



Indian Standard IS 5513 : 1996 Specification for VICAT APPARATUS

Vicat's Apparatus is used to find out the consistency, initial setting time, and final setting time of the cement. In the normal consistency test, we have to find out the amount of water to be added to the cement to form a cement paste of normal consistency that is the percentage of water required to make workable cement paste, this is done by using Vicat Apparatus.

The main components of vicat apparatus are needles which are of two types, one for determining **initial setting time and second for determining final setting time**, **Plunger which is used for finding the normal consistency of cement**, movable rod carrying indicator capable of moving over a graduated scale and vicat mould in which cement paste is filled.

It is desirable that the Vicat Apparatus used for finding normal consistency, initial setting time and final setting time of cement should be **precise and gives accurate results**. The material used in construction of needles and plunger should be such that it should give **smooth surface** and should be **rust and weather proof**. Components should have **polished and smooth surface** to remove any sort of friction while moving in cement paste.

The standard IS 5513 stipulates the requirements for Material of construction for different parts of vicat apparatus, such as needles are of **hardened and tempered steel**, their fitting ends shall be of **brass which are rust proof and smooth**. **Plunger is of polished brass and vicat mould has rigid construction and is provided with non porous glass or stainless steel base plate**. The Standard also lays down **dimensions and specifies the Mass of different component parts of vicat apparatus with fine tolerances in order to meet required accuracy**. Therefore, in order to achieve required accuracy and to have confidence in results one should go for using ISI marked vicat apparatus as per IS 5513 : 1996.