SIGMACHEME™

A Reliable Name In Construction Chemical Since 1996

Sigma Polychem Pvt. Ltd.

PLAST- S 304

Super plasticising admixture

Uses

- To produce pump able concrete.
- To produce high strength, high grade concrete M30 & above by substantial reduction in water resulting in low permeability and high early strength.
- To produce high workability concrete requiring little or no vibration during placing.

Advantages

- **Improved workability -** Easier, quicker placing and compaction.
- **Increased strength -** Provides high early strength for pre cast concrete with the advantage of higher water reduction ability.
- **Improved quality -** Denser, close textured concrete with reduced porosity and hence more durable.
- **Higher cohesion -** Risk of segregation and bleeding minimized; thus aids pumping of concrete.
- **Chloride free -** Safe in pre stressed concrete and with sulphate resisting cements and marine aggregates.

Description

PLAST- S 304 is based on Sulphonated Napthalene Polymers and supplied as a brown liquid instantly dispersible in water.
PLAST 304 has been specially formulated to give high water reductions upto 25% without loss of workability or to produce high quality concrete of reduced permeability.

Properties

Specific gravity	1.220 to 1.225 at 30°C
Chloride content	Nil to IS:456
Air entrainment	Approx. 1% additional air is entrained

Compatibility: Can be used with all types of cements except high alumina cement. **PLAST- S 304** is compatible with other types of Sigmacheme admixtures when added separately to the mix. Site trials should be carried out to optimize dosages.

Workability: Can be used to produce flowing concrete that requires no compaction. Some minor adjustments may be required to produce high workable mix without segregation.

Cohesion: Cohesion is improved due to dispersion of cement particles thus minimizing segregation and improving surface finish.

Compressive strength: Early strength is increased up to 20% if water reduction is taken advantage of Generally, there is improvement in strength up to 20% depending upon W/C ratio and other mix parameters.

Durability: Reduction in W/C ratio enables increase in density and impermeability thus enhancing durability of concrete.

Application instructions

Dosage

The optimum dosage is best determined by site trials with the concrete mix which enables the effects of workability, strength gain or cement reduction to be measured. Site trials with **PLAST- S 304** should always be compared with mix containing no admixture. As a guide, the rate of addition is generally in the range of 0.5 –2.0 litres / 100 kg cement.