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## PRESSUREMETER

Model TEXAM®

### APPLICATIONS

The TEXAM pressuremeter is a reliable instrument for the evaluation of most ground engineering problems. It is used to run routine in-situ loading tests at various depths. The well-proven method developed by Louis Ménard is used to interpret the test results for calculation of:

- Bearing capacity of shallow and deep foundations
- Settlement of all types of foundations
- Deformation of laterally loaded piles and sheet piles
- Resistance of anchors

### DESCRIPTION

#### The probe

A cylindrical hollow body fitted with an inflatable sheath.

#### The control unit

- A metal case that houses a cylinder with piston, two pressure gauges for low and maximum pressure tests, a connector for an auxiliary pressure gauge, and the control valves.
- A manual actuator to operate the piston.

#### The tubing

A high-pressure single conduit fitted with a shut-off quick connect to keep the probe and tubing saturated.



### FEATURES

- Easier to operate than Ménard-type pressuremeters
- Rugged construction
- No compressed gas necessary
- Controlled rate of deformation
- Easy cyclic testing
- Optional equipment is available for creep testing

## TEST PROCEDURE

The probe is placed at the test depth in a pre-drilled borehole obtained by a method adapted to the soil conditions: augering, rotation with drag bit and bentonite, shelby tube driving, etc. In granular soils below the water table, the probe can be driven directly within a slotted casing.

The test is run either with a constant rate of deformation, by using a uniform rate of rotation of the actuator, or with equal increments of pressure as for the Ménard pressuremeter test.

## TEST RESULTS

An in-situ stress-strain curve is obtained by plotting the injected volume against pressure.

- The limit pressure  $P_L$  is the pressure at which failure occurs, and it reflects directly the bearing capacity:

$$Q_a = (C/F) \times P_L$$

where:  $Q_a$  = Allowable bearing capacity

$C$  = Shape factor

$F$  = Safety factor

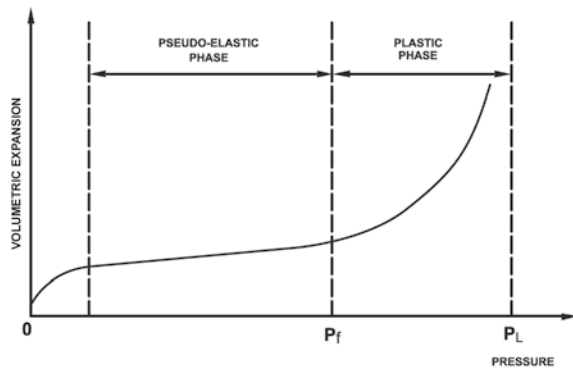
- The modulus of deformation  $E$  is used to calculate settlements and is given by:

$$E = (1 + \nu) 2V(\Delta P/\Delta V)$$

where:  $\nu$  = Poisson's ratio

$V$  = Cavity volume at the middle of the elastic zone

$\Delta P/\Delta V$  = Pressure variation dependent on volume variation



Example of pressuremeter test results

## SPECIFICATIONS

### CONTROL UNIT

**Working pressure (max.)** 10 000 kPa (1500 psi)

**Actuator capacity** 10 tons

**Dimensions**  
L = 52 cm  
W = 31 cm  
H = 46 cm

**Metal case weight** 30 kg

**Actuator weight** 28 kg

### PROBES

**Diameter** 74 mm (NX Long) 44 mm (AX)\*

**Length** 72 cm 59 cm

**Weight** 6.4 kg 4.5 kg

\*For use with slotted casing

## ACCESSORIES

- Slotted casing assembly for direct driving of the AX-size probe in granular soils below the water table
- Creep test kit for long term testing at constant pressure