



product specification

External wall weathering insulation coating

AFJZ-WGF-B2



Product description

External wall weather-resistant thermal insulation coatings: Currently, external wall coatings achieve thermal insulation and energy-saving effects either as a topcoat or as a middlecoat; depending on the application method, they can be applied with a textured surface finish or presented as an integrated insulation-decorative system.

This is particularly evident in regions with long sunshine duration, where the 2 mm aerogel coating system can achieve the same thermal insulation and energy-saving performance as the 35 mm polystyrene board system. In regions with shorter sunshine duration, the aerogel exterior wall coating leverages its low thermal conductivity properties to provide effective insulation.



External Wall
Weathering Insulation
Coating (AFJZ-WGF-B2)

Function: Thermal insulation, heat shielding, and anti-detachment protection

Application: Roof and exterior wall thermal insulation and energy efficiency improvement; industrial facility thermal insulation retrofitting

Specifications: 10 kg/20 L

Dosage: 0.6 (kg/mm/m²)

Product Parameter

The exterior aerogel insulation coating offers outstanding thermal insulation performance, effectively reducing building energy consumption. While traditional exterior wall insulation materials often face challenges regarding performance or installation, this coating is easy to apply and combines multiple advantages — including thermal insulation, anti-detachment protection, and flame retardancy. Its low thermal conductivity meets the requirements for building energy efficiency.

project	parameter
pigment	White (Adjustable)
heat conductivity	≤0.045W/m`K
density	≤0.60g/cm3
cohesional strength	≥0.6MPa
Waterproofing performance	After 96 hours of water immersion, no abnormalities were observed.
fire-protection rating	B2 (Customizable)

VOC content	Qualified (≤ 80 g/L)
Is it wear-resistant?	flexibility
Long-term operating temperature	$\leq 150^{\circ}\text{C}$

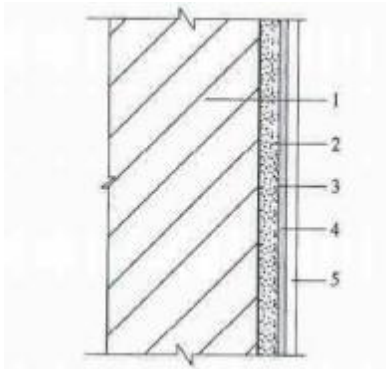
Usage Instructions

Substrate Type	Interlayer structure	explain
Water-leaking concrete	Substrate + Waterproof Coating + Exterior Wall Weathering and Thermal Insulation Coating	Depending on the requirements, the exterior wall weathering insulation coating surface can be topped with reflective coatings, radiant cooling coatings, water-in-sand coatings, or transparent finishing coatings.
Air void concrete	Substrate + Adhesive Material + Alkali-Resistant Sealing Primer + Exterior Wall Weathering Insulation Coating	
common concrete	Substrate + Alkali-Resistant Sealing Primer + Exterior Wall Weathering and Thermal Insulation Coating	
Steel sheet roofing	Substrate + Rust Prevention Primer + Exterior Wall Weathering and Thermal Insulation Coating	

Design framework

Structural design

When the "Tu Baofang" integrated exterior wall insulation system utilizes an aerogel thermal insulation coating system, the basic construction shall consist of the wall substrate, waterproof putty, base coat, intermediate coat, and topcoat. Layered structure.



Basic construction for exterior wall insulation using a thick aerogel thermal insulation coating system

- 1 – Wall substrate;
- 2 – Waterproof leveling layer;
- 3 – Alkali-resistant priming coat;
- 4 – Exterior wall weathering and thermal insulation coating;
- 5 – Finish layer

Product description

project	explain
material	Waterproofing mortar (for providing waterproofing functionality to concrete); leveling putty
	Alkali-resistant priming coat
	External wall weathering insulation coating
	Decorative thermal insulation coating (the amount of decorative thermal insulation coating may be adjusted according to operational requirements)

thickness	Waterproof putty: 2–3 mm; Alkali-resistant priming coat: <0.5 mm External wall weather-resistant thermal insulation coating: 2–4 mm decorative thermal insulation surface coating; <0.5 mm
Construction Precautions	The waterproof putty can be applied in a single coat and requires wet curing; after 7 days, apply an alkali-resistant priming coat, and after an additional 24 hours, apply the exterior wall weathering barrier. Thermal coating; after 24 hours, apply a decorative thermal insulation surface coating.

Product Application

External wall weathering insulation coatings offer outstanding thermal insulation performance, effectively reducing building energy consumption. They combine multiple advantages, including thermal insulation, heat retention, and anti-detachment properties. With their high thermal resistance, these coatings meet the requirements for building energy efficiency.

Newly constructed buildings – External wall insulation

Excellent thermal insulation performance meets building energy efficiency requirements.



Existing building renovation

The innovative exterior wall insulation solution offers significant advantages.



Industrial factory building insulation

Lower the temperature inside the factory building and reduce energy consumption.



Application case

Whether for residential renovation or commercial building upgrades, "durability" and "easy maintenance" are core requirements. Exterior weathering coatings overcome the limitations of conventional coatings—such as susceptibility to fading and damage—through their exceptional weather resistance and stain resistance, eliminating the need for frequent wall repairs. This not only reduces long-term maintenance costs but also extends the lifespan of the building, making them the ideal choice for outdoor coating applications.



Sinograin Grain Silo Project – Thermal Insulation



Minghe Industrial Park Project



A project in Chengdu

Preliminary work for construction

Function: Spraying		Scratch/Roll coating
Base surface requirements	1. The substrate surface to be coated must be free of all grease, dust, and loose contaminants. 2. New walls must be fully dry; the surface moisture content of the wall (or putty) must be less than 14%, and the pH value must be less than 10.	
Construction tools	Spraying machine, roller, sticker paper, mixer, protective mask, protective equipment Workwear, safety rope, safety helmet, protective footwear, safety goggles, protective film	Putty knife, scraper, roller, sticker paper, mixer, protective mask, protective clothing, safety rope, safety helmet, protective footwear, safety goggles, protective film
Repainting interval: Apply the second coat only after the first coat has dried completely; typically, a 24-hour waiting period is recommended.		
Construction Conditions: Do not commence construction if the ambient temperature is below 5°C. When the ambient humidity exceeds 85%, the reapplication time should be extended.		
Construction Method: Before construction, mix the material using an electric mixer for at least one minute.		
Tool cleaning: Rinse promptly with tap water.		

Operation process

No. – New concrete surface		Old concrete surface
1	-	Inspect the wall condition, remove any hollow areas, and clean up any surface contamination or debris. Leave material in place, grind and pulverize the surface layer, and repair interior and exterior corners.
2	-	Roller-applied interface modifier
3	Putty leveling (mesh application)	
4	rollers / Spray – White/Matched color primer (penetrating) – 1 coat	
5	Spraying/Brushing Exterior Building Wall Weathering Insulation Coating	
6	rollers/Sprayed surface coating (color or colorless surface coating available as an option)	
matters need attention		
7	(1) Check whether the position of steel or wooden door and window frames is correct and whether their connection to the wall is secure. Any gaps at the joints should be tightly filled in layers with cement mortar (with a small amount of hemp fiber). (2) Concrete for door and window frames, scaffold support wall openings, repair areas, and ground-level exterior walls, etc. The surface is completed only at the final stage; in this case, the curing period must also be observed. If this is due to project schedule constraints or scaffolding-related issues, If a sufficient curing period cannot be guaranteed, it may pose potential risks to the exterior wall coating. (3) When the wall moisture content is less than 15% (the national standard is 10%, which is relatively difficult to achieve), When the pH value is less than 10, the construction conditions are met. The wall moisture content can be measured using an instrument	The condition of the existing surface should be assessed based on the specific circumstances; generally, the surface and any existing coatings must be intact and exhibit good adhesion. If the existing coatings are loose, they should be completely removed in advance. Use high-pressure water wash or a scraper to remove all algae, mold, loose coating layers, residues, and disintegrated layers. Then, wipe the surface with a 20% household bleach solution, leave it for 48 hours, and rinse thoroughly with clean water; this process ensures the eradication of most algae spores. Apply the new coating only after the surface has dried. Before applying the topcoat, conduct a small-area test to verify compatibility, adhesion, and the absence of substrate biting.