

7.DETERMINATION OF WORKABILITY OF CONCRETE (SLUMP TEST)

(IS : 1199 – 1959)

Object:

This method of test specifies the procedure to be adopted, either in the laboratory or during the progress of work in the field, for determining, by the slump test, the consistency of concrete.

Apparatus:

a) Mould: the mould for the test specimen shall be in the form of the frustum of a cone having the following internal dimensions:

Dimensions	cm
Bottom diameter.	20
Top diameter.	10
Height.	30

b) Tamping Rod: The tamping rod shall be of steel or other suitable material, 16 mm in diameter, 0.6m long and rounded at one end.

Procedure:

The internal surface of the mould shall be thoroughly cleaned and freed from superfluous moisture and any set concrete before commencing the test. The mould shall be placed on a smooth, horizontal, rigid and non-absorbent surface, such as a carefully leveled metal plate, the mould being firmly held in place while it is being filled. The mould shall be filled in four layers, each approximately one-quarter of the height of the mould. Each layer shall be tamped with 25 strokes of the rounded end of the tamping rod. The strokes shall be distributed in a uniform manner over the cross-section of the mould and for the second and subsequent layers shall penetrate into the underlying layer. The bottom layer shall be tamped throughout its depth. After the top layer has been rodded, the concrete shall be struck off level with a trowel or the tamping the rod, so that the mould is exactly filled. Any mortar, which may have leaked out between the mould and the base plate, shall be cleaned away. The mould shall be removed from the concrete immediately by raising it slowly and carefully in a vertical direction. This allows the concrete to subside and the slump shall be measured immediately by determining the difference between the height of the mould and that of the highest point of the specimen being tested. The above operation shall be carried out at a place free from vibration or shock, and within a period of two minutes after sampling.

The slump measured shall be recorded in terms of millimeters of subsidence of the specimen during the test. Any slump specimen which collapses or shears off laterally gives incorrect result and if this occurs the test shall be repeated with another sample.