

Pocket Dial Geotester T161.

**Instant site evaluation of
soil cohesion
angle of internal friction**

This handy pocket instrument can be used to evaluate the cohesion and angle of internal friction of soils.



The tester comes with a table showing how the readings correspond to other tests.

The following characteristics of 26 soil samples, from sand to clay, are listed on the table to compare with the dial tester readings.

- 1. Humidity Value**
- 2. Liquid Limits**
- 3. Plastic Index**
- 3. Angle of Internal Friction**
- 4. Cohesion**

The table shows the Geotester's results for each of the 26 samples, and also the percentage differences of the results of the Geotester compared with those of the Shear Box Test

The Angles of Internal Friction and Cohesion are also shown graphically for quick comparisons.

To develop the Geotester, tests on a range of soils were carried out in the experimental laboratory of the Istituto Construzioni de Strade Ferroviarie ed Aeroporti of the University of Bologna.

Geotester results were correlated with the direct shear method using the Shear Box Test.

In materials that are predominantly clay the percentage difference is not more than 3.8%. For predominantly sandy materials the percentage difference does not exceed 6.4%.

The higher the values are, the lower are the differences in the results. The major differences are with slimy materials for which neither the Angle of Friction nor the Cohesion has high values.

For slimy materials the percentage difference for Cohesion is not less than 13% and for the Angle of Internal Friction 11%. Taking into account the unknown factors in these tests due to the soils not being always uniform, these results may be considered fully acceptable.