



EXPLANATION SHEET DMT – FLAT PLATE DILATOMETER

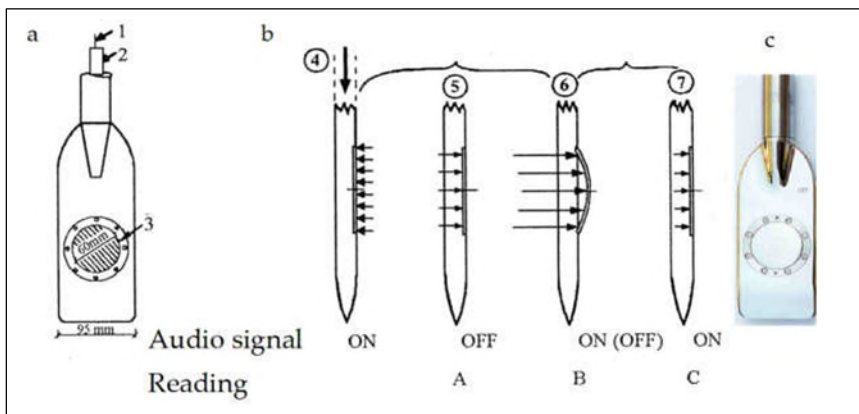


The Flat Plate Dilatometer (DMT) was developed by Silvano Marchetti and is an in situ test for the determination of various key soil parameters used for geotechnical design.

The test is rapid, accurate, simple and cost effective. The results are highly repeatable.

The blade can be with any type of field machine, including pushed with a CPT rig or driven with an SPT hammer on a drill rig.

DMT measurements are performed in situ, directly on the soil in its natural position and state, this eliminates the disturbance caused by drilling, sampling and transportation to a laboratory. The results provide a profile of parameters through the soil column. The results are available in real time during the test execution.



The direct measurement of soil deformation enables accurate estimations of elastic modulus. The k_D parameter provides stress history information of the soil, a very difficult property to assess with other testing methods.

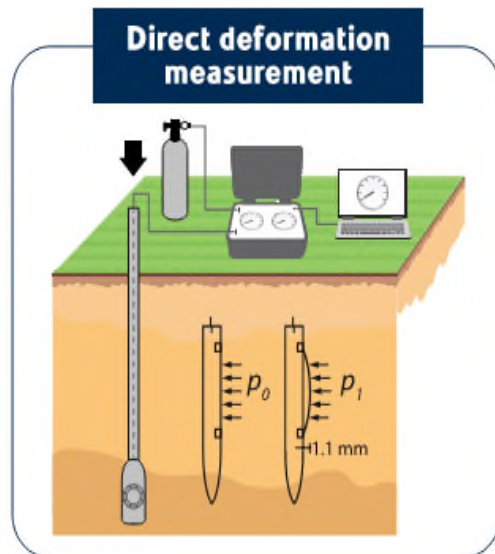
Estimation is also possible of the k_0 profile through the soil, which is also very difficult to measure by other methods.

Test results can be directly interpreted using the software packages developed by Marchetti.

Main Applications

- Soil stratigraphy
- Stress history (OCR, K_0)
- Settlement prediction
- Soil Improvement quantification
- Slip surface detection in clayey slopes
- P-y curves for laterally loaded piles
- Liquefaction potential
- Permeability in clay
- FEM input parameters (ex. Plaxis)
- Subgrade modulus for pavements
- Subgrade modulus for diaphragm walls

Direct deformation measurement



Also refer to our Data Sheets on the Medusa DMT and Seismic DMT for full details of our DMT testing capability.