

Soil Testing

Soil strength (Triaxial)

The measurement of total stress or effective stress requires the use of different procedures and therefore different accessories and equipment.

Total stresses are normally measured in a triaxial cell where the sample is subjected to an all round confining pressure (3). A load is then applied (1) through a piston onto a pressure pad. The sample is confined in a rubber membrane and no drainage in to or out of the specimen is allowed. Pore water pressures are not normally measured and the undrained test is often referred to as the QU-TXL test. An extension of the QU test is the unconsolidated undrained test (UU), this is similar to the QU test but is run at a slower rate in order to measure pore water pressure.

Effective stresses when measured in a triaxial cell are more complex in their nature. Numerous parameters may be measured including, back pressure, pore water pressure and volume change. From these values various engineering properties can be calculated. Effective stress tests are usually referred to as consolidated drained applicable to sands and either the CU or CD test is applicable to clays. There are many special test variations within these basic test groupings.

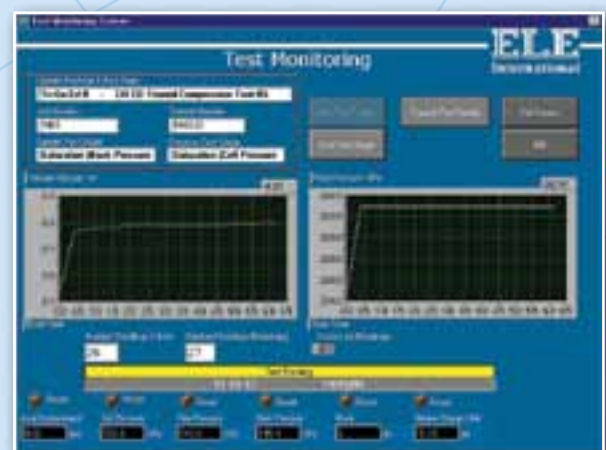


With the growing demand for automated testing, ELE International offer the DataSystem 7.1 suite of geotechnical data acquisition, analysis and reporting software, providing significant efficiency benefits in high volume testing laboratories.



Programs available for Triaxial, Permeability Consolidation, Direct/Residual Shear and CBR tests

- Full support for Windows 7 and MS Word 2007/2010
- Accurate and repeatable test procedures
- 24 hour unsupervised logging
- Eliminate the possibility of errors while taking manual readings
- Tests are run with step-by-step instructions selectable between BS and ASTM/AASHTO Standards
- Automatic report generation in accordance with the above standards
- Real-time graphical outputs to both screen and printer as required
- 5-slope transducer calibration facility for higher accuracy



For further information and specifications of equipment and additional items that may be required please contact ELE.