



Summary

CONCRETE ADMIXTURES – SPECIFICATION

IS 9103 : 1999

Admixtures are materials added to the concrete before or during its mixing for modifying one or more properties of concrete in the plastic or hardened state. **Superplasticizers**, both normal and retarding type, constitute a major group of admixtures used by site engineers now.

This standard covers the **chemical** and **air-entraining admixtures** including superplasticizers, solid or liquid or emulsion. The performance of concrete admixtures including superplasticizers depend upon both the admixtures and the cement and their compatibility, in addition to the concrete mix proportions and the environmental conditions in the field.

With the need of **rapid construction** and **mega projects**, Engineers look forward towards ways to improve the overall quality, increase service life and reduce the overall construction time. Further, execution of concreting operations in difficult conditions require improvement in quality and performance of concrete. A one stop solution to all these Modern Day Construction Challenges is, therefore, Concrete Admixtures.

Indian Standard **9103** provides answer to all these **Modern Day Construction Challenges**. The admixtures covered under this standard addresses the major issues like setting time, compressive strength, flexural strength, bleeding percent, workability, etc. The use of accelerators help reducing setting time, superplasticizers aid in optimizing concrete mix design and reducing concrete porosity. Air entraining agents help enhancing durability of the concrete.

It is difficult to quantitatively evaluate the behaviour of the concrete under various possible circumstances, therefore, performance of an admixture is evaluated by comparing the properties of concrete with the admixture under test with those of concrete without any admixture or with a reference admixture.