

Pressuremeter

Gregg Drilling & Testing, Inc. uses a model G-Type MENARD pressuremeter to measure in situ strength and deformation properties of all types of soil and soft rock as well as ice and permafrost. Well established interpretation methods can be used to determine the following:

- Bearing capacity of shallow and deep foundations
- Settlement of all foundations
- Deformation of all laterally loaded piles and sheet piles
- Resistance of anchors
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The pressuremeter consists of a probe, a control unit, and tubing used to connect the probe with the control unit. The probe is a cylindrical metal casing with an inner rubber membrane and outer protective sheath constructed to form three independent cells. When in use the central cell is inflated with water and the guard cells with gas. The control unit houses all regulators, valves, and pressure gages to reduce and control the pressure applied to the probe cells. The control unit also supplies the flow of water to the measuring cell.

The test is accomplished by placing the probe at a test depth in a pre-drilled borehole. The probe can also be driven to a test depth within a slotted casing. Equal increments of pressure are then applied to the probe and held constant. Volume changes are noted at select time intervals after each pressure increment. By plotting the injected volume versus pressure (*figure Volume vs Pressure*), one can obtain an in situ pressure volume curve. The "limit pressure" (P_L) is the pressure at which failure occurs and through well established correlations, can be directly related to bearing capacity. The slope of the pressure volume curve is called the Menard modulus and can be used to calculate settlements.

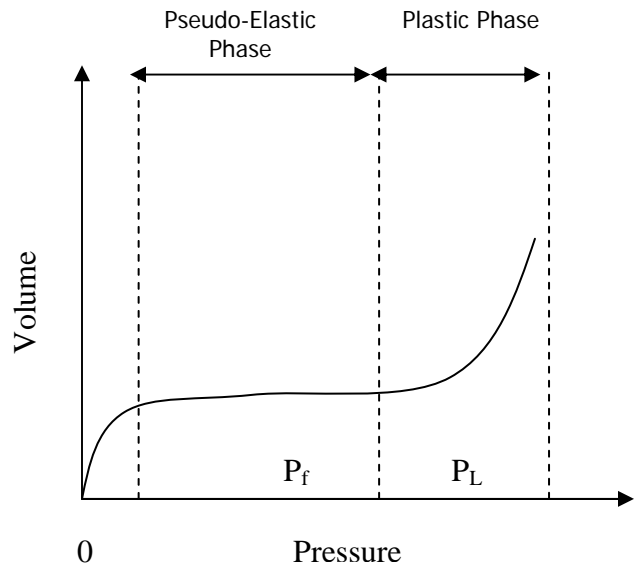


Figure Volume vs. Pressure Plot

