



UNDERWATER CONCRETE ADMIXTURE

Description: UNDERWATER is a high-performance anti-washout and viscosity-modifying admixture specifically developed for concrete placed under water. It significantly reduces cement and fine particle washout, enhances concrete cohesion, and ensures stable placement without segregation even in submerged conditions.

Technical Properties:

Chemical Content	Modified polymer
Appearance	Liquid
Color	Brown
pH	6±1
Density (20 °C)	1.03 ± 0,02 g/cm ³
Chloride Content (%)	< 0.1
Alkaline Content (%)	< 5
Freezing	-5 °C

Advantage:

- Minimizes cement and fines washout.
- Improves concrete cohesion.
- Reduces segregation and bleeding.
- Ensures stable underwater placement.
- Maintains workability and flow.
- Helps prevent strength loss.

Area of Use:

- Underwater concrete placement.
- Marine and harbor structures.
- Bridge piers and foundations.
- Pile foundations.
- Dams and hydraulic structures.
- Seawater exposure environments.

Dosage: The recommended dosage for UNDERWATER is % 0.6-1.5 of the cement weight. The optimum dosage should be determined by laboratory trials according to specific mix design and site conditions. When required, the Polystar Co. Technical Support Unit should be consulted.

Method of Application: UNDERWATER should be added to the mixing water or dose directly into fresh concrete together with superplasticizer.

Standards: EN 934-2 Table 13 - ASTM C 494 Type S

Packing: 30 kg plastic drum - 250 kg drum - 1000 kg container

Compatibility: UNDERWATER admixture is compatible with other POLYSTAR admixtures used in the same concrete mix.

Precautions in Application:

- Underwater Concrete Admixture must not be used without prior laboratory trials under actual mix design conditions.
- Overdosing may cause excessive viscosity increase, leading to reduced workability and pumping difficulties.
- Insufficient dosage may result in inadequate anti-washout performance.
- This product should always be used in combination with a compatible superplasticizer (preferably PCE-based) to maintain required flowability.
- The water/cement ratio must be carefully controlled. Excess free water may reduce anti-washout efficiency.
- Proper placement techniques (such as tremie method) must be followed during underwater casting to prevent segregation and contamination.
- The concrete should not be dropped freely through water from excessive heights.
- Temperature conditions below +5°C or above +35°C may affect product performance.
- Do not mix with other admixtures unless compatibility has been verified.



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

Storage and Shelf Life: Must be stored at temperatures between +5°C and +45°C. Under proper storing conditions, the product's shelf life is 24 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 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 out of the reach of children. The Material Safety Data Sheet (MSDS) should be read for detailed information.

