

Breathing Rare Earth Nano Inorganic coatings

河北方嘉亿新能源科技有限公司

HEBEI FANGJIAYI NEW ENERGY TECHNOLOGY CO., LTD.

Tel: 0086 311 85855728

Mail: commercial@fjycoatings.com

Website: www.fjycoatings.com

Add: No.729,GongNong Road,QiaoxiDistrict,Shijiazhuang,Hebei,China.



Academician Tu Mingjing



Belonging to CAST

Hebei Fangjiayi New Energy Technology Co., Ltd. is a high-tech R&D and production enterprise, relying on the CAST, supported by the R&D team led by Academician Tu Mingjing of CAE. We aim to develop healthy, eco-friendly, beautiful, and durable products, to promote technological innovation and product upgrades, and let users to benefit firstly from this new coating revolution.



Beautiful, durable, safe, and eco-friendly

Do not contain toxic substances, formaldehyde, VOC, etc.

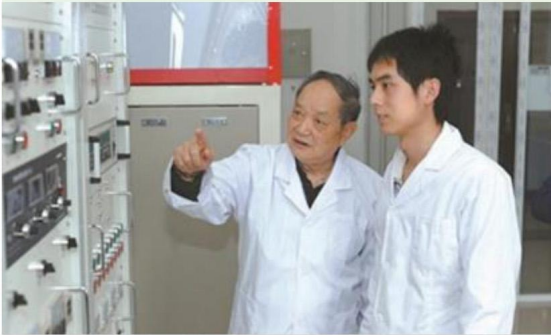
Based on inorganic research coatings originating from Germany, and utilizing rare earth nano national patented technology, its functions are actively degrading formaldehyde, reducing fog dishes, purifying air, regulating humidity, resisting mold and sterilization, fire and moisture prevention, and being timeless.

R&D new products based on four main advantage

Strong R&D team

Chief Technologist
Academician Tu Mingsheng

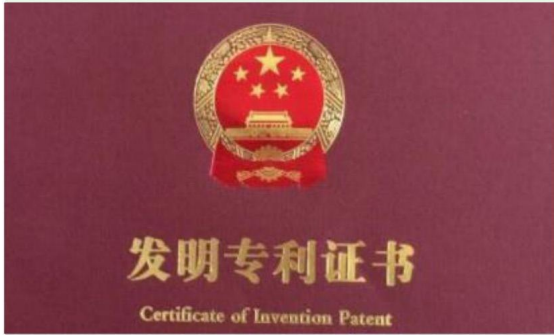
Academician of the CAE Member, winner of special allowance from the State Council, honorary chairman of Sichuan Nanotechnology Association, chief expert of Sichuan Rare Earth Materials and Application Engineering Research Center, and owner of more than 10 national rare earth nano technology patents
The R&D team consists of over 50 people, including 3 doctoral supervisors, 2 postdoctoral fellows, 10 doctoral students, and 25 master's students, who jointly participate in the research work.



Various patents

Patent numbers :

- 202210388868.8
- 202220475364.5
- 202210431127.3
- 202210473259.2
- 202210328980.2
- 202220353408.7



Origin of
specialized materials

National Vanadium and Titanium
Strategic District

---- Light rare earth materials



Exclusive R&D Base

Our R&D base is located in Pidu District
The first 1000 ton inorganic coating production line is under construction
Continuous production equipment can improve product stability and save production costs



Types of inorganic coating products



01

Indoor coating



02

Outdoor coating



03

Floor coating

CHAPTER 01

Indoor coating

Indoor coating

Using rare earth nanotechnology, photocatalysts and other functional materials to continuously act in the pore wall, decompose harmful compounds such as bacteria and formaldehyde, release a large amount of beneficial substances such as negative oxygen ions, and capture and degrade compounds, bacteria, and PM2.5 in the air, truly achieving the function of **actively removing harmful gases and purifying air quality**

Antibacterial
coating

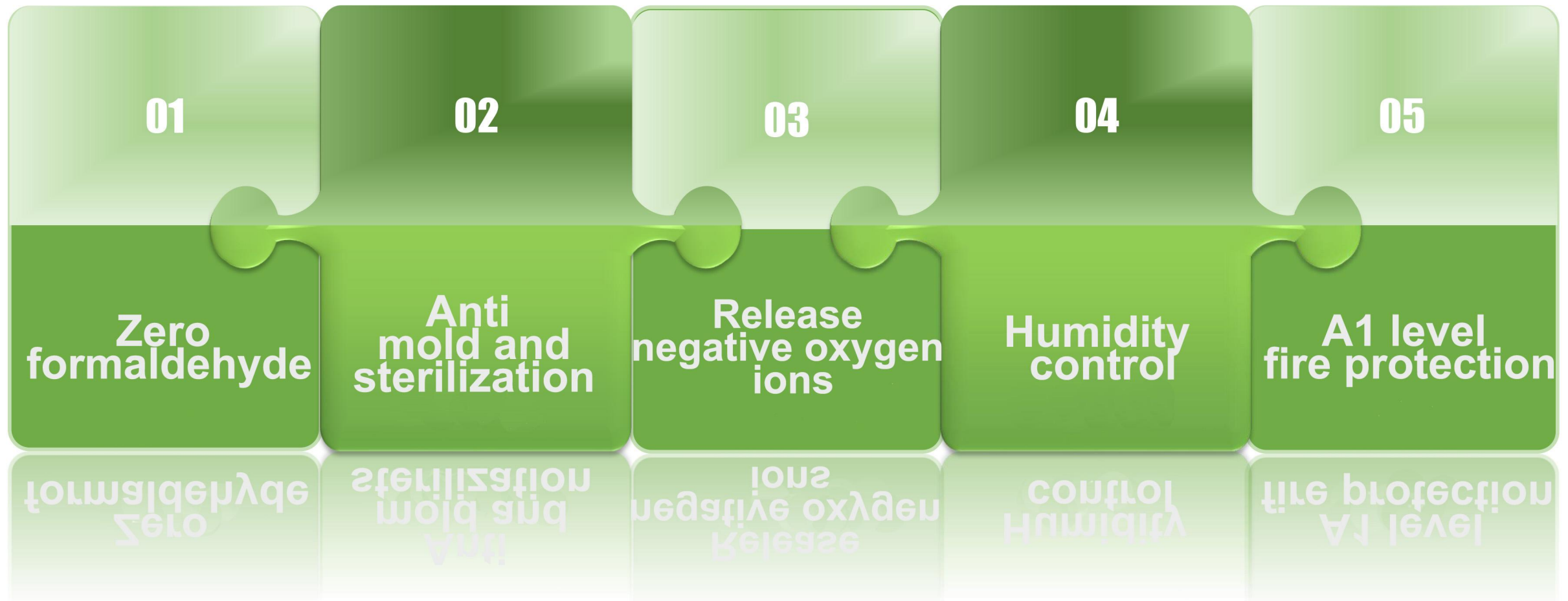
Inorganic Coatings for Antibacterial Disinfection

PH=13

clo2



Five functional characteristics of multifunctional inorganic coatings for indoor products:





Zero formaldehyde

Inorganic coatings adopt crystallization film-forming method, which is different from bonding film-forming. Use inorganic minerals such as silicates, completely zero chemical, formaldehyde free, non-toxic, and odorless. Truly achieving the goal of being able to can live immediately after brushing.

01

Silicate

Alkali metal silicates, with silica sol as the main component, can enhance and improve the adhesion and water resistance of coatings



02

Inorganic pigment

Natural ore as raw material, refined through processes such as beneficiation, crushing, grinding, etc



03

Silicone lotion

Further improve hardness, wear resistance, scrub resistance, weather resistance, stain resistance, and good breathability



04

Lanthanide rare earth





Anti mold and sterilization

The main components of coatings are inorganic substances, which do not contain nutrients. Bacteria cannot obtain nutrients and cannot survive. Especially suitable for rooms with year-round dampness or coastal and riverine areas, effectively preventing mold and dampness.



Testing items		Standard request		Test result	Standard result
		Class I	Class II		
Antibacterial (%)	Staphylococcus aureus	≥99.00	≥99.00	100.0	Qualified
	Escherichia Coli			100.0	
Antibacterial durability (%)	Staphylococcus aureus	≥95.00	≥85.00	100.0	Qualified
	Escherichia Coli			100.0	



Release negative oxygen ions

By decomposing water molecules to produce and release positive and negative ions similar to those in nature, bacteria and dust are removed in the air. the coating can produce negative oxygen ions up to 7000+/CM ³, it is beneficial for health.



Standards for negative oxygen ion concentration and air quality		
Negative oxygen ion concentration(PC/CM ³)	Air quality level	Health grade
>3000	I	Super good
2000-3000	II	Very good
1500-2000	III	Good
1000-1500	IV	Narmal
400-1000	V	General
<400	VI	Bad



Caring for Children
Children have low immunity it is susceptible to bacterial and viral invasion, purifying home environment for bady.



Protecting pregnant women
Improve air quality for pregnant women, protect baby growth and mother's health.



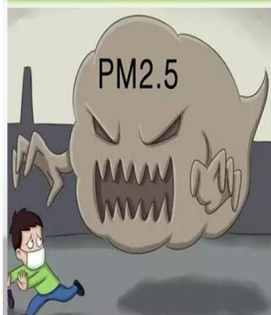
Improve respiratory diseases
Good for patients with asthma, allergic rhinitis, etc., clean the air and filter out allergens such as dust and pollen.

Having pets
Remove pet odors and the bacteria and viruses they emit into the air



**Protecting health
Improving breathing**

Smoking hazards
Effectively eliminate smoke odor
Reduce the harm of second-hand smoke



Reduce PM2.5
Quickly remove inhalable particles and improve air quality



Reduce decoration hazards
Efficiently remove harmful gases formaldehyde and benzene generated from decoration process, protect you and your family's health.



Reduce dust
Release a large amount of negative ions, quickly adsorb dust and other floating objects in the air, and make it lose floating ability

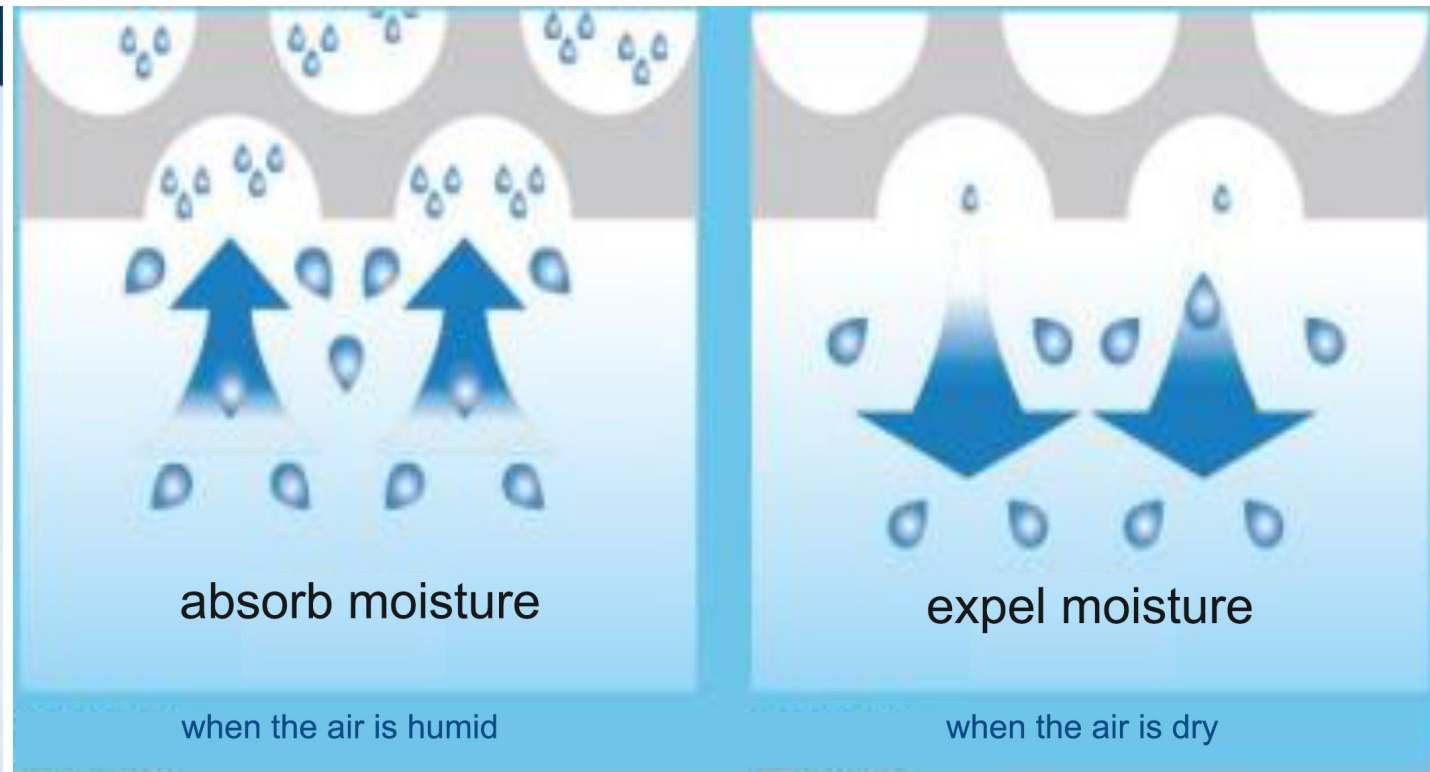


Adjust humidity like breathing

The unique molecular lattice structure make the coating to absorb moisture when the air is humid and expel moisture when the air is dry. This function can effectively prevent the wall from falling off, getting damp, and getting moldy due to humidity, thereby increasing the service life of the coating.

Principle Analysis

Electron microscopy shows that rare earth minerals are a nanoscale porous material with extremely high porosity, regular and neatly arranged in circular and needle shapes. The number of pores per unit area is thousands of times more than charcoal, and the prominent molecular crystal structure determines its unique function

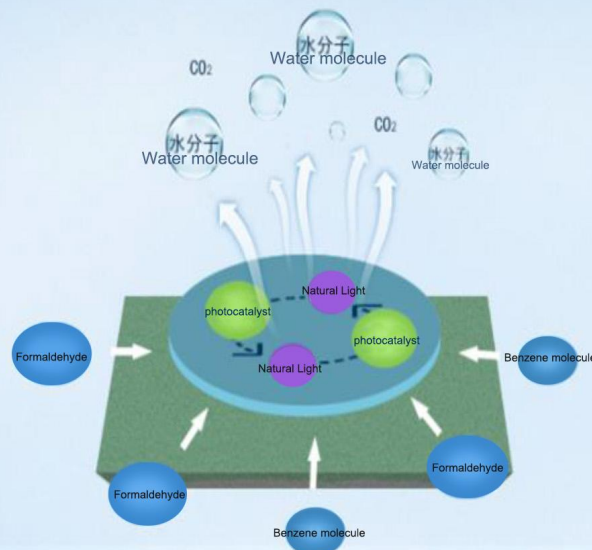




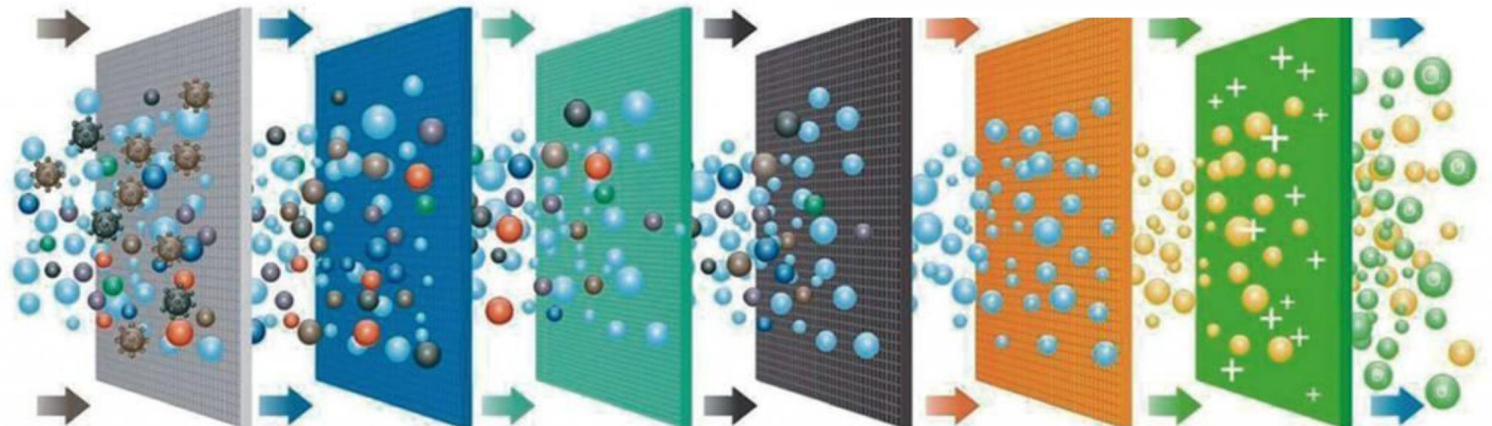
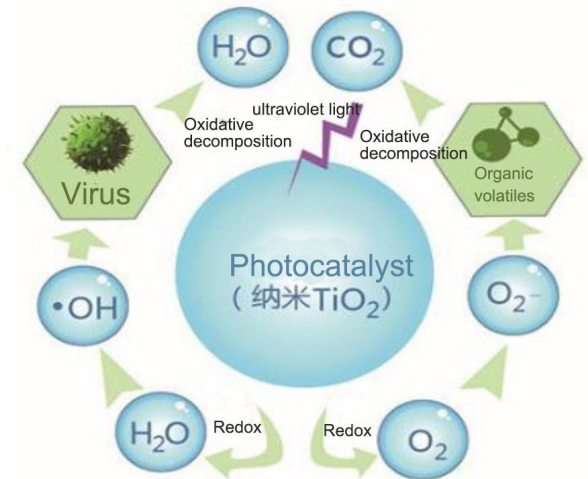
Active degrade harmful substances

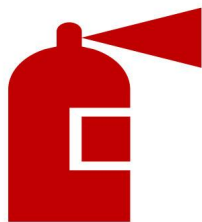
The inorganic coating is equipped with materials such as photocatalysts and nano rare earths, which enable it to actively remove harmful gases. For example, formaldehyde molecules, when inhaled into micropores, will be decomposed into water and carbon dioxide, achieving the effect of removing formaldehyde after purification.

Principle Analysis



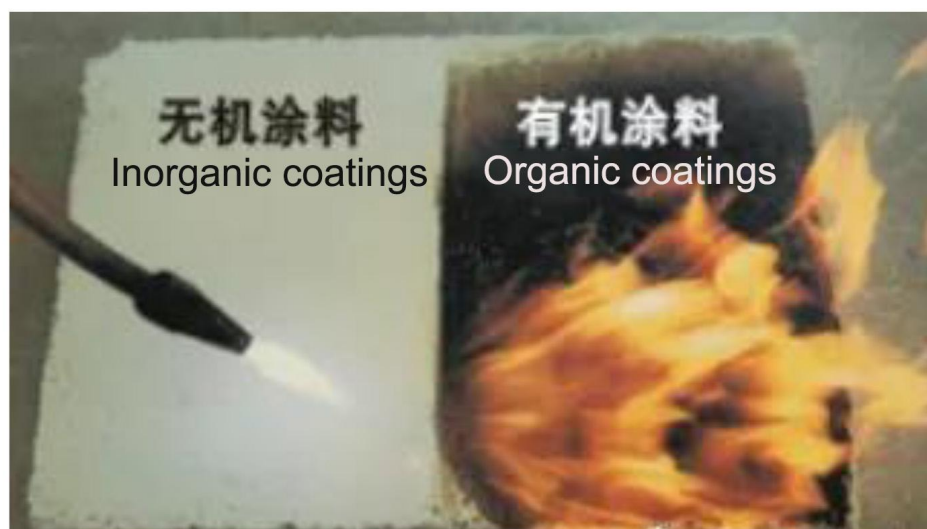
The addition of photocatalysts in the coating gives it the ability to passively adsorb and actively remove harmful gases. The motion speed of formaldehyde molecules is 450m/s, and one formaldehyde molecule collides with other molecules 109 times per second, so formaldehyde molecules are sucked into the micropores every second.





Fireproof A1

Inorganic coatings are resistant to high temperatures of 1200 ° C, have only a melting point, no ignition point, do not burn, only decompose, and do not produce any toxic smoke



Like air purifier which brush on the wall

Family house

Air purification type ecological coating, non electric air purifier



Hospital

Ecological antibacterial coating, long-lasting antibacterial, improving air quality



School

Campus antibacterial coating, haze cleaner



Indoor coating -- Project case



Children's Hospital
Performance requirements:
Antibacterial level 1,
fireproof level A, zero formal
ehyde, zero odor



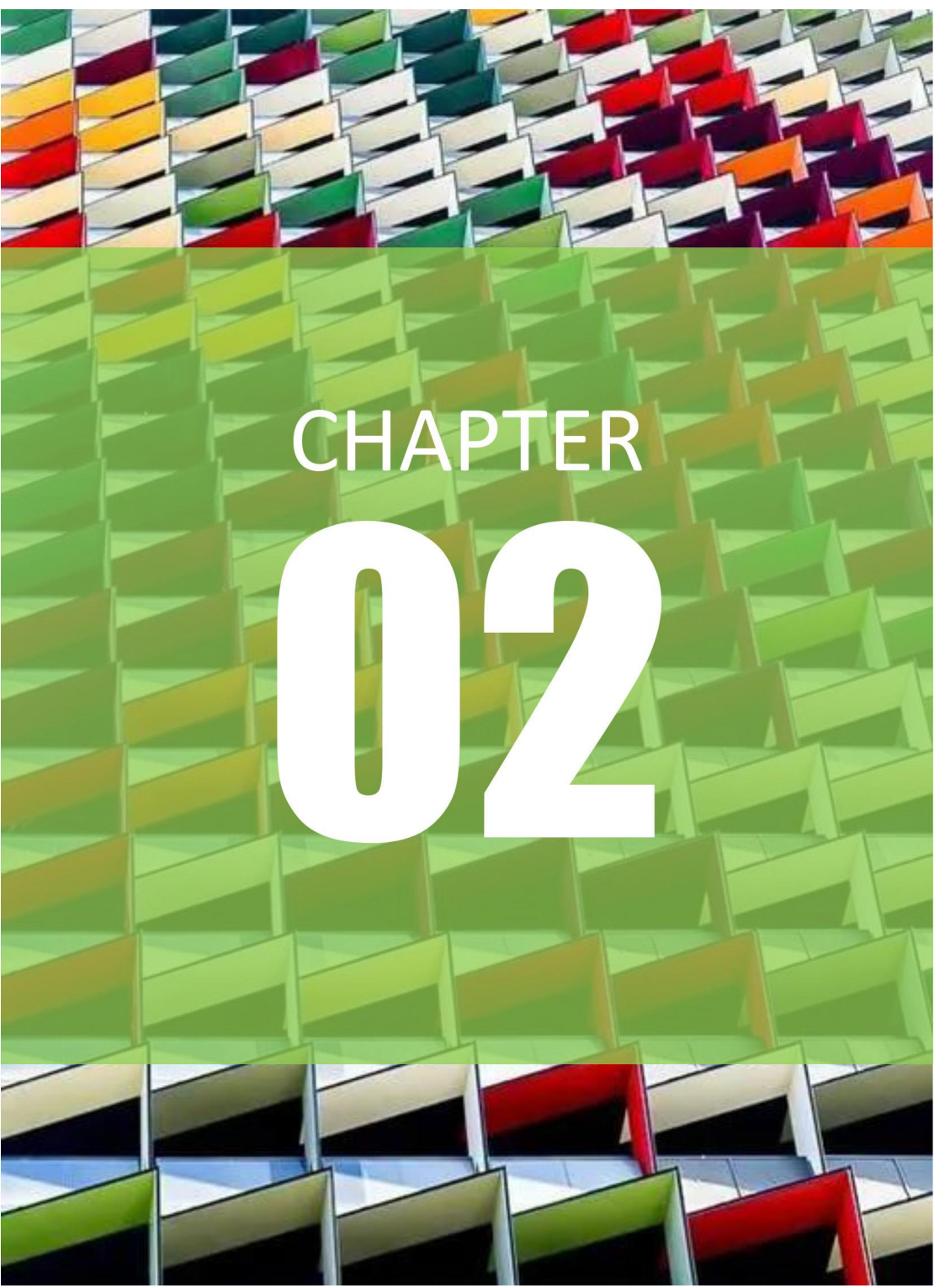
Office building
Performance requirements:
Interior wall purification
materials



Women and Children's
Medical Complex
Performance requirements:
Antibacterial Class 1,
fireproof grade A,
zero formaldehyde, zero odor,
improving air quality



Donation of anti epidemic
materials to Pakistan
Performance requirements:
Antibacterial level 1, fireproof
level A, zero formaldehyde



CHAPTER 02

Outdoor coatings

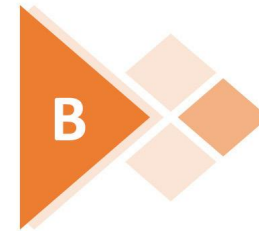
Ultra weather resistant exterior wall coating

Composed of inorganic polymers, dispersed activated metal and metal oxide nanomaterials, and rare earth ultrafine powders, it is environmentally friendly, has a long service life, and achieves international advanced anti-corrosion performance. It is a high-tech replacement product that meets environmental requirements.



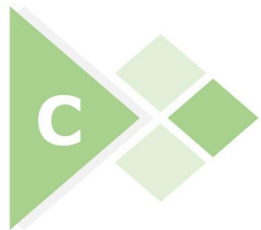
Rich colors and high fidelity

Mix with colored sand, and add imitation stone particles to achieve the quality of natural stone materials



Anti aging and non fading

The nano rare earth modification technology can isolate ultraviolet rays and delay the aging of lotion.



Lotus leaf self-cleaning effect

The modified cover agent is waterproof and stain resistant, like the lotus leaf effect and maintaining a clean and beautiful surface.



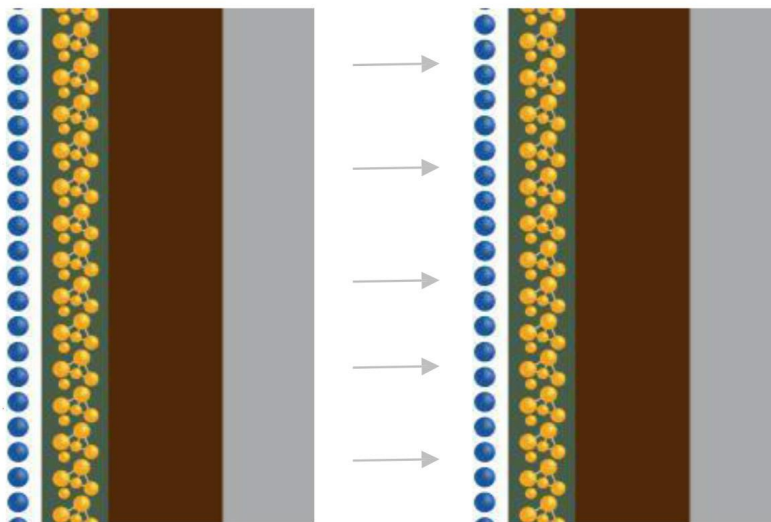
No maintenance, no refurbishment

Long term coexistence with buildings
Do not need secondary construction.

Outdoor coatings -- Product features

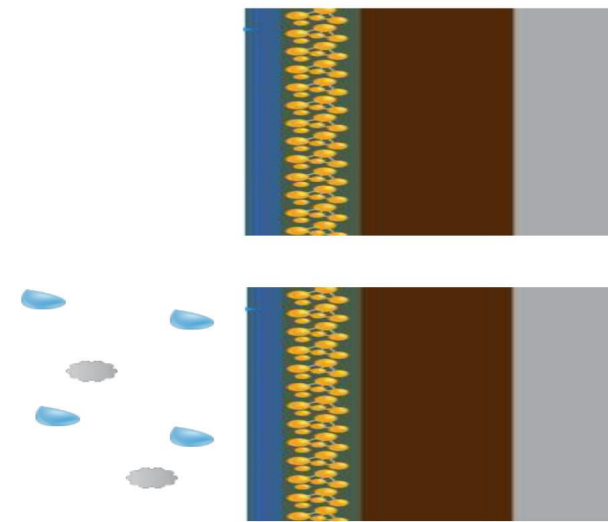
By quality control, technological innovation, and capacity upgrading, we aim to ensure quality and systematically solve the disadvantage of exterior wall materials.

Rare earth anti-aging coating technology



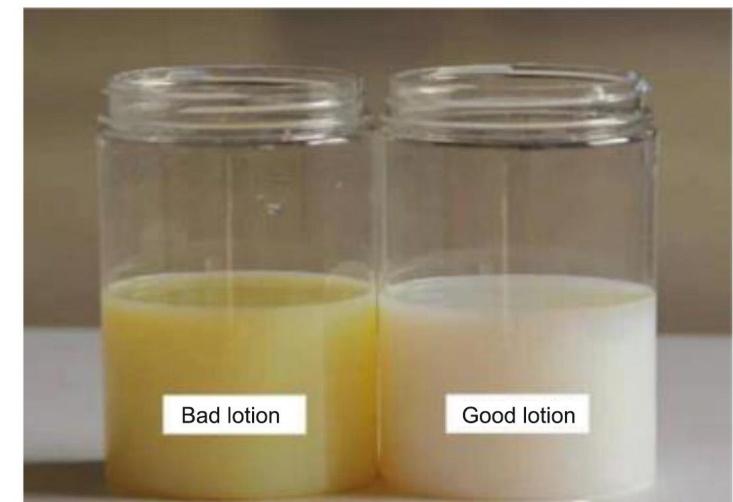
Nano oxide coatings can absorb and block ultraviolet radiation, avoiding the decomposition and aging of polymer caused by ultraviolet radiation.

Nano silicon anti fouling and self-cleaning technology



Utilize nano silica and titanium dioxide materials to form a water conducting film on the surface, avoiding the residue of rainwater, and stains.

Imported lotion



Lotion is supplied by chemical giants BASF Chemical, Dow Chemical, etc. to ensure the quality. With alkali resistant resin lotion as the main raw material, it can effectively avoid the precipitation of water-soluble salt and alkali from the wall, so that the water absorption of the base can reach a balance, the drying speed is fast, and the weather resistance is good.

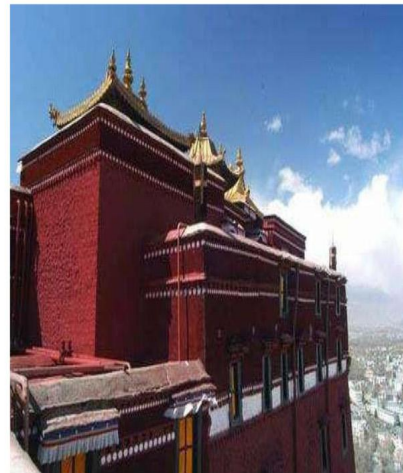


Durable weather resistance

Inorganic coatings can undergo silicification or petrification with mineral materials. Once they chemically solidify with the putty layer and the base material of concrete, they form a waterproof and acid resistant silicate rock, with a service life of several decades or even a hundred years. Widely used in daily life fields such as architecture and painting.



1600 years ago,
Dunhuang adopted inorganic
mineral coatings



Over 300 years ago,
the Potala Palace used
inorganic mineral coatings



More than 400 years ago,
the Japanese imperial residence
used inorganic mineral coatings

Outdoor coatings -- Product category

There are two main categories

Protective material for bridges and tunnels



Energy saving and environmental protection, non-toxic and odorless, non flammable and non explosive, safe construction

Good adhesion, directly sprayed on cement-based materials, without the need for primer, without fading

High hardness, good toughness, wear resistance, water resistance, acid and alkali resistance, UV resistance, and good anti-corrosion performance.

Coating dries quickly, shortens the construction cycle, and save time

natural stone-style coating



Ultra weather resistant real stone paint has a long service life, rich colors, high fidelity, and no fading

The anti-aging effect is greatly improved to isolate ultraviolet rays and delay the aging of lotion

Good weather resistance

Convenient construction

Outdoor Products - Application Sites

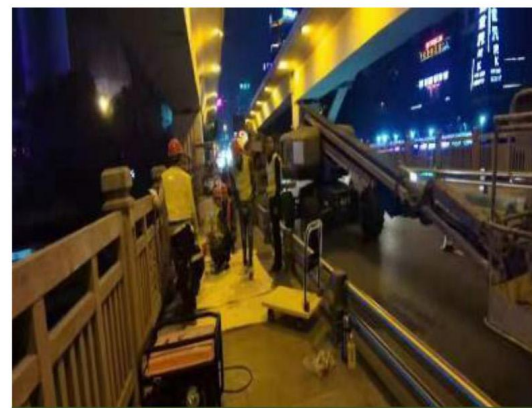
Real estate development projects

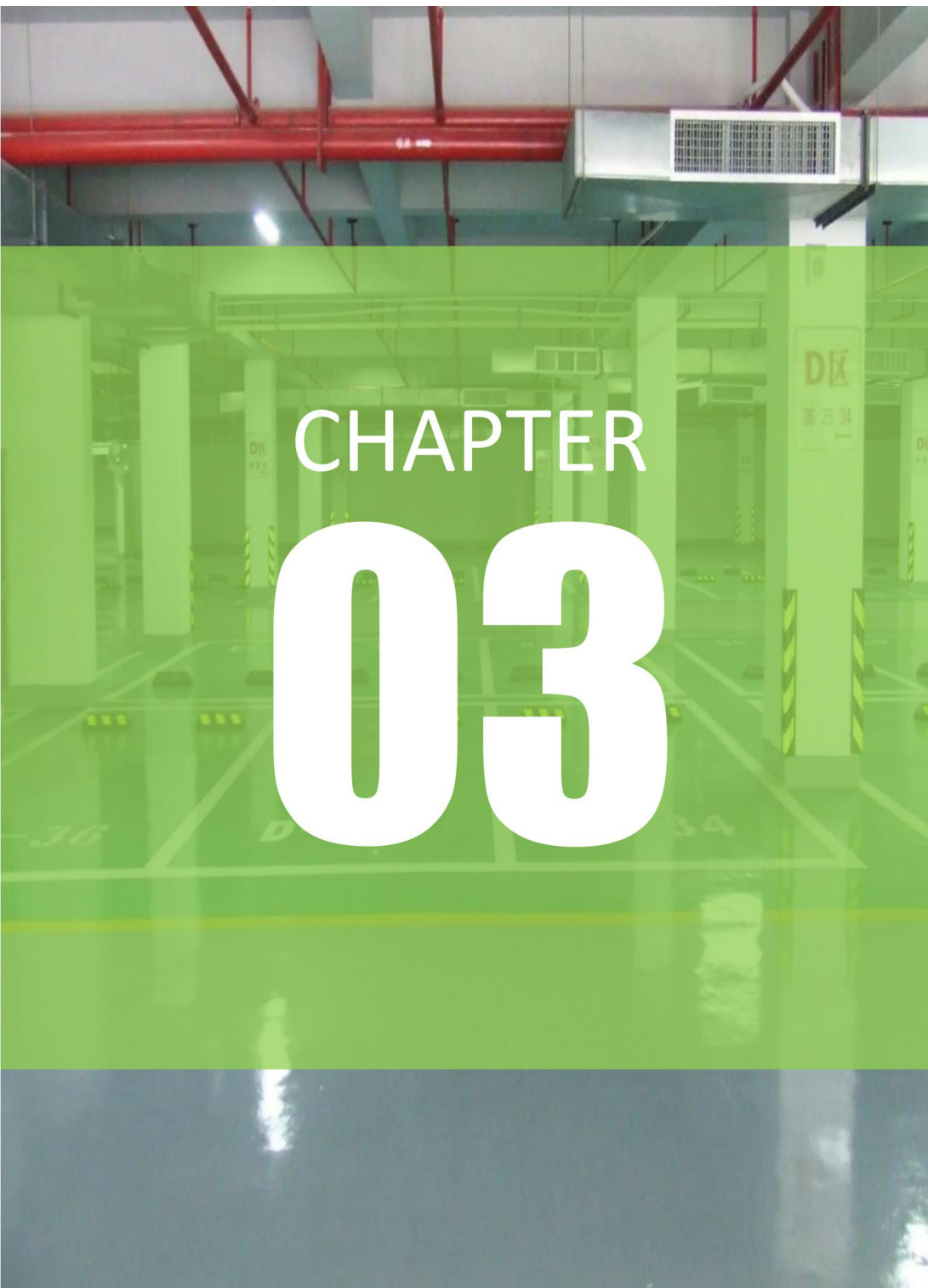


Bridge protection engineering



Urban landscape renovation

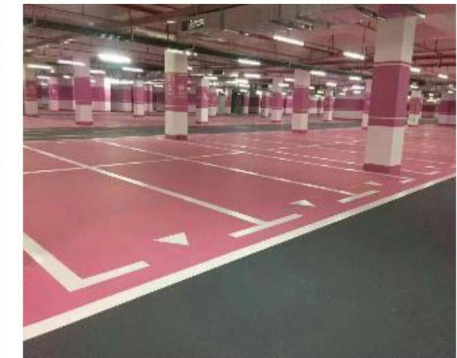




Floor coatings

Floor coatings

Ultra wear-resistant materials are sourced from nature directly, main raw materials coming from the Panxi region of Sichuan. During the process of production and use , water is often used as a dispersing medium, which has no adverse effects on the environment and health.



Moisture and dust proof, strong acid and alkaline resistance,
mold and antibacterial resistance, flat and seamless
Soft luster, diverse colors, simple cleaning, and durability
Eco-friendly and healthy, aesthetically pleasing,
fireproof, and breathable

Floor coatings -- features

Advantages of Inorganic Floor Coatings	
Wear resistance	Gloss surface 6-7h, matte surface 3-4h
Fire resistance	A-level fire retardant
Environmental friendliness	Zero (VOC) harmful gas emissions
Persistence	Not easy to peel off, peeling, and fading
Slip resistance	Strong friction, strong adhesion to the tire on the ground, and non slippery when floor have water
Curability	Forming silicification with the base layer, effectively penetrating and solidifying the base layer into one entity
cost performance	Inorganic floor coatings have no thickness requirements, have a single price, and the cost is obvious
Construction process	Short construction cycle, simple process, only requires uniform roller coating
Post maintenance	Easy maintenance, only need to repair damaged areas
High temperature resistance	200-400 °C , highlights 1000-1200 °C
Aesthetics	Colorful, over 1000 colors available
Pollution resistance	excellent
Corrosion resistance	90% concentrated acid remains unchanged, and the material itself is alkaline

Application of multifunctional inorganic floor coatings:

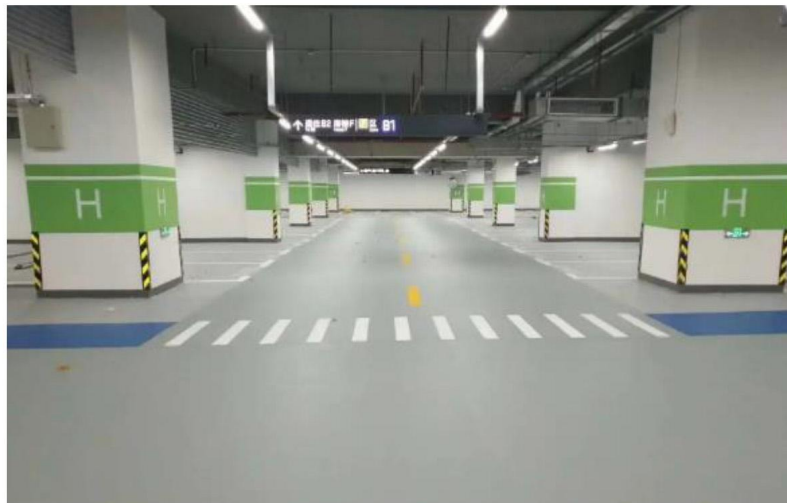
Public places

Good decorative effect,
A-grade fire resistance,
zero formaldehyde



Underground parking

Zero formaldehyde, zero VOC,
no peeling,, fireproof grade A1



Factory floor

Zero formaldehyde, zero VOC,
fireproof A1, Anti-static



Floor coatings -- Project cases



FISE Extreme
Sports Ground



Super weather
resistance
Strong wear
resistance and
hardness
Long service life

Inorganic floor of industrial park workshop



Garage anti-static floor



THANKS
