

## PRODUCT DATA SHEET

# ART-FHJ

## Multifunctional Concrete Surface Protector

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### Description

ART-FHJ is a colorless and transparent liquid multifunctional concrete surface protector. It can effectively penetrate into concrete and chemically react with the active components within the concrete. This process consolidates the concrete into a solid mass and simultaneously forms a permanent seal on the concrete surface. As a result, the hardness, wear resistance, permeability resistance, and corrosion resistance of the concrete surface are significantly enhanced. The product has strong penetration ability, is easy to apply, and contains no VOCs (volatile organic compounds), thus providing an effective guarantee for extending the service life and improving the performance of concrete.

### Main benefits/Characteristics

- **Hardness Enhancement:**The multifunctional concrete surface protector (ART-FHJ) utilizes advanced reaction and crystallization technologies. It reacts with the active chemical substances in concrete to form high-strength gels and crystalline structures, significantly increasing the hardness and wear resistance of the concrete surface layer.
- **Water and Corrosion Resistance:**The multifunctional concrete surface protector (ART-FHJ) reduces surface tension and employs strong penetration technology to block capillaries and micro-cracks in concrete. This completes the modification and optimization of the microstructure of the concrete surface layer, enhances its density, inhibits the erosion and transmission of media, and slows down or prevents the occurrence of permeation and corrosion reactions.
- **Efficient Penetration:**The multifunctional concrete surface protector (ART-FHJ)

primarily enters the concrete through capillary action and further diffuses internally using the liquid phase as a carrier. It can penetrate up to more than 1 cm into the concrete.

- **Rapid Reaction:** The multifunctional concrete surface protector (ART-FHJ) significantly improves the strength of the concrete surface layer within 5 to 7 days.

## Applications

- Suitable for areas requiring higher surface strength and abrasion resistance, such as industrial floors, parking lots, warehouses and highway bridge decks.
- Suitable for environments exposed to water, chemicals or salt, providing anti-permeability and corrosion protection, e.g. coastal and port works, basements, tunnels and water tanks.
- Suitable for concrete structures with micro-cracks or high surface porosity, capable of deep penetration and sealing, e.g. old-building repair, bridge maintenance, airport runways and urban roads.
- Other concrete surfaces that are under-strength after casting and finishing.

## Physical and chemical indicators

Items	Performance
Appearance	Colorless transparent liquid
Solid Content(%)	20.0±2.0
PH	≥ 11
Density(g/cm <sup>3</sup> )	1.09±0.02

## Application Case

- Jiangsu PC component – precast beam

On a C50 precast girder in Jiangsu, early poor surface curing had left the cover with low rebound strength. After one coat of our ART-FHJ multi-purpose surface hardener, the cover strength was re-activated: rebound values rose 3 – 5 MPa and the beam passed inspection. The denser surface also supports steady later-age strength growth and markedly improves long-term durability against carbonation and water penetration.

## Usage Instructions

- Normal consumption: 2–4 m<sup>2</sup>/kg, depending on concrete permeability and porosity. Final dosage should be fixed by on-site trials according to raw materials, ambient temperature and job requirements.
- Preparation: gather spray bottle, brush, mask, gloves and coveralls. Before application, clean and dry the concrete surface; light sanding with steel brush or abrasive paper is recommended. Work at 5–50 °C and 40–75 % RH. Use neutral or mildly alkaline cleaners only—never acid-based ones.

- Application:

Shake the surface hardener well; pour into spray tank or container without mixing with other liquids.

Apply first coat with low-pressure sprayer or brush until surface is saturated; re-spray any areas that dry too quickly.

When the surface becomes touch-dry, apply a second coat; repeat for a third coat while still touch-dry. Complete all coats within the same day.

Any white crystalline residue is normal; remove with clean water after 5–7 days of curing.

- Curing: keep treated surface free from water or frost for 24 h; allow 5–7 days at ambient temperature before back-filling or covering.
- Caution: do not use on aluminium, glazed or glass surfaces—corrosion may occur. Rinse immediately with water if accidental contact happens.

## Packaging

10kg/50kg bag or 200kg drum 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 6 months. It can still be used after being tested and verified to be qualified if it exceeds the time limit.

## Precautions

- Do not use on aluminum, glazed, or glass surfaces; corrosion will occur. If accidental contact happens, flush immediately with clean water.
- Strictly follow the relevant construction codes during application.
- The information provided describes only product characteristics and performance; it is not a warranty. Users must themselves verify function and suitability through 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.