



Conplast® SP500

High performance water reducing and superplasticising admixture for microsilica concrete

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 SP500 complies with IS:9103:1999 and BS:5075 Part 3 .Conplast SP500 conforms to ASTM-C-494 Type 'G'.

Description

Conplast SP500 is based on Sulphonated Napthalene Polymers and is supplied as a brown liquid instantly dispersible in water.

Conplast SP500 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	1.250 - 1.270 at 27°C
pH at 27°C	7.0 - 8.0
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. Conplast SP500 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 determine the exact dosage of the admixture for the particular mix design and materials. However for normal grades of concrete a dosage from 0.5% - 1.0% by weight of cement is recommended, the dosage may be increased to 1.5% to achieve specific slump requirements. For microsilica concrete where a high amount of water reduction and slump retention are required, trials need to be carried out to arrive at the correct dosage, as the dosage may increase upto 2.0% or even upto 2.5% by weight of cement depending on mix design and performance required.

Use at other dosages

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

Overdosage

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.

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Dispensing

The measured quantity of Conplast SP500 should be added along with the gauging water. For best results, add Conplast SP500 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.

Estimating

Packing

Conplast SP500 is supplied in 200 litre drums.

Storage

Conplast SP500 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 SP500 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 SP500 is non flammable.

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Important note :

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