

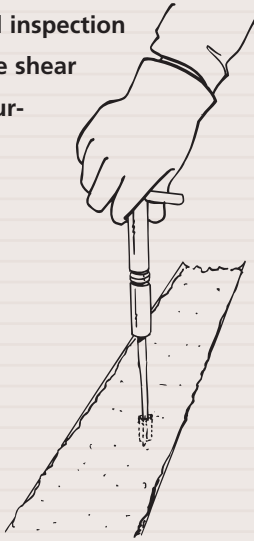


You will return to the contents of P1 SOIL by clicking the pictogram

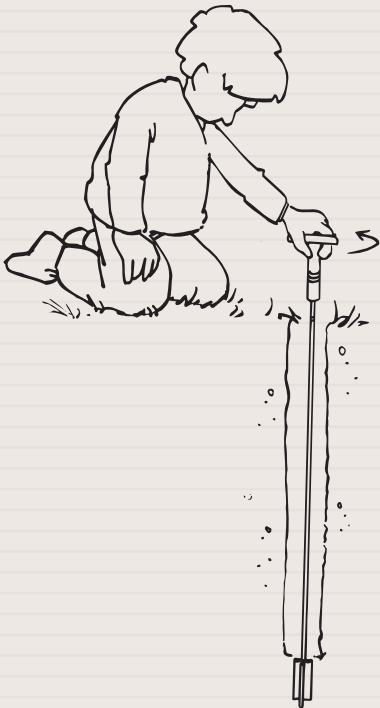
# SHEAR STRESS MEASUREMENT

P1.54

Using the field inspection vane tester the shear stress at the surface of a soil sample can be determined.



The determination of the shear strength at the bottom of a pre-drilled borehole in cohesive soils.



## BENEFITS

### 14.05 Field inspection vane tester

- Perfect kit for all those measuring in top soils
- Ideal for agronomists, civil engineers
- Small but sensitive and accurate
- Drag ring for easy read-out
- Dummy used for zero measurement

The shear strength or stress of the soil depends on different soil characteristics such as for instance: the granular composition, the humus content, the humidity and (in case of vegetation covered areas) the degree of coverage and the density of the roots. In order to determine the shear stress in the strata in for instance a profile pit, on the surface (for instance a sports terrain), at the bottom of a borehole or in a sample, several different shear stress meters have been developed.

The principle of the shear stress meters is simple: an axle with vanes (or fins) connected to it is placed in the soil vertically after which it is turned around with a certain speed and force.

The force required is measured at the breakpoint of the soil and from this the shear stress at the location of the measuring point can be calculated. Depending on the type of soil different vanes can be applied.

14.05 Field inspection vane tester, standard set for measurement up to 200 kPa (20 t/m<sup>2</sup>) to a depth of 3 m

The field inspection vane tester can be used to determine the maximum shearing force that can be exercised on a soil. Measurement in the field (on the surface, in profile pits or at the bottom of bore holes) as well as in the laboratory (on samples) are possible.

The shear stress measured can be read on a clearly readable scale ring.

In soft soils it is not necessary to make a borehole first. In order to determine the friction on the extension rods a dummy vane is available in these situations.

The standard set contains, among other items: a field inspection vane tester, complete with three vanes (16 x 32, 20 x 40 and 25.4 x 50.8 mm) and a dummy vane, various extension rods, spanners and a solid carrying bag.



Field inspection vane tester set



Three vanes and a dummy vane



Field inspection vane tester