

## Shrinkage/Plastic/Liquid Limit

### Manual Liquid Limit Device (Casagrande)

UTS-0200

The UTEST Manual Liquid Limit Apparatus (Casagrande) is an apparatus used to measure the moisture content at which clay soils pass from plastic to liquid state.

The device comprises of a blow counter, a removable brass cup fitted on the base and an adjustable crank and cam mechanism. According to the user's required specifications, different models with the same shape but with different cup and base weights are available.

The Liquid Limit Device is supplied complete with a plastic grooving tool.



### Plastic Limit Test Set

UTS-0250

The plastic limit (PL) is the term used for the lowest moisture content of a soil that will allow a sample to be rolled into threads of 3 mm diameter without the threads breaking.

The Plastic Limit Test Set is supplied complete with:

- Glass Plate, 300x300x5 mm
- Steel Reference Rod
- Moisture Content Tins,  $\varnothing$ :75 mm h:30, 6 pcs.
- Porcelain Mixing Dish, 120 mm dia.
- Spatula, 120mm
- Carrying Case



### Shrinkage Limit Test Sets

UTS-0230

When the water content of a fine-grained cohesive soil is reduced below the plastic limit, shrinkage of the soil mass continues until the shrinkage limit is reached. This test method is used to measure the shrinkage ratio, volumetric shrinkage, shrinkage limit and linear shrinkage.

The Shrinkage Limit Test Set is supplied complete with:

- Prong Plate
- Moisture Content Tin with Lid, aluminium,  $\varnothing$ :45 mm h:10 mm, 2 pcs.
- Moisture Content Tin with Lid, aluminium,  $\varnothing$ :55 mm h:35 mm
- Porcelain Dish, 120mm dia.
- Spatula, 120 mm
- Graduated Glass Cylinder, 25 ml,
- Carrying Case



## Shrinkage/Plastic/Liquid Limit

### Linear Shrinkage Mould

UTS-0235

The UTS-0235, Linear Shrinkage Mould is 140 mm long and has a radius of 12.5mm. It is used to determine the total linear shrinkage of soils and indicates the plastic properties of soils with low clay content.



UTS-0235



UTS-0180

### Semi-Automatic Penetrometer for Liquid Limit

UTS-0180

When clay soils pass from a plastic state to a liquid state, a Cone Penetrometer can be used to determine the moisture content. They can also be used to determine the undrained shear strength.

The UTS-0180 Semi-Automatic Penetrometer for Liquid Limit consists of a cast iron base with coarse and fine levelling screws, a digital penetration measurement gauge 0.01 mm resolution/readability and an automatic penetration timer unit.

The penetrometer comes complete with a digital 99 second timer. The timer has a standard setting of a 5 second free-fall time, however it can be changed for customized tests if required. When engaged, the timer will allow the needle to free fall into the sample for the specific time interval and then lock the needle from advancing while providing a direct reading of the test results.

For the shear strength test, a weight of 320g should be added to the 30° angle cone to achieve a total weight of 400g.

Semi-Automatic Penetrometer for Liquid Limit supplied complete with;

- Automatic Penetration Timer Unit,
- 30° Penetration Cone
- Sample Cups, 3 pcs. Aluminium, Ø55 mm x h:35 mm.

## About PCTE

PCTE have over 30 years' experience in the measurement and testing of construction materials. PCTE can provide more than just the equipment, they can provide expert training. PCTE have a service centre in Sydney in which they can provide calibration, repairs and warranty repairs.

## Other Equipment

PCTE supply three main ranges: NDT, Lab and Geotech Instrumentation.

NDT includes: Rebound Hammers, Covermeters, Ultrasonics, GPR, Corrosion Testing, Coating Testing and Foundation Testing

Lab includes equipment for: Concrete, Cement, Aggregate, Soil, Asphalt and Metal

Geotech Instrumentation includes: Strain Gauges, Piezometers, Inclometers, Extensometers, Tiltmeters, Load Cells and Dataloggers