

PRODUCT DATA SHEET

ART-HQ330

High Performance Alkali-free Powder Origin Flash Setting Admixture

Description

ART-HQ330 is a high performance alkali-free powdered flash setting admixture for shotcrete, belonging to the aluminum sulfate system. It is non-toxic, harmless, non-radioactive, and non-corrosive. It is not a flammable or explosive material.

Main benefits/Characteristics

- Suitable for wet-shotcrete projects in highways, railways, hydropower, mining, and other industries.
- The mixing method is simple and does not require heating; just add water and mix under normal temperature and pressure conditions.
- The use of aluminum sulfate and origin material in the compounding method significantly reduces the cost of customer products.
- Differs from the low-alkali products currently on the market that are compounded with fluoride salts.
- The compounding equipment is simple, with a low investment.

Compounding methods of origin materials

■ Material Ratio

It is recommended to dissolve the origin material, aluminum sulfate, and water in a mass ratio of 25:35:40 to produce a liquid alkali-free setting agent for use. (Depending on the properties of the cement and the customer's different requirements for setting

time and dosage, the origin material ratio can be adjusted between 20% and 30%, and the aluminum sulfate ratio can be adjusted between 30% and 40%.)

■ Operating Procedures

(For example, preparing 10 tons of liquid rapid-setting agent finished product)

- i. Weigh out 4 tons of clean water and pour it into the mixing tank, then start the mixing equipment.
- ii. Weigh out 3.5 tons of aluminum sulfate and slowly add it to the mixing tank, stirring evenly.
- iii. After the aluminum sulfate completely dissolved, weigh out 2.5 tons of HQ-330 origin material and slowly add it to the mixing tank, stirring evenly. When pouring the origin material into the tank, do it slowly and evenly to prevent clumping and prolonging the mixing time.
- iv. After the addition is complete, continue mixing for 1-2 hours until the origin material is completely dissolved, then shut off the mixing equipment.
- v. Ensure there is a filter screen at the outlet to filter out impurities from the finished product. Open the discharge valve and transfer the liquid alkali-free rapid-setting agent finished product into a container for standby use.

■ Precautions

- i. The water used should be clean and free from soil, pebbles, roots, and leaves. Tap water is best. Moreover, the water temperature should not be lower than 10 ° C (the higher the temperature, the faster the dissolution, but it should not exceed 40 ° C).
- ii. The mixing tank motor power should be greater than 7.5kw, with a rotation speed of 70-100 rpm. Insufficient motor power will affect the stirring and dissolution speed of the dry powder.
- iii. The mixing time should be more than 2 hours to ensure that the origin material and aluminum sulfate have enough time to dissolve completely. If the origin material particles are larger, extend the mixing time accordingly. It is recommended to install a rubber grinding device after mixing for grinding before use.
- iv. A filter screen must be placed at the outlet, and the screen mesh should be 80 mesh or 120 mesh or finer. It is recommended to install a set of filter screens at both the

mixing tank discharge and the container outlet to ensure that no insoluble impurities enter the liquid rapid-setting agent finished product.

v. Ambient temperature also affects the dissolution rate of the origin material and aluminum sulfate. Therefore, the preparation of the liquid rapid-setting agent should be carried out in a factory with insulation measures and not below 10 ° C. If the environmental temperature is below 10 ° C, it will reduce the dissolution rate of the origin material and aluminum sulfate, and the mixing time should be extended accordingly.

Physical and chemical indicators

Items	Performance
Appearance	white powder
pH	2.5±0.5
Alkali content	≤1%

Recommended Dosage

- The dosage of the setting agent after being prepared into a liquid finished product varies with the temperature of the concrete and the environment, especially the adaptability of the cement. Generally, the dosage for Portland or ordinary Portland cement ranges between 6% and 9%.
- The setting agent is pumped and mixed with the concrete at the nozzle. This product has a certain viscosity, so do not install a filter on the rubber hose of the setting agent pump to avoid the setting agent from being unable to be normally pumped from the barrel.
- Before using this product, be sure to clean the setting agent pump. It is strictly forbidden to mix this product with other setting agents to avoid chemical reactions between the two setting agents, which could block the setting agent pump.

Packaging and Storage

- Storage Conditions: The powdered origin material product should be kept in intact inner and outer packaging bags to prevent moisture absorption and dampness. After being prepared into a liquid, the storage temperature should be above 5 ° C. The liquid finished product should be stored in plastic/fiberglass barrels. This product has a weakly

acidic pH value and will undergo chemical reactions with iron materials, so it is strictly forbidden to store in iron barrels.

- Storage Time: The powdered origin material product can be sealed and stored for 2 years, and after being prepared into a liquid, it can be stored for 3 months. If the liquid product is stored for a longer period, it is recommended to perform a simple stirring when using it to eliminate the visually minor layering phenomenon.
- Packaging: It is packaged in 25KG plastic woven bags or bulk bags.

LEGAL NOTES

It is prohibited to retain or disclose samples of the product without the company's permission.

In addition to the product quality itself, the actual performance also depends on other factors.

If there are factors beyond our control, we cannot guarantee the performance of the product.

Users are requested to strictly follow the technical guidelines and product instructions for use. The company shall not be held liable for any consequences resulting from unauthorized changes to the product's usage without the company's authorization.