

PRODUCT DATA SHEET

ART-SL39

Low Alkali Liquid Accelerator

Description

ART-SL39 is a low alkali liquid accelerator which has the advantages of rapid setting. It is non-toxic, non-flammable, non-corrosive to steel and harmless to human health. It is a high-performance low alkali shotcrete accelerator used in the wet-mix spraying process and is particularly useful for rapid-hardening concrete and quick-setting concrete. It has good early strength and long-term strength retention rate. Compared with the main accelerator products on the market, it has obvious advantages in technical performance index and cost performance.

Main benefits/Characteristics

- **Low Dosage, Fast Setting:** 6% to 8%, with significant rapid-setting effects and a short interval between initial and final setting times.
- **Excellent Early Strength:** High early strength in concrete, with 1-day compressive strength of mortar specimens exceeding 10 MPa. Minimal impact on later strength, with a 28-day compressive strength ratio of 90-100% and a 90-day compressive strength retention rate of 100-115%.
- **Low Rebound Rate:** Less than 10%.

Environmental Friendliness: Low dust, no irritating odor, non-corrosive to steel reinforcement, non-toxic and harmless—environmentally friendly.

Applications Case

- Underground works

Shotcrete support and lining for mine roadways, traffic tunnels, hydraulic tunnels, subways, and all kinds of underground chambers (power stations, warehouses, etc.).

- Geotechnical works

Slope, foundation-pit, reservoir, embankment, channel and pool protection.

- Repair and strengthening

Strengthening of bridges, sea walls, dams, wharves, cooling towers, chimneys and buildings; repair of structures damaged by chemical attack, fire, earthquake, blasting, overload or poor construction.

- Protective works

Fire- and corrosion-resistant layers, and waterproof plugging projects.

- Refractory works

Construction and repair of chimneys and various industrial kilns.

Physical and chemical indicators

Items	Performance
Appearance	milky white liquid
Solid Content /%	45.0 ± 2.25
pH	3.0 ± 1
Alkali content	$\leq 5\%$
Density/g/cm ³	1.40 ± 0.03
Chloride content	$\leq 0.1\%$

Application Case

- Railway Tunnel

On a tunnel section of the Changjing-Huang Railway, high accelerator dosage caused excessive rebound and sub-standard early strength (1-day mortar strength only 3.4 MPa, below the 7 MPa national limit). After switching to our ARIT-SL39, dosage dropped from 8–9 % to 5–6 %, rebound fell markedly and 1-day compressive strength reached 9 MPa, comfortably exceeding the code requirement and keeping the job running smoothly.

Usage Instructions

- Dosage range: 6 - 8 % by mass of cementitious material; adjust within this range for cement compatibility, temperature and construction method.
- Use only the designated mix dosage and follow all construction codes.
- Spray evenly, flat and compact, strictly to specification.
- Check compatibility with any other admixtures to avoid precipitation or blockages.
- Cure as required by project conditions.
- Suitable pumps: peristaltic (hose), diaphragm, rotor-stator, gear; avoid piston and ball-/seat-valve pumps.
- Maintain substrate and ambient temperature $\geq 5^{\circ}$ C.
- Keep containers tightly sealed to prevent surface skinning.

Complies with the Following Standards

GB/T 35159-2017

ASTM C1141 / C1141M-15

EN 934-5

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 (Store at 5 - 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.
- 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.