

Admixture

Admixture is defined as a material, other than cement, water and aggregates, that is used as an ingredient of concrete and is added to the batch immediately before or during mixing. admixture is used to modify the properties of ordinary concrete so as to make it more suitable for any situation.

Admixtures

- Plasticizers
- Superplasticizers
- Retarders and Retarding Plasticizers
- Accelerators and Accelerating Plasticizers
- Air-entraining Admixtures
- Pozzolanic or Mineral Admixtures
- Damp-proofing and Waterproofing Admixtures
- Gas forming Admixtures
- Air-detraining Admixtures

Construction Chemicals

- Polymer Bonding Agents
- Polymer Modified Mortar for Repair and Maintenance
- Mould Releasing Agents
- Installation Aids
- Floor Hardeners and Dust-proofers
- Non-shrink High Strength Grout
- Surface Retarders
- Bond-aid for Plastering
- Ready to use Plaster
- Guniting Aid

Construction Chemicals for Water-proofing

1. Integral Water-proofing Compounds
2. Membrane Forming Coatings
3. Polymer Modified Mineral Slurry Coatings
4. Protective and Decorative Coatings

5. Chemical DPC
6. Silicon Based Water-repellent Material
7. Waterproofing Adhesive for Tiles, Marble and Granite
8. Injection Grout for Cracks
9. Joint Sealants

Definition of Different Admixture

Plasticizers(Water Reducer)

The action of plasticizers is mainly to fluidify the mix and improve the workability of concrete, mortar or grout.

Superplasticizers (High Range Water Reducers)

Superplasticizers constitute a relatively new category and improved version of plasticizer.

The use of superplasticizer is practiced for production of flowing, self levelling, self compacting and for the production of high strength and high performance concrete.

Retarders

A retarder is an admixture that slows down the chemical process of hydration so that concrete remains plastic and workable for a longer time than concrete without the retarder.

Accelerators

Accelerating admixtures are added to concrete to increase the rate of early strength development in concrete to

- permit earlier removal of formwork;
- reduce the required period of curing;
- advance the time that a structure can be placed in service;
- partially compensate for the retarding effect of low temperature during cold weather concreting;
- in the emergency repair work.

Air Entraining Agent

Air entrained concrete is made by mixing a small quantity of air entraining agent or by using air entraining cement. These air entraining agents incorporate millions of non-coalescing air bubbles, which will act as flexible ball bearings and will modify the properties of plastic concrete regarding workability, segregation, bleeding and finishing quality of concrete.

Pozzolanic or Mineral Admixtures

These admixtures are used to-

- (a) Lower the heat of hydration and thermal shrinkage;
- (b) Increase the watertightness;
- (c) Reduce the alkali-aggregate reaction;
- (d) Improve resistance to attack by sulphate soils and sea water;
- (e) Improve extensibility;
- (f) Lower susceptibility to dissolution and leaching;
- (g) Improve workability;
- (h) Lower costs.

Damp-proofing and Waterproofing Admixture

In practice one of the most important requirements of concrete is that it must be impervious to water.

Gas Forming Agents

A gas forming agent is a chemical admixture such as aluminium powder. It reacts with the hydroxide produced in the hydration of cement to produce minute bubbles of hydrogen gas throughout the matrix.