

### Shrinkage limit set

Make: LabTek

Model: SUN-SL-017

Origin: India

Standards: IS 2720 (PART-VII) ASTM D 427, BS 1377, AASHTO T 92.

Shrinkage limit is the maximum water content at which a reduction in water content does not cause an appreciable reduction in volume of the Soil Mass. At shrinkage limit, on further reduction in water, air enters in to the voids of soils and thus keeps the volume constant.

The apparatus can be used to determine shrinkage limit and to calculate other shrinkage ratio, shrinkage index and volumetric shrinkage. Set consists of one each:

1. Porcelain evaporating dish
2. Shrinkage dish
3. Glass cup
4. Perspex plate with three metal prongs
5. Flexible spatula 100mm
6. Glass cylinder
7. 25ml x 1ml, supplied without mercury
8. Plastic wash bottle 500ml

Optional Accessories: Mercury supplied in bottle of 500 gms. at an extra cost.



### Sand Pouring Cylinder

Make: LabTek

Model: SUN-SL-018

Origin: India

Standards: IS 2720 (PART XXVIII) 1966 | BS 1377-9 | BS 1924:2

The verification of the degree of compaction can be determined on site by a simple procedure consisting essentially in removing and weighing a part of compacted soil and replacing in the hole with sand by a simple apparatus recording the volume of sand and then calculating the density of the removed soil. We propose three models to be selected conforming to the size of grained soils. The sand pouring cylinders and calibration cans are made of cast aluminium and precisely machined. The tray is made of plated sheet steel.

This apparatus is used for the in place determination of the dry density of compact, fine and medium grained soils and for layers not exceeding 500mm thickness. The complete apparatus consists one each of Small sand pouring cylinder, 3 litre capacity fitted with conical funnel and shutter. Cylinder calibrating container, internal dia 100mm and 150mm height. Same as previous model but this apparatus is as per the BS standard for 100 mm, 150 mm, 200 mm dia cylinders.

Accessories: Metal tray, 300mm square and 40mm deep with hole.

Note: Sand pouring cylinder Medium (150mm) and Large (200mm) as per IS 2720 (P-XXVIII) also available.



### Balloon Density Apparatus

Make: LabTek

Model: SUN-SL-019

Origin: India

Standards: ASTM D2167 | AASHTO T205

Used to determine the in-situ density of compacted or firmly bonded soils. The test set consists of a graduated cylinder 1596 ml capacity, housed inside an aluminium guard, a reversible rubber aspirator pump, a density plate 9" square and 12 rubber balloons.

Weight approx.: 6 kg

This method for determining the density of in-place compacted or firmly bonded soils uses a rubber balloon apparatus. It is not suitable for very soft soil that will deform under slight pressure or in which the volume of the hole cannot be maintained at a constant value.

The cylinder is high-strength plastic, threaded and open on both ends. Each cylinder is double graduated in cubic metres and cubic feet, minimum graduation is 7cm<sup>3</sup> (.00025 cu. ft.). The apparatus features a pressure-vacuum pump assembly, pressure gauge, quick coupler valve, double-graduated cylinder, 10 balloons and a density plate.

