realistic and accurate works programs, to better manage resources and to project more accurate budgetary requirements. By applying a standard load and knowing something about the traffic, we can predict the remaining life in the pavement and hence what needs to be done if traffic patterns are to change or we need rehabilitation or reconstruction.



FALLING WEIGHT DEFLECTOMETER TESTING

Structural (FWD or HWD) Evaluation could be used as the warning of failure for a section of pavement prior to it being detected visually. A heavy vehicle bends the pavement introducing some permanent distress into the pavement structure, causing it to fatigue in bitumen and cement bound materials and deform plastically in unbound granular materials, including the subgrade. The Falling Weight Deflectometer is the world standard dynamic plate bearing test for the non-destructive testing of the structural capacity of flexible pavement and the key to unlocking issues with concrete slabs. The equipment uses up to nine seismic geophones to measure the deflection of the road pavement under the application of a known load from a predetermined height. The pavement response is analysed with industry accepted software to determine the elastic moduli, stresses and strains of each modeled layer.

FALLING WEIGHT DEFLECTOMETER TESTING

➔ Contact us

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➔ Characteristics

- Number of sensors: up to 10
- Resolution: 0.001 mm = 1 micron
- Duration of Test: 35 sec (typ. 3 drops)
- Max distance from load: (2.1 m)
- Single person operation
- Day or night operation

➔ Falling Weight Deflectometer (FWD)

The FWD unit is designed for network and project level assessment of roads subject to daily vehicular and commercial transport. Normal use is local government network and project level assessment, to meet clients' requirements for:

- Understanding the remaining life of the network
- Determine the asset value of the network
- Design, rehabilitation and reconstruction
- Construction quality assurance

FWD Load Range: 7 - 120kN



➔ Heavy Weight Deflectometer (HWD)

The HWD unit is used for rigid pavements, airports and port authorities. Units are air-portable for movement to and from remote airstrips. It can be set up for assessing concrete slabs, interlocking blocks, in addition to heavy pavements including full depth asphalt.

HWD Load Range: 30 - 240kN

To meet clients' requirements, we combine:

- Backanalysis of the deflection bowl data
- Residual Life of Airfield Pavement
- Load transfer efficiency (LTE) analysis
- Increased Load Capacity