

Description:

ANTI-CLAY is a high-performance polycarboxylate ether (PCE) base polymer engineered to maintain superior dispersion and workability in concrete formulations containing clay-contaminated aggregates. Its functional molecular design reduces adsorption onto montmorillonite and other clay minerals, minimizing performance loss in high surface area aggregates. The polymer also provides high water reduction, ensuring low water/cement ratio concrete while maintaining consistent rheology and slump.

Technical Properties:

Chemical Content	Polycarboxylate polymer
Appearance	Liquid
Color	Colorless to pale yellow
Solid Content	50 ± 1 %
pH	4 - 6
Density (20 °C)	1.09 – 1.11 g/cm ³
Viscosity (25°C)	500 ± 50 mPa·s
Chloride Content (%)	< 0.1
Alkaline Content (%)	< 5
Water Solubility	Completely soluble
Freezing	-10 °C

Advantage:

- Provides up to 35% water reduction, enabling the production of low water/cement ratio concrete with improved strength and durability.
- Maintains slump and workability even in concrete containing high clay content aggregates, ensuring consistent placement and pumpability.
- Minimizes adsorption of the polymer onto montmorillonite and other clays, preserving full water-reducing efficiency.
- Reduces bleeding, segregation, and slump loss, producing dense, smooth, and high-quality concrete surfaces.
- Supports low water/cement ratio formulations, allowing for high-performance and self-compacting concrete.
- Enhances surface finish and concrete density, contributing to improved durability and resistance to environmental stress.
- Fully compatible with standard PCE polymers and other functional admixtures, offering flexibility in admixture formulations.
- Improves pumpability and workability, even under congested reinforcement conditions, reducing labor and energy requirements.
- Ensures stable performance in a wide range of temperatures and cement types, making it suitable for both hot and cold weather concretes.
- It has a high alkaline tolerance.
- It works in harmony with all cement types.

Area of Use:

- High-range water reducing admixtures.
- Superplasticizers.
- Self-compacting concrete (SCC) admixtures.
- High-performance concrete admixtures.
- Precast concrete admixtures.
- Pump concrete admixtures.
- Low water/cement ratio concrete systems.

Method of Application:

ANTI-CLAY is intended to be used as a primary dispersing component in the production of concrete admixtures.

- The product should be incorporated into the admixture formulation under continuous mechanical stirring.
- It can be blended with water, slump retention polymers, set regulators, defoamers, or other functional additives depending on the targeted performance.
- Dilution with deionized or clean industrial water is recommended when necessary.
- Mixing time and sequence should be optimized according to production equipment and formulation design.
- Laboratory trials must be conducted to determine the optimum dosage and combination ratio before industrial production.

Precautions in Application:

- Do not exceed the recommended dosage without prior laboratory verification.
- Always perform trial mixes before full-scale production.
- Do not add directly to dry cement; ensure addition into mixing water or fresh concrete.
- Adjust dosage in case of changes in cement type, aggregate grading, mineral additions, or ambient temperature.
- Protect the product from frost and direct sunlight.
- Ensure proper mixing time to achieve homogeneous distribution.
- Compatibility with other admixtures must be tested before combined use.
- Use appropriate personal protective equipment during handling.
- This product must not be blended with naphthalene sulfonate-based polymers, as incompatibility may lead to performance instability, phase separation, or loss of water-reducing efficiency.

Compatibility:

ANTI-CLAY shows broad compatibility with most commonly used admixture components and cement types. However, compatibility testing is strongly recommended prior to large-scale production.

Compatible with:

- Portland cement (CEM I).
- Blended cements (CEM II, CEM III, etc.).
- Fly ash, slag, silica fume.
- Lignosulfonate based admixtures.
- Retarders and accelerators (dosage optimization required).
- Defoamers and viscosity modifying agents.

Precautions in Application:

- Avoid contamination with foreign materials.
- Protect from freezing. If frozen, thaw at room temperature and mix thoroughly before use.
- Avoid prolonged exposure to high temperatures.
- Use corrosion-resistant tanks and transfer lines.
- Do not mix with strong oxidizing agents.
- Ensure proper mixing to prevent phase separation during dilution.
- Improper formulation or incorrect dosage may negatively affect setting time and performance of final concrete admixture.



Cleaning: ANTI-CLAY admixture can be washed with fresh cold water and should not be allowed enter sewers or open bodies of water.

Packing: 1000 kg container Bulk

Storage and Shelf Life: Must be stored at temperatures between +5°C and +35°C. Under proper storing conditions, the product's shelf life is 12 months from production date if kept in original packaging unopened and undamaged. Packaged products must be shaken before use.

Security Information: Use protective clothes, gloves, glasses and mask compatible with Health and Safety regulations during the application. It should not contact skin and eyes. In case it contacts to skin and eyes, rinse it with water and if swallowed ask for medical help. Food and beverage should not be allowed in the application area. It should be stored at the reach out of the children. The Material Safety Data Sheet (MSDS) should be read for detailed information.