



Setting Time of cement (IS: 4031 (Part 5) – 1988)

Generally Initial setting is the time elapsed between the moment water is added to the cement to the time at which paste starts losing its plasticity. Final setting time of cement is the time elapsed between the moment the water is added to the cement to the time at which paste has completely lost its plasticity and attained sufficient firmness to resist certain definite pressure.

30 min are given while handling these mixing operations, here fineness of cement and suitable constituents are maintained in such a way that concrete is remained in plastic condition for handling procedures.

Once the concrete is finally placed it should lose its plasticity, so that it is least vulnerable to damages from external agencies. This time should not be more than **10hrs** which is referred as **Final setting time of cement**.



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To modify the concrete properties i.e to shorten the time of setting or to delay the setting time of cement Admixtures are used and they are as follows:

ACCELERATORS : To shorten the time of setting or increase the rate of hardening or strength development Ex: calcium chloride, Uses: Repair works, precast production, cold weather.

RETARDERS: To delay the setting time of cement Ex: soluble zinc salts gypsum, sugar, carbohydrate derivatives, lignosulphates. Uses: Hot weather.