

PCA®-IV

Polycarboxylate Superplasticizer with Shrinkage-reducing and Anti-cracking

Brief Introduction

PCA®-IV is a new generation superplasticizer with a base of modified Polycarboxylic ether. It offers maximal water reduction, increased early strength, and enhanced finishing characteristics. PCA®-IV contains no formaldehyde, calcium chloride or other purposely added chlorides and will not initiate or encourage the corrosion of the steel present in the concrete. It is formulated to comply with the subsequent specifications for concrete admixture: ASTM494, Type F; BS EN934:2/3.2.3.

Product Features

- ➤ **High-range water reduction:** It can be dosed in small amounts to achieve water reduction from 15 to 30%, and can achieve water reduction of up to 35% at high dosage rates.
- ➤ **High plasticity:** The superplasticizing action of PCA®-IV offers high-slump, flowing concrete with excellent workability which may be placed with minimal vibration, even at a water cement ratio as low as 0.25.
- > **High-compressive strengths:** Increases concrete compressive strengths by 50-120% at 3 days, 80% at 28 days and 30-50% at 90 days.
- ➤ **High durability:** Effectively improves concrete frost and carbonation resistance. Lower concrete drying shrinkage by 20% or more in comparison to naphthalene-based admixture.
- ➤ **High compatibility:** Compatible with a significantly wider range of cement and mineral admixtures types. Particularly suitable for the preparation of high-durability and self-compacting concrete with fly ash and ground slag.
- > Good concrete appearance: Clearly improves concrete surface appearance.

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Method of Use and Matters Needing Attention

- ➤ **Dosage:** The addition rate of the PCA®-IV may vary with slump life requirement, the kind of cementitious materials and ambient weather conditions. The standard dosage ranges from 0.5% to 8.0% by total weight of cementitious materials.
- Mixing: Don' t mix with naphthalene-based admixture. If other admixtures, such as retarding and corrosion-inhibiting admixture, are simultaneously needed for any particular projects, prior compatibility tests should be undertaken.

Packaging and Storage

- ➤ PCA®-IV is normally packaged 200L or 1000L per barrel drum. Other types of packaging are available as requested.
- ➤ PCA®-IV should be stored in a cool, dry environment, and if in cold conditions, the product should be properly insulated and defrosted with correct stirring to reactivate its performance. The maximum product life is within one year if maintained in the proper conditions.

Security Matters

PCA®-IV contains no hazardous substances that require labeling. However, using standard handling procedures with the product is recommended. Wear gloves and eye protection and wash the skin with soap and water at the end of shifts or breaks if contact with the product occurs.

Technology and Service Characteristics

To guarantee the desired concrete performance, we provide a technical consulting service dealing with the design of concrete mix proportion and experiments on the optimization of mix proportion. Our technical staff offers an on-site directing service for free.

NOTE: Field service, where provided, does not constitute supervisory responsibility. Suggestions made by SOBUTE whether verbal or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, but not SOBUTE, are responsible for carrying out procedures appropriate to the specific application.



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