

PRODUCT DATA SHEET

ART-CS

Retarder

Description

ART-CS is a retarder for concrete modified with starch, independently developed by ARIT and protected by intellectual property rights. This product significantly extends the setting time of concrete, effectively reduces slump loss, and improves the workability and pumpability of concrete.

Main benefits/Characteristics

- **Good Retarding Effect:** Extends the setting time of concrete by 2 to 48 hours.
- **Good Slump Retention:** Excellent slump retention performance over 2 to 4 hours.
- **Good Workability:** Significantly improves the workability of concrete.
- **Reduced Heat of Hydration:** Lowers the temperature rise in mass concrete, delays the exothermic peak, and reduces shrinkage.
- **Environmental Friendliness:** Non-corrosive to steel, non-toxic, non-flammable, non-explosive, and pollution-free.

Applications

- Ultra-Retarded Concrete
- Mass Concrete
- Concrete for Long-Distance Transport
- Concrete for Summer Construction

Physical and chemical indicators

Items	Performance
Appearance	Reddish-brown transparent liquid
Solid content/%	65.0 ± 3.5
Alkali content (as Na ₂ O)	$\leq 1.0\%$
Density/g/cm ³	1.5 ± 0.03
Chloride content	$\leq 0.1\%$

Application Case

● Underwater Pile Cap

For the Yangtze River bridge on a major expressway, a C35 underwater deep-seated pile cap—requiring a 48-hour setting time—was successfully placed using ARIT-CS retarder, fully meeting the prescribed construction procedure.

Usage Instructions

- Recommended dosage: 0.50 % - 5.00 % of the total cementitious materials; the exact rate must be predetermined through trial tests according to raw materials, job-site conditions, construction codes and technical requirements.
- Any change in materials or environmental conditions may shift the required dosage within a certain range—re-testing is mandatory to re-establish the optimum rate.
- Verify the retarder's expiry date before use and ensure the product shows no phase separation.
- When a retarder is used, continuously monitor both initial and final setting times so that the construction schedule can be properly managed.

Complies with the Following Standards

GB/T 8076-2008

ASTM C494 TYPE B

EN934-2

Packaging

IBC Tank or Flexitank for customer demand

Storage

- It should be stored in a cool and dry place, avoiding direct sunlight, and kept in a dedicated warehouse or a fixed location.
- The effective storage period is 1 year. It can still be used after being tested and verified to be qualified if it exceeds the time limit.

Precautions

- When changing the type of cement or using newly delivered cement, a compatibility test should be conducted.
- Do not use in combination with naphthalene-based admixtures. When using in combination with other admixtures, compatibility tests should be performed.
- Strictly follow the construction specifications during application.
- The product information is only used to describe the product's characteristics and functions, and it is not a guarantee. Users are also required to carefully test the product's functions and its suitability. The functions and suitability of the product must be verified through testing conducted by qualified professionals.

Legal Notes

- Retaining or disclosing product samples without the company's explicit permission is strictly prohibited.
- In addition to the product quality itself, the actual performance also depends on other uncontrollable factors. If there are uncontrollable factors, company cannot guarantee the performance of the product.
- Users are requested to strictly follow the technical guidance and product instructions for use. The company shall not be liable for any consequences resulting from unauthorized changes to the product usage method without the company's authorization.