

# Sino-Sina Building Materials Co., Ltd

## AL-1 Calcium Aluminate Inorganic Anti-Corrosion Mortar Technical Data Sheet

### General Description

AL-1 is a high-performance, pre-packaged mortar made from 100% inorganic high-purity materials, primarily calcium aluminate. It offers exceptional compressive strength of up to 50 MPa and superior resistance to acid and alkali corrosion. Ideal for waterproofing and anti-corrosion in harsh environments, including wastewater and chemical applications.

### Applications

- Wastewater treatment plants: Effectively resists erosion from sewage chemicals.
- Bioengineering, pharmaceuticals, and water treatment facilities: Ensures long-term stability in acid-alkali environments.
- Industrial and civil buildings: Handles anti-leakage for roofs, bathrooms, basements, etc.
- Reservoirs, dams, ports, canals, and chemical pipeline interfaces: Provides rigid, permanent waterproof and anti-corrosion protection.
- Hot water pools, landfills, chemical warehouses, and tanks: Prevents corrosion from chemicals.
- Other non-excavation substrate repairs and equipment bases: Meets demands for acid-alkali resistance in special projects.

### Product Features

- 100% inorganic composition: Guarantees durability and eco-friendliness.
- High compressive strength (50 MPa): Delivers excellent mechanical performance and structural enhancement.
- Outstanding acid-alkali corrosion resistance: Suitable for various dilute acids and harsh conditions.
- High strength with low dry shrinkage (0.2%): Minimizes cracking risks.
- Simple construction: Supports spray or trowel application for versatile use.



## Performance Indicators

Test Item	Technical Indicator
Inorganic Material Content (%)	100%
Compressive Strength (MPa)	50
Tensile Bond Strength (MPa)	1.5
Dry Shrinkage Rate (%)	0.2
10% Sulfuric Acid Spot Test (24h)	No bubbles, no cracking, no peeling
10% Citric Acid (48h)	No bubbles, no cracking, no peeling
10% Lactic Acid (48h)	No bubbles, no cracking, no peeling
10% Calcium Hydroxide Solution (168h)	No bubbles, no cracking, no peeling

## Construction Guidelines

### 1. Substrate Requirements and Preparation

The substrate surface should be flat, rough, clean, free of oil, and without loose dust. Rinse with high-pressure water before application to keep it moist but without standing water. Apply YJ-302 interface agent for bonding.

### 2. Material Mixing

Pour 90% of the required water into the powder and mix evenly, then gradually add the remaining 10% water while stirring until lump-free. Use the prepared mixture within 0.5-1 hour.

Note on Mixing Ratio: For best results, use 14-16% water by weight of the mortar. Pay close attention to the mixing ratio to ensure optimal performance and avoid issues like reduced strength or poor workability.

### 3. Application Steps

1. Evenly brush YJ-302 interface agent (A:B = 3:1 ratio) on the moist concrete substrate. Avoid large areas at once; divide into strips or blocks, each 10 m<sup>2</sup>, with intervals of at least 24 hours.
2. After applying, immediately trowel and smooth in one pass. Do not over-trowel. For vertical or overhead surfaces thicker than 10 mm, apply in layers (5-10 mm each), waiting for the previous layer to be touch-dry before the next.

Application Methods: Designed for low-pressure spray or trowel application, making it ideal for confined spaces with minimal dust and rebound.

### 4. Curing

Once the surface is dry, perform mist curing or cover with wet burlap/mats to maintain moisture, ensuring temperature 5°C. After 24 hours, cover with plastic sheeting for 7 days of moist curing; sprinkle water periodically if conditions allow.



## Packaging and Storage

- Packaged in 25 kg composite bags.
- Store in a dry, ventilated indoor area with sealed bags. Protect from moisture and freezing. Shelf life is typically 12 months under proper conditions.

## Contact Information

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