

Concrete Admixture Retarder

The function of Concrete Admixture Retarder is to delay or extend the setting time of cement paste in concrete. These are helpful for concrete that has to be transported to long distance in transit mixers and helpful in placing the concrete at high temperatures, specially used as grouting admixture and water reducers results in increase of strength and durability.

Mode of action

Concrete Admixture Retarder is thought that retarding admixtures are absorbed on to the C3A phase in cement forming a film around the cement grains and presenting or reducing the reaction with water. After a while thus film breaks down and normal hydration proceeds. This a simple mixture and there is a reason to believe that retards also interact with C3S since retardation can be extended to a period of many days.

Why This product are used?

To delay in the setting time of concrete without adversely effecting the subsequent strength development.

Advantage of Retarding Concrete Admixture

- a) The hydroxyl carboxylic acid type admixture normally produces concrete having a slightly lower air content than that of a control mix.
- b) Materials of this class (lignosulphonate containing sugar and derivatives of hydroxyl carboxylic acid) in some cases have a much higher dispersing effect and hence water reducing capacity.
- c) Durability increases.

Detrimental effect

- a) When lignosulphonate based material is used, then the air content might be 0.2 to 0.3% higher unless materials of the tributyl phosphate type are added.
- b) As the water content increases, so there is a tendency for drying shrinkage.

Applications of Retarding Concrete Admixture

Concrete Admixture Retarder are used:

- a) Where long transportation of ready mixed concrete is required then premature setting can be usefully avoided by this type admixture.
- b) When concrete is being placed or transported under conditions of high ambient temperature.
- c) In case of large concrete pours
- d) Concrete construction involving sliding formwork

