Sand Cone Set

LT-S0009 / LT-S0010 | Test-hole volume using calibrated sand

Valve-operated cone • Flanged base plate • Field compaction control



6.5″ / 12″

SAND CONE SET OPTIONS

5 litres

LT-S0011 PLASTIC SAND JAR

ASTM D1556 • AASHTO T191

Photographs and Set Components

Plastic sand jar, valve-operated cone and centre-hole base plate

The Sand Cone Set determines test-hole volume using calibrated dry sand. Use the excavated soil mass together with the calculated volume to evaluate in-place density.

SAND JAR

The LT-S0011 plastic jar holds the dry calibration sand used for the test.

FLOW CONTROL VALVE

The valve starts and stops sand flow according to the test procedure.



VALVE-OPERATED CONE

The LT-S0009/1 cone assembly directs sand through the base opening into the hole.

BASE PLATE

The LT-S0009/2 flanged metal plate with centre hole locates the apparatus at the test point.



Sand flow valve and cone connection



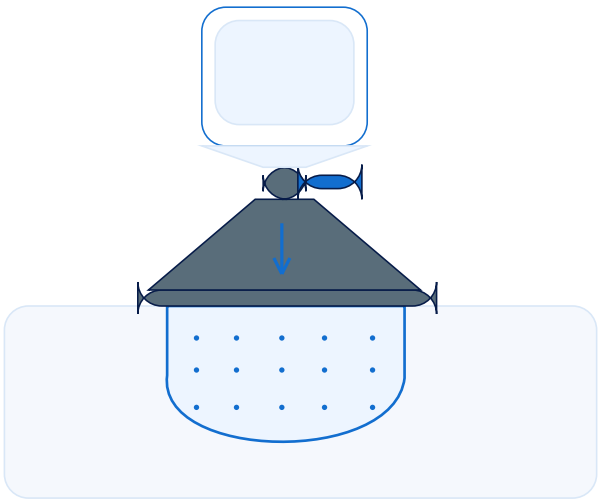
Cone and flanged base plate

LT-S0009 / LT-S0010

Test-Hole Volume with Calibration Sand

Calibrate • Excavate • Fill with sand • Calculate density

SAND JAR + VALVE + TEST HOLE



VOLUME: HOLE SAND / SAND BULK DENSITY

CORRECTION: SAND IN THE CONE AND BASE

Determine excavated wet soil mass separately

Wet density = wet soil mass / test-hole volume

REPRESENTATIVE SAND CONE METHOD • NOT TO SCALE

Prepare Calibration

Determine dry sand bulk density and the cone-base correction according to the method.

Excavate and Collect

Position the base. Collect all soil and prepare mass and water-content measurements.

Fill and Calculate

Measure sand use. Subtract the correction, then calculate hole volume and soil density.

Total sand use includes sand filling both the test hole and the cone-base void. Subtract the calibrated correction to obtain the sand mass belonging to the hole. Divide this mass by the bulk density of the calibration sand to calculate hole volume.

Sand Calibration and Flow

Use dry calibration sand of suitable grading. Determine its bulk density and the cone correction for the same apparatus and base arrangement according to the method.

Record initial and final weighing values. Maintain free sand flow and keep the test surface and base plate position unchanged between measurements.

Evaluating Field Compaction

Collect all excavated soil and determine its wet mass. Separately measured water content allows dry density calculation. Compare field dry density with the laboratory maximum dry density of the same material.

The hole should retain its shape during excavation and filling. Select model and test-hole size according to the material and applicable method.

Model Options and Technical Specifications

6.5″ and 12″ sets and related components

Model / Component	Value / Description
LT-S0009 • 6.5″ Set	300 × 300 × 550 mm • Approximately 4 kg
LT-S0010 • 12″ Set	600 × 600 × 650 mm • Approximately 15 kg
LT-S0012 • 12″ Density Cylinder	470 × 320 × 260 mm • Approximately 10 kg
LT-S0009/1	Sand cone assembly with valve
LT-S0009/2	Flanged metal base plate with centre hole
LT-S0011	Plastic sand jar • 5 litres
Measuring Principle	Volume determination using calibrated dry sand
Wet Density	Excavated wet soil mass / test-hole volume
Dry Density	Calculated using separately measured water content
Method References	ASTM D1556 • AASHTO T191

Separate the Cone Correction from Test-Hole Sand

Subtract the calibrated cone-base quantity from total sand use. Report hole volume, soil mass and water content together with the same field test point.

Sand Cone Test Workflow

01
Prepare
Calibrate sand and position the base.

02
Collect
Excavate and collect all removed soil.

03
Fill
Release sand and measure the quantity used.

04
Calculate
Calculate hole volume and soil density.

Product Page | liyatest.com.tr/en/urun/sand-cone-set/