ARIT奥莱特

PRODUCT DATA SHEET

ART-ZQA

Hardening Accelerating Admixture For Sprayed Concrete

Description

ART-ZQA is a hardening accelerating admixture for sprayed concrete which has the advantages of increase viscosity, good early strength, enhance strength, water retention. It is non-toxic, non-flammable, no corrosion of steel and harmless to human health. It is a high-performance hardening accelerating admixture for use in the wet-mix spraying process. It has good early strength and long-term strength retention rate. It can effectively improve work efficiency and reduce engineering costs, especially suitable for early high-strength shotcrete. Compared with the main hardening accelerating admixture products on the market, it has obvious advantages in technical performance index and cost performance.

Main benefits/Characteristics

- **High Early Strength**: When used in combination with our company's alkali-free liquid accelerator, the 8-hour strength of sprayed concrete can reach above 10 MPa, the 1-day compressive strength exceeds 15 MPa, and the 28-day compressive strength ratio can reach over 90%.
- **Low Rebound Rate**: The overall rebound rate of sprayed concrete is ≤12%.
- **Micro-Compensating Shrinkage Function**: Effectively prevents cracking after sprayed concrete forming.
- **Good Durability**: Improves the durability indicators of sprayed concrete, such as water resistance and freeze-thaw resistance.
- **Environmental Friendliness**: Low dust, no irritating odor, the product does not rust

steel reinforcement, does not pollute the environment, and the usage process is non-toxic and harmless.

Application Case

- Underground engineering

Mine roadways, traffic tunnels, hydraulic tunnels, underground railways and all kinds of underground tunnels(underground power station, warehouse, etc.) of the supporting lining of the shotcrete.

- Rock engineering

Support in wall slopes, excavations, embankments, reservoir engineering , water channels, etc.

- Repair and reinforcement works

Bridges, seawalls, repair dams, docks, cooling towers, chimneys and the reinforcement of buildings, and the chemical corrosion of oilfields, the building structure repair such as fires, earthquakes, explosion shock overload or poor construction, etc.

- Protection engineering

All kinds of structure of the fire and corrosion protection, as well as waterproof and plugging engineering.

- Fire resistant engineering

The construction and repair of the chimneys and various thermal furnace pits.

Physical and chemical indicators

Items	Performance
Appearance	Transparent liquid
Solid Content /%	13±3
pH	6.0±1
Chloride content	≤0.1%

Application Case

- Railway tunnel construction

In a tunnel of the Sichuan-Tibet Railway, after using our company's ART-ZQA for sprayed concrete, the early strength of C30 high-early-strength sprayed concrete was increased by

230%. After testing through large-panel spraying and cutting, as well as core drilling sampling, the compressive strength reached 12.8 MPa at 8 hours and 19.8 MPa at 1 day, both of which meet the design requirements for high-early-strength sprayed concrete.

Usage Instructions

- Recommended dosage: 10 % – 15 % of the total cementitious materials; exact rate must be determined in advance through trial mixes according to raw materials, job-site conditions, construction codes and technical requirements.
- During spraying: Operate strictly in accordance with the specification, ensuring uniformity, levelness and compactness of the shotcrete layer.
- Combined use with other admixtures: Check compatibility beforehand to prevent precipitation or line blockage.
- Curing: Provide appropriate curing whenever project conditions or specifications require.
- Temperature: Maintain substrate and ambient temperature above 5 ° C; low-temperature application can impair product performance.

Complies with the Following Standards

GB/T 8076-2008

ASTM C494 TYPE C

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;maintain temperature between 5 ° C and 35 ° C.
- The effective storage period is 3 months. 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.
- When using in combination with other admixtures, compatibility tests should be performed.
- 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.