

## SHELLCON 200

### NORMAL PERFORMANCE PCE BASED HYPERPLASTICIZER FOR WIDE RANGE OF LOW GRADE CONCRETE

#### PRODUCT DESCRIPTION

**SHELLCON200 (PC-2146)** is a hyper plasticizer based on third-generation polycarboxylate ether polymers, developed using nanotechnology. The product has been primarily developed for producing economical high performance, high-grade ready mix concrete. **SHELLCON200** is free of chloride ion and low alkali and is compatible with all types of cements. It works on a unique mechanism of action that differentiates it from traditional super plasticizers and greatly improves the effectiveness of cement dispersion. **SHELLCON200** has a different chemical structure and is specially engineered for ready mix concrete. The particular configuration of second generation PCE polymer, allow its delayed absorption on to the cement particles and disperse them efficiently. Thus, a high quality concrete mix with accelerated strength development and extended workability without delayed setting characteristics can be obtained with **SHELLCON200**.

#### STANDARDS

**SHELLCON200** conforms to the specifications as per ASTM C494 Type G and IS 9103:1999.

#### PERFORMANCE TEST DATA:

PROPERTIES	SHELLCON 200
Aspect	Dark Brown Liquid
Specific Gravity at 27°C	1.07 ± 0.02
pH at 27°C	7 - 8
Chloride ion Content	<0.001
Solid Content,%	20 ± 1

#### ADVANTAGES

##### Ready Mix Producers:

- Capability of delivering high quality concrete at any time to the job site in place
- Production of concrete with low w/c ratio that meets international guidelines for consistency classes (EN 206-1) without loss of workability
- Single product for many application needs

##### Contractors/Applicators:

- Easier placing and faster strength development
- Improved concrete surface
- Guarantee to place the same concrete as specified and ordered from ready mix plant

##### Engineers/Developers:

- Assurance that concrete meets original specifications
- High quality concrete with improved durability

## AREA OF APPLICATION

- To produce economical, high grade concrete (>M45) with minimum micro silica or meta-kaolin.
- **SHELLCON200** is used for the production of high quality ready mix, workability, Precast and Fast track concrete.
- **SHELLCON200** may be used in combination with a viscosity modifying admixture (VMA) for smart dynamic concrete for producing Rheodynamic Concrete, capable of self compaction, even in the presence of dense reinforcement

## APPLICATION METHODOLOGY

**SHELLCON200** is a ready to use liquid, which is dispensed into the concrete together with the mixing water. The plasticizing effect and water reduction are higher if the admixture is added to the damp concrete after 50 to 70% of water has been added. Addition of **SHELLCON200** to dry aggregate or cement is prohibited. Automatic dispensers are available. Thorough mixing is essential and a minimum mixing cycle, after the addition of **SHELLCON200**, of 60 seconds for forced action is recommended.

## DOSAGE

The optimum dosage of **SHELLCON200** to meet specific requirement should always be determined by conducting laboratory and batch trials. However, normal recommended dosage ranges between 500ml to 2000ml per 100 kg of cementitious material. Due to variations in concrete materials, job site conditions, and/or applications, dosage outside the recommended range may be required.

A severe over dosage of **SHELLCON200** can result in the following

- Extension of initial and final set
- Bleed/segregation of mix & quick loss of workability
- Increased plastic shrinkage

A slight overdosing may not adversely affect the ultimate strength of the concrete and can achieve higher strengths than normal concrete, provide it is properly compacted and cured. Due allowance should be made for the effect of fluid concrete pressure on formwork, and stripping times should be monitored.

## PACKAGING

**SHELLCON200** is available in 220 kg PVC Barrels.

## STORAGE AND SHELF LIFE

**SHELLCON200** has a minimum shelf life of 12 months provided the temperature is kept within range 10 °C to 30 °C.

## HEALTH AND SAFETY

**SHELLCON200** should not be swallowed or allowed to come in contact with skin or and eyes. Suitable protective gloves and goggles should be worn. Splashes on 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. **SHELLCON200** is water based and non-flammable.

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- ▶ PU Bituminous Waterproofing Liquid Membrane
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