

TECHNICAL DATA GUIDE- CONCRETE ADMIXTURE

CFLOW™ 260 (M5)

High Range Retarding Superplasticizer for Self-Compacting Concrete

DESCRIPTION

CFLOW™ 260 (M5) is a Poly Carboxylic Ether based high range retarding type super plasticizer specially formulated for self-compacting concrete compliant to EFNARC guidelines

By the right proportioning of ingredients of concrete CFLOW™ 260 (M5) offers a high stable homogenous mix, retain water in mixes without bleeding and segregation right from the time of initial mixing. Besides offering water reduction up to 35% the product also product is also designed to offer extended workability retention

CFLOW™ 260 (M5) confirms to performance requirements of BIS 9103, Type 'A', 'F' & 'G' of ASTM C 494 & EN934 part2.

TYPICAL APPLICATIONS

- For use in self-compacting concrete without vibration
- For congested / complex reinforced sections
- For use in light weight concrete, pervious concrete, & under water concrete.
- For use in low binder mixes and gap graded aggregates
- Combinations of OPC/double/triple/ternary blend mixes with GGBS/ fly ash/ silica fume/ metakaolin & other performance enhancers
- For use in river sand/ manufactured sand/ CRF combinations

FEATURES AND BENEFITS

- Aids cohesion, pumping and increases robustness of mixes
- Enhances concrete rheology & reduces thixotropy of mixes
- Wide dosage flexibility and tolerance to overdosing
- Reduced Shrinkage cracks in hot climates
- Reduced water permeability, improved durability, higher ultimate strength due to low w/c ratio & increased compressive strength
- Works effectively in high ambient temperature & arid climate conditions

PERFORMANCE TEST DATA

Appearance	Brown free flowing liquid
Relative density	1.11 ± 0.02 @25°C
Chloride ion content	<0.2%
pH	≥6

MECHANISM OF ACTION

The unique blend of viscosity modifying polymers increases the mix viscosity forms a cross-matrix which help in holding the aggregates in suspension and offers reduced levels of stickiness of the mix. It exhibits shear-thinning behaviour whereby apparent viscosity decreases with the increase in shear rate.

CFLOW™ 260 (M5) works as a dispersant by preventing the flocculation of fine particles of cement. These dispersants are basically surface-active chemicals consisting of molecules having hydrophilic group attached to a hydrophobic organic chain.

The polar group in the chain gets adsorbed on the surface of the cement grains. The hydrophilic tip can reduce the surface tension of water and the adsorbed polymer keeps the cement particles apart by electrostatic repulsion. The lateral side chains linked to the polymer backbone generates steric hindrance enhancing slump retention.





DOSAGE & DIRECTIONS FOR USE

Optimum dosage rates of CFLOW™ 260 (M5) vary between 0.2% - 1.2 % by weight of cementitious materials. Exact dosage rate depends on

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

The correct quantity of CFLOW™ 260 (M5) should be measured by means of a recommended dispenser and should preferably be dispensed after pre-wetting of aggregates

EFFECTS OF OVERDOSING

Marginal overdosing of CFLOW™ 260 (M5) (Say up to 0.4% W/C) may not adversely affect the ultimate strength of concrete and may also achieve higher strengths than normal concrete. Severe overdosing of CFLOW™ 260 (M5) (>0.4%) can lead to high workability mixes with segregation & bleeding, prolonged duration of initial and final set, increased air entrainment and plastic shrinkage cracks.

Noticeable delayed retardation occurs when sulphate resisting cements/supplementary cementitious materials are used and ambient temperatures are low. Please consult technical department of CBS Chemicals for recommendation before placing concrete overdosed with admixtures.

COMPATIBILITY

CFLOW™ 260 (M5) is compatible to be used in combination with Ligno sulphonate admixtures, air entrainers, accelerators, retarders, corrosion inhibitors and shrinkage reducing admixtures but should be dispensed separately.

PACKAGING

CFLOW™ 260 (M5) is supplied in 210 Litre HDPE drums; alternatively 1000 Litre IBC's and bulk deliveries can be arranged.

STORAGE & SHELF LIFE

CFLOW™ 260 (M5) should be stored in a shaded cool and dry place. Shelf life of CFLOW™ 260 (M5) is 12 months from the date of manufacture if kept in unopened, undamaged, original sealed packaging and kept within the range of 10°C to 50°C. If the product is frozen, thaw at +5°C or above and remix with mild agitation.

Failure to comply with recommended storage may deteriorate the product or packaging

HEALTH & SAFETY

CFLOW™ 260 (M5) is water based, non-flammable and non-hazardous. However it should not be swallowed or allowed to come into contact with skin and eyes. Suitable protective gloves and 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 and 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 and knowledge considered to be true and accurate and is offered for the user's consideration, investigation and 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 and 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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