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## Pocket Penetrometer



## Operating Instructions

# Pocket Penetrometer

## Operating instructions:

The penetrometer serves to classify soil samples based on their respective resistance to compression. The value for compression resistance can be read directly on the graduated scale, either in kg/cm<sup>2</sup> or in kg.

## How to run a test:

- 1) Push the sliding indicator ring to the lowest value on the scale.
- 2) Press the penetrometer in the vertical direction against the soil sample so that it penetrates up to the grooved line on the piston.
- 3) Take the reading using the edge of the sliding indicator ring furthest to the back.

Take a number of readings in order to arrive at a fairly accurate median value. Naturally, the penetrometer cannot replace laboratory analyses.

## Maintenance:

The calibrated spring within the penetrometer and the scale must be kept clean. To dismantle the unit, remove the elastic plug and extract the piston and spring. Proceed with the cleaning of the unit. Oil and carefully dry the spring, without causing deformation. Since the spring is calibrated, improper handling may cause it to lose its original characteristics. Reassemble the components and insert the elastic plug.

Nature of the terrain	Allowable load in kg/cm <sup>2</sup> at a depth of 1/1.5m	Observations
Compact gravel, solidly stratified	5 ~ 7	The presence of water decreases resistance
Loose sand, solidly stratified	3 ~ 5	
Medium fine sand	2 ~ 3	
Short clay (sandy) and compact clay	2 ~ 3	Only if influx of water can be excluded definitively
Very short clay and wet clay	0.5 ~ 1	Based on imbibition
Backfill	0.5 ~ 1	Based on packing
Farmland (virgin)	0.5	Not suitable for stable construction
Muddy or swampy terrain	0 ~ 0.5	