

CFLOW™ 191

Mid-Range PCE based Retarding Superplasticizer for Ready Mix Concrete

DESCRIPTION

CFLOW™ 191 is a PCE (Poly Carboxylic Ether) based mid-range superplasticizer (Retarding Type) formulated to offer water reduction up to 30% in concrete mixes while maintaining a constant workability. The product is ideal for use in mixes with higher water demand and slump life.

CFLOW™ 191 confirms to performance requirements of BIS 9103, Type 'A', 'F' & 'G' of ASTM C 494, and EN934 part2.

TYPICAL APPLICATIONS

- For use in ready-mix, precast concrete & concretes with long hauls.
- For semi-flowing concrete and congested / complex reinforced sections.
- Combinations of OPC/double/triple/ternary blend mixes with SCMs such as GGBS/ Fly ash/ Silica fume/ metakaolin & other performance enhancers.
- For use in river sand/ manufactured sand/ CRF combinations.

FEATURES AND BENEFITS

- Reduction in water content
- Increased workability and slump retention
- Imparts cohesion and eases pumping of concrete
- Improved durability by reduced permeability
- Increased compressive strength
- Reduction in cement content
- Congested/complex reinforced sections

PERFORMANCE TEST DATA

Appearance	Brown free flowing liquid
Relative density	1.09 ± 0.02 @25°C
Chloride ion content	<0.2%
pH	≥6

MECHANISM OF ACTION

Given its higher water reducing & slump retaining abilities than the traditional SNF superplasticizers, the product is ideal for use in mixes with higher water demand & slump life. The intrinsic behavior of PCE admixtures offers no delayed retardation even with prolonged slump life when compared to SNF products.

CFLOW™ 191 works as a dispersant by preventing the flocculation of fine particles of cement. It is primarily used for concretes where highest degree of durability & performance is required. The polymer's unique chemical structure comprises of long backbone & long lateral chains offering strong electrostatic & steric repulsive forces for dispersion of cement particles. With the progress of hydration, the electrostatic charge diminishes & flocculation of hydrating product occurs

Noticeable delayed retardation occurs when sulphate resisting cements/supplementary cementitious materials are used & ambient temperatures are low.

DISPENSING

CFLOW™ 191 is supplied in brown free flowing liquid form which is instantly dispersible in water. The correct quantity of CFLOW™ 191 should be measured by means of a recommended dispenser & should preferably be dispensed after pre-wetting of aggregates. It should be added in supplied form mixed with batching water.



DOSAGE AND DIRECTIONS FOR USE

Optimum dosage rates of CFLOW™ 191 vary between 0.5% - 2.0 % by weight of cementitious materials.

Exact dosage rate depends on:

- Quality & quantity of binders & W/C ratio
- Gradation of fine aggregates
- Ambient temperature
- Performance requirements.

RE-DOSING OF ADMIXTURE

Depending on the slump required & time elapsed for concrete premixed with CFLOW™ 191, an additional dose of 0.1 % to 0.4% by W/C may be added to regain workability loss and compensate for water loss in mixes. This may not adversely affect the ultimate strength of concrete and may also achieve higher strengths than normal concrete.

The mix shall be thoroughly mixed/ agitated at a speed of 12 rpm for at least 5 minutes before unloading.

EFFECTS OF OVERDOSING

Severe overdosing of CFLOW™ 191 (Say above 0.4%) can lead to;

- High workability mixes with segregation & bleeding,
- Prolonged duration of initial and final set times,
- Increased air entainment and plastic shrinkage cracks.

Good curing practice should be maintained, especially in situations where an overdose has occurred. Water spray, wet hessian or a CKURE curing compound should be used.

COMPATIBILITY

CFLOW™ 191 is compatible to be used in combination with Ligno sulphonate admixtures, air entrainers, accelerators, retarders, corrosion inhibitors & shrinkage reducing admixtures & with most cement & can be used in combinations of OPC, OPC/PFA or OPC/GGBS or Microsilica.

Please consult technical department of CBS Chemicals for recommendation before adding other admixtures.

PACKAGING

CFLOW™ 191 is supplied in 210 Litre HDPE drums; alternatively 1000 Litre IBC's & bulk deliveries can be arranged.

STORAGE & SHELF LIFE

CFLOW™ 191 should be stored in a shaded cool & dry place. Shelf life of CFLOW™ 191 is 12months from the date of manufactured if kept in unopened, undamaged, original sealed packaging & kept within the range of 10°C to 50°C. If the product is frozen, thaw at +5°C or above & remix with mild agitation.

Failure to comply with recommended storage may deteriorate the product or packing.

HEALTH & SAFETY

CFLOW™ 191 is water based, non-flammable & non-hazardous. However it should not be swallowed or allowed to come into contact with skin & eyes. Suitable protective gloves & goggles should be worn. Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water & seek medical advice. If swallowed, seek medical attention immediately - do not induce vomiting. For further information refer to the material safety data sheet

DISCLAIMER

The information given is based on data & knowledge considered to be true & accurate & is offered for the user's consideration, investigation & verification. Since the conditions of use are beyond our control we do not warrant the results to be obtained. Please read all statements, recommendations or suggestions in conjunction with our conditions of sale including those limiting warranties & remedies which apply to all goods supplied by us. No statement, recommendation or suggestion is intended for any use which would violate or infringe statutory obligations or any rights belonging to a third party.

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