



WATER CONTENT AND DRY DENSITY OF SOILS

Density and moisture content are, perhaps, the most important parameters a soil engineer has to keep a strict control on, during the construction of earthen dams and embankments. Using the laboratory test data, obtained under controlled conditions. The specifications to be adopted for the fill can be drawn in terms of maximum dry density and optimum moisture content.

Indian standards specify two methods-by light compaction as per IS:2720 (part VII) and by heavy compaction as per IS : 2720 (part VIII) for the determination of dry density-moisture content relationship, depending upon the compacting equipment used in the field. The compaction moulds listed here under meet the essential requirements of IS :10074 and the rammers those of IS:9198.

●● HS10.60

Compaction Mould

Compaction Mould 100 mm internal dia x 127.3 mm height, 1000 ml volume complete with collar and base plate, all made of ferrous / non-ferrous steel, tie rods of mild steel and wing nuts for clamping. Test is performed as per IS:2720 (Part- VII).



HS10.60

●● HS10.65

Compaction Mould

Compaction mould 150 mm internal dia x 127.3 mm height, 2250 ml volume, complete with collar and base plate all made of ferrous / non-ferrous material, fixing tie rods of mild steel with wing nuts. Test is performed as per IS:2720 (Part- VIII).



HS10.65

●● HS10.76

Compaction Rammer, Light

Compaction rammer, light made of mild steel 2.6 kg weight, 50 mm dia compaction face, 310 mm controlled free vertical fall. It conforms to IS:9198, IS:2720 (Part- VII).



HS10.76

●● HS10.77

Compaction Rammer, Heavy

Compaction rammer, heavy, made of mild steel 4.89 kg weight, 50 mm dia compacting face, 450 mm controlled free vertical fall.

●● HS10.78

Automatic Soil Compaction Machine (Old Model)

It is a motor driven automatic compaction machine, useful for quick compaction of soil in 100 mm or 150 mm dia moulds for estimation of its moisture density relationship. It consists of two sets of rammers weighing 2.6 kg and 4.89 kg and arranged for drops of 310 mm and 450 mm respectively. The compaction face of both 2.6 kg and 4.89 kg rammers is 50mm diameter for 100 mm mould and 100 mm diameter for 150mm mould. The rammer assembly is provided with ratchet and pawl arrangement to lift it to required height, when it gets released it falls on the soil layer due to its self weight. The release mechanism is operated by an arm moving up and down which is connected to a reduction gear coupled to the motor through another arm.