

ROCK PRESSUREMETER (Flexible Dilatometer) MODEL TRI-MOD-S

ROCTEST

APPLICATIONS

The TRI-MOD-S Rock Pressuremeter is a reliable and effective tool used to measure in-situ the strength and stress-strain properties of very stiff soil and rock. It quickly and economically provides a large volume of data encompassing the variability of the geotechnical conditions on a site.

A well-proven method used to analyze the pressuremeter test data gives realistic values of:

- Settlement of all types of foundations
- Bearing capacity of shallow or deep foundations
- Deformation of laterally loaded piles or sheet piles

DESCRIPTION

The TRI-MOD-S is comprised of the following components:

- The probe: a single cylindrical cell hydraulically inflated with 6 strain gauges and cantilevered arms, and fitted with an inflatable metallic sheath
- Hydraulic manual pump
- Pneumatical cylinder for deflating the probe
- The datalogger
- The tubing and electrical cable
- Two calibration tubes



FEATURES

- Inflated hydraulically up to 20 000 kPa
- Direct reading of diametric changes with six electrical strain followers
- Test in "N" size borehole (76 mm)
- Simple to operate
- Readout displays diametrical expansion in mm

TEST PROCEDURE AND RESULTS

The probe is placed at the test depth in a pre-cored borehole. Stress-control is used to run the test. Equal increments of pressure are applied to the probe and held constant for one minute. The diametric changes are logged 30 and 60 seconds after each pressure step is reached. Unload/reload cycles can be performed.

In situ stress-strain curves are obtained by plotting the changes in each of the 3 instrumented diameters or their average against pressure.

The modulus of deformation E used to calculate settlement is given by:

$$E = (1 + n) (\Delta P / \Delta R) R$$

where: n = Poisson's ratio

ΔP = Corrected increase in pressure

$\Delta R / R$ = Relative change of radius

In softer materials, the limit pressure P_L , which is the pressure corresponding to the doubling of the volume of the initial cavity, can be estimated.

SPECIFICATIONS

PROBE

Diameter (min.) :	73 mm
Diameter (max.) :	76.2 mm at 20 000 kPa 82.0 mm at 10 000 kPa
Working pressure (max.) :	20 000 kPa (3000 psi)
Length of inflatable sheath :	490 mm
Typical sheath inertia :	600 kPa

HYDRAULIC PRESSURE GAUGE

Range :	20 000 kPa
Accuracy :	1% F.S.

DIGITAL READOUT

P-3 Vishay strain indicator with selector switch
Resolution of diametrical change: Better than 0.01 mm