

High range water reducing, superplasticising and slump retaining admixture

Uses

- To produce pumpable concrete
- To produce high strength, high grade concrete 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 precast concrete if water reduction is taken advantage of.
- **Improved quality** - Denser, close textured concrete with reduced porosity and hence more durable.
- **Higher cohesion** - Risk of segregation and bleeding minimised; thus aids pumping of concrete
- **Chloride free** - Safe in prestressed concrete and with sulphate resisting cements and marine aggregates.

Standards

Conplast SP440 complies with IS:9103:1999 and BS:5075 Part 3. Conplast SP440 conforms to ASTM-C-494 Type 'D' and Type 'G' depending on the dosages used.

Description

Conplast SP440 is a blend of organic polymers and is supplied as a brown liquid instantly dispersible in water.

Conplast SP440 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

pH at 27°C	7.0 - 8.0
Chloride content	Nil. as per IS:456 and BS:5075
Air entrainment	Approx. 1% additional air is entrained

Compatibility : Can be used with all types of cements except high alumina cement. Conplast SP440 is compatible with other types of Fosroc admixtures when added separately to the mix. Site trials should be carried out to optimise 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 minimising segregation and improving surface finish.

Compressive strength : Early strength is increased upto 40 to 50% if water reduction is taken advantage of. Generally, there is improvement in strength upto 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

Trials need to be carried out at site to optimise the dosage of the admixture for the particular mix design and materials. However as a guide the rate of addition is generally in the range of 0.5% to 1.2% by weight of cement for normal grades of concrete. A dosage of upto 1.5% may be used depending on the mix design and to achieve specific slump requirements.

Use at other dosages

Dosages outside the typical ranges quoted above can be used to meet particular requirements. Contact Fosroc for advice.

Over dosage

An overdose of above the recommended level of admixture may result in high workability, slight increase in air entrainment and retardation of setting time. The ultimate strength of the concrete will not be adversely affected and will generally be higher than for normal concrete if properly placed and cured.

Dispensing

The measured quantity of Conplast SP440 should be added along with the gauging water. For best results, add Conplast SP440 in the last phase after prewetting the mix with 80% of the total water required.

Mix design

Fosroc has an advisory service on Concrete Mix Design and can be contacted if assistance is required.

Conplast® SP440

Estimating

Packing

Conplast SP440 is supplied in 200 litre drums.

Storage

Conplast SP440 has a minimum shelf life of 12 months when stored under normal temperatures. It should be protected from extreme temperatures and preferably stored in shade.

Precautions

Health & Safety

Conplast SP440 is non-toxic. Any splashes on the skin should be washed immediately with water. Splashes to the eyes should be washed immediately with water and medical advice should be sought.

Fire

Conplast SP440 is non flammable.

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Important note :

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