ZHULIYUAN™
筑立远

"The Core of Architecture, The Choice for the Future | Redefining the Future of UHPC Application Solutions"

Product Manual

宁波博阳城市运营管理服务有限公司
Ningbo Bóyáng Urban Operation Management Service Co., Ltd.

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Material revolution empowers architectural evolution

The material revolution empowers the evolution of architecture

Company Profile
About Us

Ningbo Boyang Urban Operation and Management Service Co., Ltd. is a leading urban operation and project management service provider in China. For many years, it has cultivated key infrastructure and public service projects for the government and large state-owned enterprises. This valuable experience gives us a unique core gene: the ultimate pursuit of engineering quality, a deep insight into complex project management, and a firm commitment to delivering reliable results.

As the core brand of the company, "Zhuliyuan" was born on this solid foundation. With the mission of "material revolution empowering architectural evolution", we focus on the field of ultra-high-performance concrete (UHPC), integrate the whole chain capabilities of research and development, industrial production and manufacturing and market application. With the unique material formula and intelligent production system, as well as the persistent pursuit of millimeter-level precision, we continue to drive Upgrade the technology of the construction industry.




产品分类 :
Classification

01.

UHPC
Powder

02.

UHPC
Seamless wear-resistant flooring

03.

UHPC
Curtain wall - a revolutionary material for reconstructing architectural epidermal economics

04.

UHPC
Indoor and outdoor countertops

05.

UHPC
Floor panel

06.

UHPC
Ultra-thin board

07.

UHPC
Thin stacked plywood

Market an alysis

Cement

As the world's second largest commodity (second only to water), cement occupies an important position in the global construction industry. Global cement production accounts for 7% of global carbon emissions, making it the single building material with the highest carbon emissions in the world. The global market has reached 1 trillion US dollars. However, with the improvement of environmental protection demand, UHPC (ultra-high-performance concrete) has become a powerful substitute for cement in a variety of applications. UHPC (Ultra-High Performance Concrete) provides a promising strategy to reduce cement use and carbon dioxide emissions, helping to mitigate global climate change.

UHPC(Ultra-high-performance concrete)

UHPC provides a promising path for more sustainable construction practices. By adopting sustainable supplementary materials (SCM), optimizing hybrid design, exploring alternative adhesives, introducing life cycle thinking and applying advanced technologies, UHPC can significantly reduce carbon dioxide emissions while significantly reducing cement consumption, thus making important contributions to achieving a more environmentally friendly building environment.

UHPC

Market analysis

Cement production accounts for the global carbon emissions

7%

The Core of Architecture, the Choice for the Future

Redefining the Future of UHPV Application Solutions

The global market size has reached

1 trillion dollars

Company advantages

01 Technological leadership

Independently developed UHPC and supporting technologies perfectly address all industry pain points of UHPC, from formulations, raw materials, and production processes to product performance, quality control, and applications. It holds multiple patented technologies and exclusive know-how, with costs only 25%-50% of the industry standard.

02 World-Exclusive Production System

Independently developed, it has undergone market testing and possesses mature, large-scale, highly automated production capabilities, with a well-established and stable technical production team.

03 Full-scenario coverage

A diverse product line that covers the core application scenarios in the construction field, and based on these two points, has the capability to segment each application market, develop corresponding technologies and processes, and meet customers' requirements for performance and cost.

Company culture

Corporate Vision

To become a globally influential supplier of green building solutions

With new-quality productivity as the core engine, we focus on the research and application of high-performance building materials that are environmentally friendly, durable, and long-lasting, continuously promoting breakthroughs and upgrades in material technology and green building solutions. We are committed to becoming a trusted partner in the global construction industry, leveraging the transformative power of ultra-high-performance concrete (UHPC) technology to help clients create iconic buildings that combine durability and sustainability, standing the test of time.

Mission

Continuously developing new material technologies to provide sustainable solutions for construction.

Driving the application of new material technologies, committed to achieving efficiency and sustainability in the construction industry, promoting the improvement of building quality and environmental standards, and realizing harmonious coexistence between humans and nature.

Values

Innovation-driven, win-win cooperation

Promote breakthroughs and upgrades in material technology and green building solutions; adhere to the principle of win-win cooperation, working hand in hand with customers and partners to create value together, achieving common development and sustainable prosperity.

01

Introduction to UHPC Series Products

UHPC Powder

UHPC POWDER MATERIAL

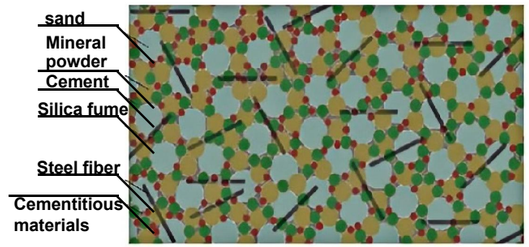
超高性能混凝土ULTRAHIGHPERFORMANCECONCRETE(简称：UHPC)

以水泥和矿物掺合料等为胶凝材料，配合骨料，外加剂，高强度微细钢纤维和/或非金属纤维，水等原料生产的超高强纤维增韧混凝土，具有超高的力学性能和耐久性能。

Ultra-high-strength fiber-reinforced concrete produced using cement and mineral admixtures as bindingmaterials,combined with aggregates,admixtures,high-strength microfine steel fibers and non-metallicfi bers,and water as raw materials.

Theory of Maximum Density Packing:

By carefully selecting fine aggregates with particle sizes ranging from millimeters to nanometers, the densest packing is achieved. Using dispersion technology, a matrix of tightly packed particles is formed to attain ultra-high durability.



Fiber Toughening:

The matrix, in combination with high-performance steel fibers, composite fibers, and hybrid fibers, achieves ultra-high tensile strength and toughness.

UHPC Characteristics

- **Compressive strength 100-200 MPa**
- **Flexural strength 12-30 MPa**
- **Tensile strength 3.5-13.2 MPa**
- **The chloride ion diffusion coefficient can reach ≤ 2.0 × 10^-13 m²/s**
- **The apparent gas permeability coefficient can reach ≤ 1.0 × 10^-19 m²**
- **Abrasion resistance index ≤ 0.7**
- **High explosion resistance, impact resistance**
- **Low water-cement ratio and high density → low porosity → dense microstructure**
- **High Durability**
  > Very low water absorption
  > Excellent resistance to chloride penetration
  > Extremely high freeze-thaw cycle performance
  > Excellent resistance to sulfide or acid corrosion

Product line

With its outstanding performance and wide applicability, it can meet the diverse application needs within specialized fields.

Product Model		Technical Specifications (MPa)			
		Feature	Compressive strength	Elastic Tensile	Flexural Strength
T100B	White tones	⩾100	-	5	12
T120B		⩾120	-	5	15
T140B		⩾140	8	9	22
T150B		⩾150	9	10	28
T100	Gray tones	⩾100	-	5	15
T120		⩾120	7	8	22
T140		⩾140	8	9	25
T150		⩾150	9	10	28
T160		⩾160	9	10.8	28
T180		⩾180 4小时抗压⩾35MPa	9	10.8	30
T100-Z	Early-strength type	⩾100		5	15
T100-M	Plaster type	⩾100	-	-	5
T100-G	Grouting type	⩾100	-	-	5

Note: Cured at room temperature for 28 days, more models can be customized

Instructions for use

Use a forced-action mixer or a mortar mixing device. First, add the premix, additives, and water, and mix according to the mix ratio until it reaches a flowable consistency, then add the fibers and mix until they are completely dispersed.

- **To ensure proper application, it is recommended that our company's technical personnel provide on-site guidance during the first use.**
- **When used for large-scale construction, high requirements are placed on the equipment and processes. The equipment needs to be assessed and necessary tests conducted, and the operators should receive training and guidance.**

Product Features

1. It can be cured at normal temperature in an environment of 5°C–30°C; in other environments, necessary measures for moisture retention and temperature reduction must be taken during construction.
2. The base material can be customized in various colors according to user requirements.
3. It is a green product made from natural minerals and is a high-quality, eco-friendly product.
4. Fibers, depending on different mechanical and environmental requirements, use copper-coated steel fibers, stainless steel fibers, synthetic fibers, etc.

Packaging and Shelf Life

1. Base material: available in 25kg and 900kg specifications, or packaged as needed; Shelf life: Store in a dry place. Small paper bag packaging lasts 6 months, ton bag packaging lasts 3 months.

2. Steel fibers: 15kg per bag or packaged as needed; Shelf life: Store in a dry place, 24 months.

Premix
25KG Packaging
Dimensions: 45*70*15cm

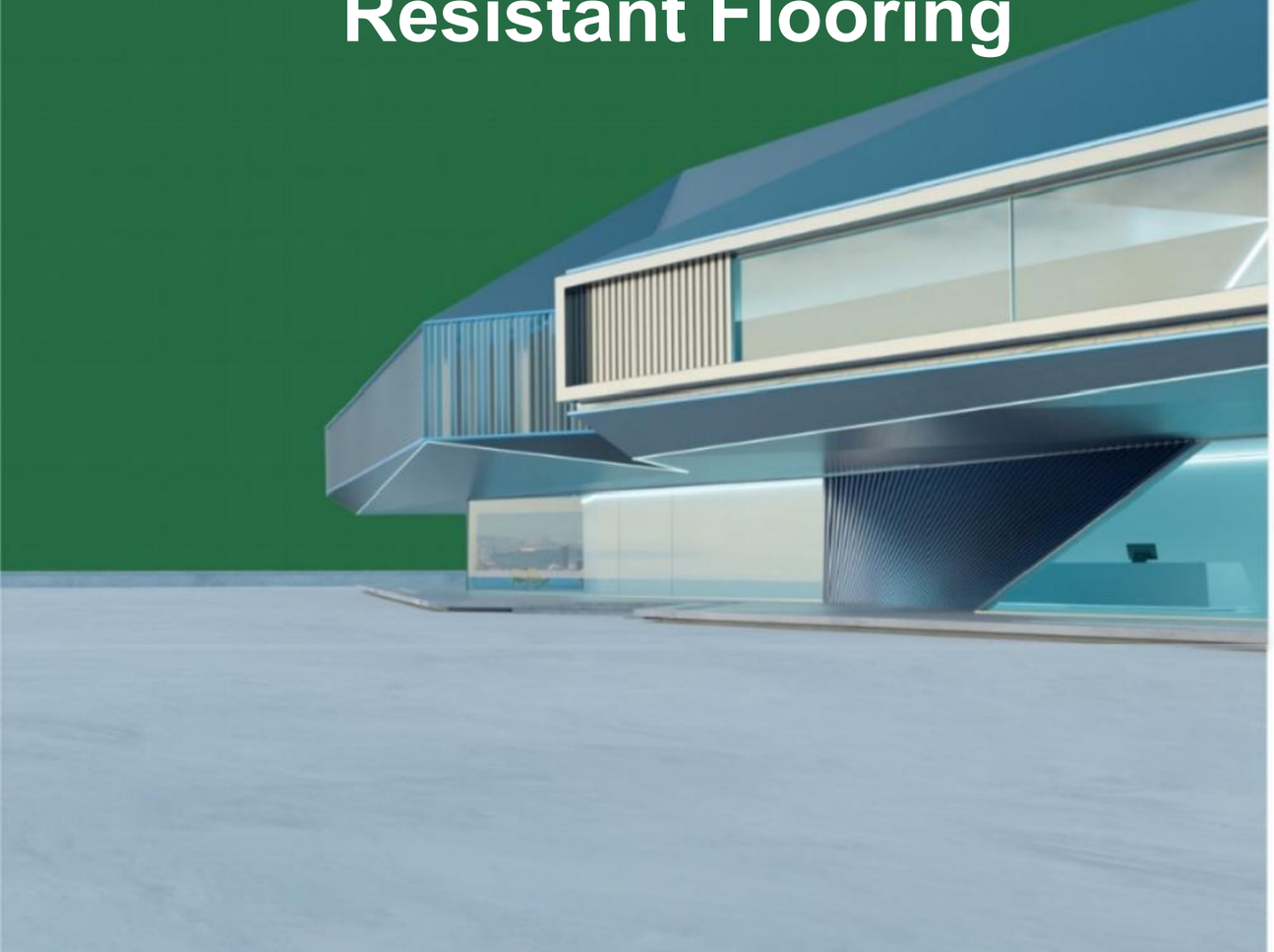
Specialty Fiber
15KG Packaging
Dimensions: 45*75*15cm

Premix
900KG packaging
Dimensions: 86.5*86.5*90cm

02

UHPC Series Product Introduction

UHPC Seamless Wear-Resistant Flooring



Problems with traditional flooring

Cement self-leveling and cast-in-place terrazzo cannot truly achieve a large-area seamless effect and are prone to cracking.

UHPC (Ultra-High Performance Concrete) seamless wear-resistant flooring is a high-strength, highly durable flooring system made from ultra-high performance concrete materials. It is widely recognized in the market for its extremely low porosity, ultra-high compressive strength (over 100 MPa), excellent wear resistance, and low shrinkage.

Extremely high compressive strength

100MPa+

Product Features

Large size, no deformation, no hollowing, solving industrial technology challenges.

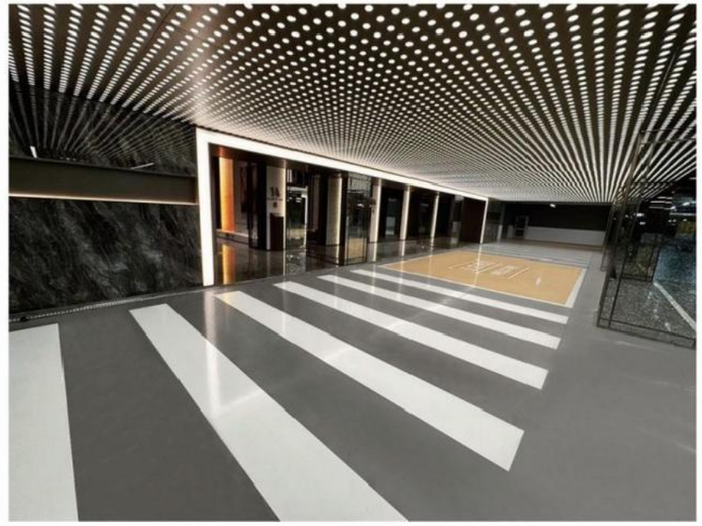
→ Product Color PRODUCT

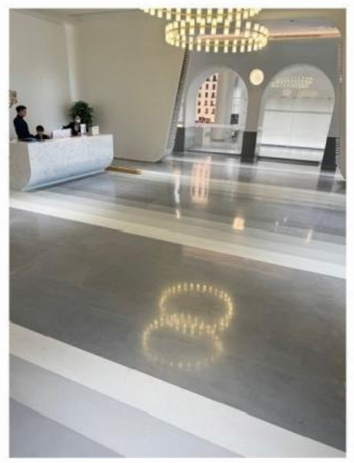
Volcanic ash　Frost white　Clear water　Amber

Product Advantages

Project	UHPC Seamless wear-resistant flooring	Epoxy Floor Paint (Organic)	Cast-in-place terrazzo (inorganic)	Self-leveling cement (inorganic)
Weather resistance	UHPC is a purely inorganic material, with no organic components, not prone to aging, and has good weather resistance.	Epoxy flooring contains organic components, making it prone to aging and delamination, with poor weather resistance.	Terrazzo is prone to cracking and hollowing, and has poor weather resistance.	After the winter and summer seasons, the expansion and contraction caused by heat and cold can easily lead to cracks appearing on the ground, resulting in poor weather resistance.
Stain resistance	UHPC material itself is highly dense, and with efficient surface protective treatment, it is stain-resistant, self-cleaning, and easy to maintain.	The surface of the epoxy floor paint is smooth and glossy, making it relatively easy to clean and maintain.	It needs to be re-waxed and sealed every six months, otherwise the surface terrazzo layer will be damaged, and maintenance is expensive.	Once this kind of floor gets stained, it's very hard to clean, and it's particularly prone to 'color seepage.' It doesn't resist dirt and is difficult to maintain.
Waterproof	Water absorption ≤1.5%, seamless overall, good water resistance, not easily dampened	The epoxy flooring has a dense structure, making it difficult for underground moisture to evaporate, which can easily lead to problems such as expansion and blistering.	It is not possible to achieve a completely seamless effect, so separating strips must be used to prevent cracking; because a fully seamless finish cannot be achieved, water stains can seep through the base along the gaps	After cracking, it is prone to moisture absorption and dampness.
Service Life	High wear resistance, Service life of over 8 years	Service life is 3-5 years; prolonged use can easily lead to aging.	It has poor corrosion resistance. If used in highly corrosive environments, or if high-corrosive cleaners are used to clean terrazzo floors, it can cause severe corrosion of the floor and shorten its service life.	It may crack, bulge, and has a short lifespan.

Application Case





Application Case

O3

Introduction to UHPC Series Products

UHPC Curtain Wall Panels

—A Revolutionary Material That Reshapes the Economics of Building Facades

Pain Points of Traditional Exterior Wall Panels

Aluminum sheet

Poor deformation resistance

Stone

Overweight, prone to dirt accumulation, high risk of falling

GRC Cladding Panel

High water absorption, high risk of cracking and falling.

UHPC curtain wall panels are thin building materials made of ultra-high-performance concrete. Their lightweight design (60% weight reduction) and high plasticity make them suitable for scenarios such as super-tall building curtain walls, uniquely shaped cultural buildings, and commercial facade decorations. The solutions can be applied in various fields (construction, infrastructure, energy, etc.) in the form of prefabricated or cast components.

Product style

→ Faux stone color STONE COLOR

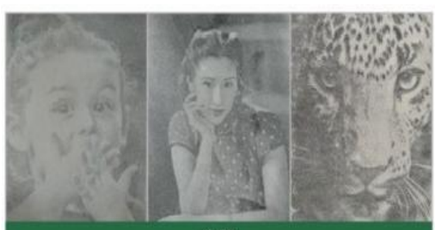
→ Wood-like texture FAUX WOOD CRAIN

→ Decorative specialty board DECORATIVE SPECIAL PLATE

→ Special-shaped exterior wall panels ALIEN EXTERIOR WALL PANEL

镂空

曲面



光影

Implementation Case

Naver Headquarters Building, South Korea

UHPC decorative panels applied over 15,000 m²

Exterior walls in Tianshui, Gansu

Rammed earth exterior wall panels 4000 m²

Qingshui Villa

This project uses 600*1200mm fair-faced boards, presenting an overall minimalist and sophisticated aesthetic.

Dongxihu Cihui Street Guesthouse

Applying rammed earth plaster to the wall

Product Advantages

Faster

Install keel brackets on the wall, then use anchors to secure the panels. After adjusting for evenness, lock them in place. The entire process is mechanized, which can shorten the construction period and improve the efficiency of wall renovation.

Longer Lasting

The product is lightweight yet high-strength, and its molecular-level dense structure can resist UV aging and extreme cold, greatly extending the lifespan of walls.

More Beautiful

Inorganic materials are highly weather-resistant and resistant to fading, allowing the wall's beauty to be maintained for a long time. They come in a variety of colors and a wide range of finishes.

UHPC

O4

Introduction to UHPC Series Products

UHPC Indoor and Outdoor Countertops

Problem Discovery

→ Organic boards ORGANIC BOARD

Organic Terrazzo

Organic Quartz Stone

Transformation

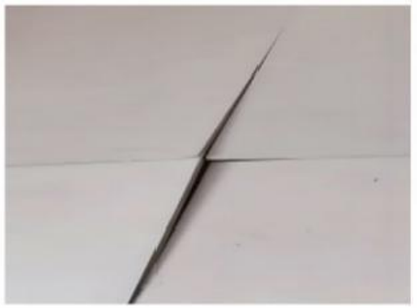
Cracking

→ Inorganic panels INORGANIC PLATE

Tiles

Inorganic Terrazzo

Warping



Hollowing

Material Type	Core defect	Health and Environmental Risks
Artificial stone	Contains resin components, prone to aging and cracking	Releasing harmful gases during the production process
Natural Stone	Excessive radioactive elements, uncontrollable color difference	The mining process destroys the ecological environment
Ceramic countertop	Easily damaged, chipping	High-temperature firing consumes a lot of energy

UHPC Indoor and Outdoor Countertop Decorative Panels

UHPC indoor countertop decorative panels are made of ultra-high-performance concrete, with strength three times that of stone, resistant to high temperatures and scratches, with zero VOCs and no deformation. They are suitable for kitchen islands, bathroom vanities, commercial display counters, and other settings.

Product Advantages

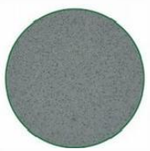
Key Comparison	Artificial stone	Granite	Zhullyuan UHPC
Compressive Strength (MPa)	120-150	80-120	100-180
Flexural Strength (MPa)	20-30	9-11	15-25
Surface Hardness (Mohs Scale)	4-5	5-6	5-7
Impact Resistance (J)	2.6	0.8-1.5	3.5-8.0
Water Absorption Rate (%)	≤0.3	0.3-0.7	0.3-1.0
Outdoor deformation/yellowing	Prone to occur	None	None
Radiation	None	None	None
Fire resistance	Flammable / releases toxic gases	nice	nice
Stain-resistant/alkali-resistant surface	Medium / No Efflorescence	Medium/Return Alkalinity	Good / No Efflorescence
Environmental friendliness	Contains formaldehyde	Mining disrupts ecological balance / difficult to recycle	Wen VOC emissions, 100% recyclable
Applicable Scenarios	Indoor countertop	Exterior wall dry-hanging, outdoor garden landscape walls and floors, countertops, etc.	Exterior wall cladding, outdoor garden landscape walls and flooring, indoor kitchen countertops, high-end bathroom, commercial exhibition booths, indoor and outdoor flooring, driveway paving

Excellent So-so Poor, risky

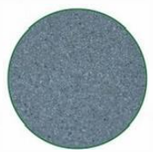
→Interior Decoration Panel Series

INDOOR DECORATIVE BOARD SERIES

Fair-faced concrete

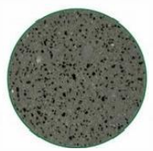


Earth Gray

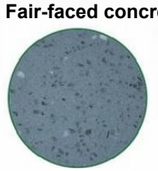


Light Mountain Gray

Cherry blossom pink



Sesame Dark Gray



Tranquil Gray

Crystal Diamond Black

Slaked lime

Sesame Light Gray

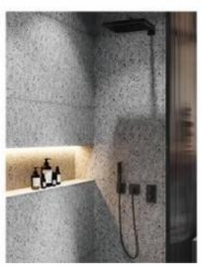
Haze Blue

Application Case

Kitchen countertop

Application Case

Bathroom fixtures



05

UHPC Series Product Introduction

UHPC Floor Panels

Problems with ordinary outdoor floor panels

Covered in dust and dirt, losing its shine

Food and beverage contamination

Car engine oil pollution, friction mark contamination

Plant oil contamination Dust and soil contamination, efflorescence

Material Type	Core defect	Hidden cost pain points
Natural Stone	Texture is uncontrollable, color difference rate > 30%	Maintenance costs up to 80 yuan/m per year
Thick cement brick	Flexural strength < 5 MPa, freeze-thaw cycles < 100 times	10%-20% annual destruction rate
Ceramic tile	Poor impact resistance, easily damaged under dynamic load	Accident Risk Premium

UHPC ecological floor panels have emerged

UHPC floor slabs achieve zero permeability, freeze-thaw resistance, and corrosion resistance through a molecular-level dense structure. Their service life is more than five times longer, and carbon emissions are reduced by 70%. They are suitable for high-demand scenarios such as heavy-load factories, smart logistics, and municipal landmarks, using 'millimeter-level technology' to reshape the aesthetics of surface strength.

Service life

More than 5 times

Carbon emission reduction

70%

Product Advantages

01

High strength and high toughness

Pure inorganic UHPC material with a double-layer fiber structure, enhancing material toughness, with good compressive, flexural, and impact resistance, making it not easy to break.

02

Natural non-slip

Highly hydrophilic, becomes rough when in contact with water, providing good slip resistance. Made of cement-based material, it bonds strongly with cement mortar, making it less likely to loosen and more stable.

03

Stain-resistant and self-cleaning

Pollutants do not penetrate or adhere easily, making it resistant to dirt accumulation. Colored contaminants on the surface can be easily rinsed off with water, making it easy to clean and maintaining a lasting aesthetic appearance.

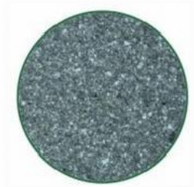
04

Easy to install

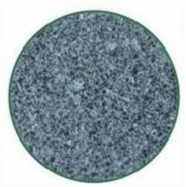
The 1.2-meter large slabs can be laid outdoors using the traditional cement-sand mortar method, just like natural stone. Using professional tile adhesive for bonding is even more reliable.

→ Floor Panel Series

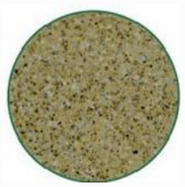
FLOORBOARD SERIES



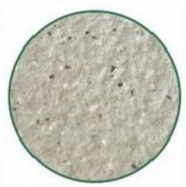
Daimo Gray



Beluga Gray

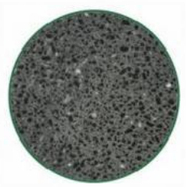


Quicksand Yellow

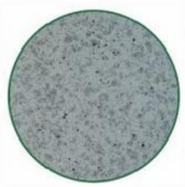


Snow Peak White

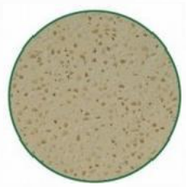
Golden Hemp



Crystal Diamond Black



Twilight Gray

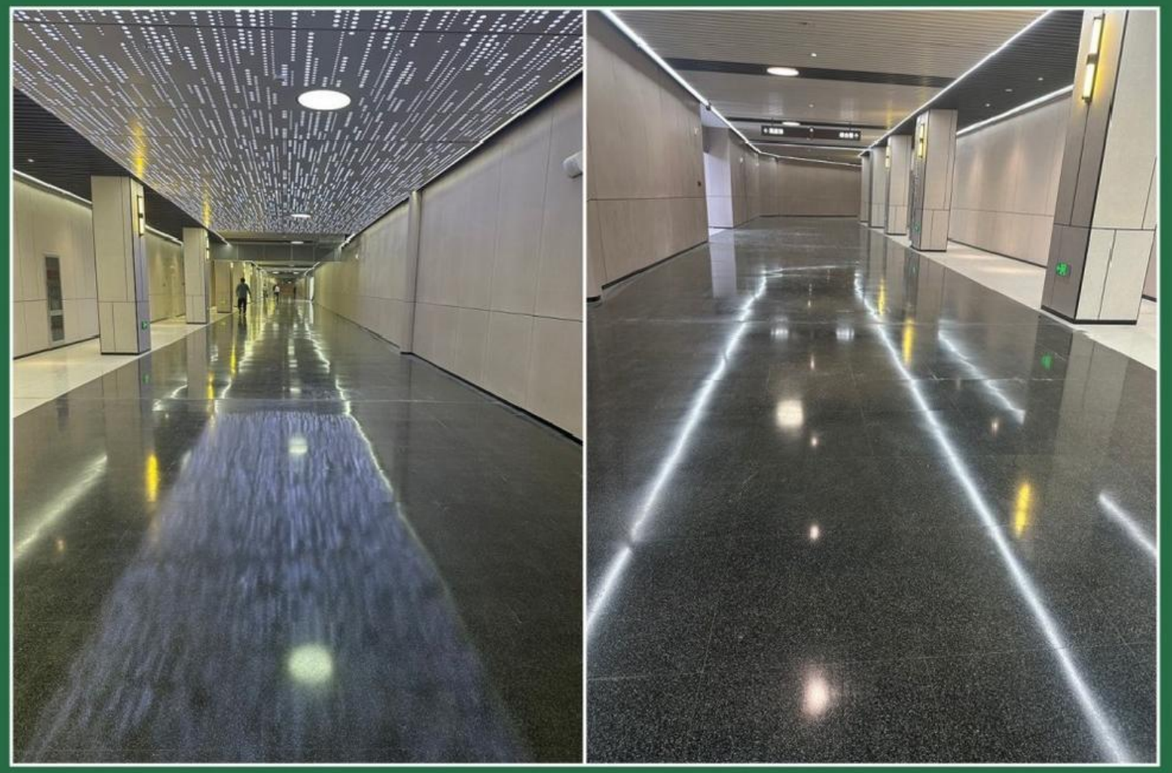


Sunset Yellow

Application Cases

Wuhan Friendship Avenue

Underground parking garage



Optics Valley Science Island

Changde High-Speed Rail Station (Model)

UHPC

Global UHPC Leading Company

O6

Introduction to UHPC Series Products

UHPC Ultra-Thin Panel

As a construction material with ultra-high toughness, it is crack-resistant and corrosion-resistant, weighs 90% less, can be bent into curved surfaces, is translucent or mimics stone textures, and is suitable for building curtain walls, municipal floors, home countertops, and industrial heavy-duty floors, achieving a full-scale building material revolution based on 'thin yet strong'.

Lightweight

90%

Product Advantages

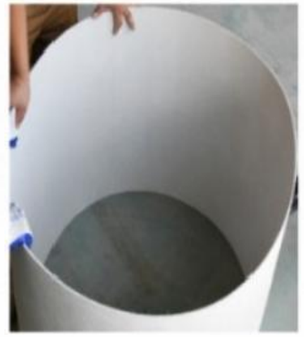
Dimension	Technical Indicators	Benchmarking Traditional Materials	Value Gain
Flexural performance	Flexural strength ≥ 25 MPa	≤10MPa	Bending resistance increased by 150%
Structural Performance	Impact resistance ≥ 15 kJ/m²	Tile ≤2.0 kJ/m²	Impact resistance increased by 750%
Lightweight and energy-saving	Thickness ≤ 5mm Weight ≤ 9kg/m²	Stone 60-80 kg/m³	Building load reduced by 65%-85%
Durable Economy	Weathering test for 3000 hours without discoloration	Real stone paint (5-year peeling rate >40%)	Maintenance cycle extended to 15 years
Aesthetic Expression	300 Digital Simulation Textures	Tiles (texture repeat rate >70%)	Design freedom is 200%
Constructio n efficiency	Modular installation speed is three times faster	Stone (requires professional cutting equipment)	Labor costs ↓60%
Carbon footprint	Full life-cycle carbon emissions ↓85%	Aluminum Plate (Production Energy Consumption ↑400%)	LEED Certification Bonus Points

Eco-friendly and durable

Green and environmentallyfiendly
durable and long-lasting.

UHPC

→ Product Effect PRODUCT EFFECT


→ Product style PRODUCT STYLE






07

Introduction to UHPC Product Series

UHPC Thin Composite Slab

Industry Pain Points: When Traditional Architecture Faces the Challenges of the Times

Against the backdrop of a slowdown in urbanization and the pressing 'dual carbon' goals, the construction industry is facing numerous challenges:

Traditional PC laminated board >

Thickness and Weight

The slabs have steel protruding on all sides, with a typical thickness of 50-60mm. Each slab weighs about 3-5 tons, requiring heavy-duty trucks for transportation and large tower cranes for lifting, which greatly reduces the efficiency of construction. This causes difficulties in production, installation, and transportation.

Strength and Durability

The compressive strength of traditional composite panels is C30-C50, prone to cracking and water seepage, with poor corrosion resistance.

Construction and Costs

The traditional composite slab casting process is complicated, requiring formwork, rebar tying, pouring, and curing. The construction cycle is long, and labor costs are greatly increased.

Environmental Protection and Sustainability

The traditional extensive production model of concrete is unsustainable, generating a large amount of construction waste and significant carbon emissions.

UHPC Thin Composite Slab

The UHPC thin composite slab consists of two parts: a UHPC high-strength precast slab and a steel truss. The UHPC high-strength precast slab is poured using ultra-high-performance concrete mixed with admixtures, and the steel truss is then embedded within it. Ultra-high-performance thin composite slabs can be mass-produced on a large scale, with a daily output of up to 15,000 m², and can be widely used in residential buildings, office buildings, schools, hospitals, shopping malls, and industrial buildings.

Daily production can reach 15000m²

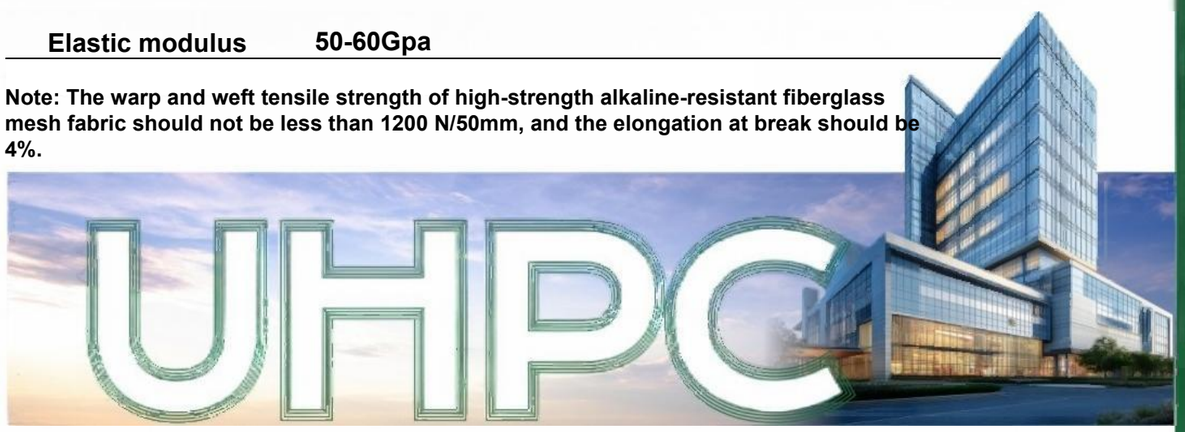


Technical Parameters of UHPC Thin Prefabricated Slabs

Technical Specifications

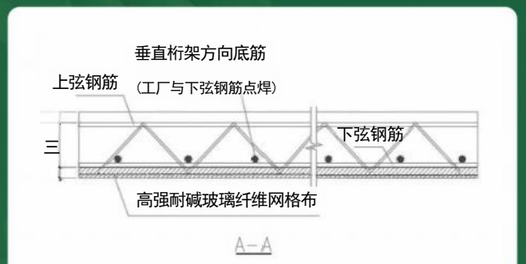
Compressive Strength	>100MPa
Flexural Strength	>15 MPa (internally contains high-strength alkali-resistant fiberglass mesh)
Tensile strength	>5.5MPa
Elastic modulus	50-60Gpa

Note: The warp and weft tensile strength of high-strength alkaline-resistant fiberglass mesh fabric should not be less than 1200 N/50mm, and the elongation at break should be 4%.

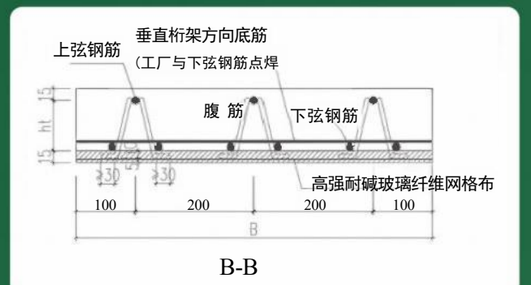


UHPC Thin-Layer Composite Panel Dimensions and Specifications

UHPC Thin Prefabricated Slab Layout



Elevation drawing



Elevation drawing

Large Span Without Support / Low Deflection — Design

Section Conversion:
HRB400 Reinforcement Design Strength 360 N/mm²
UHPC Compressive Strength >120 N/mm²

UHPC Compressive Stress = 2100 * 120 N

Reinforcement area in the compression zone: As = 6 * 3.14 * 25 = 471 mm²
UHPC compression bar area = 60 * 35 = 2100 mm²

Reinforcement compressive stress 471 * 360 N

Product Advantages

Lightweight component

Using UHPC material technology, with a thickness of only 1.5 cm, the product components are lightweight, making them easy to stack, transport, lift, and install.

Thin thickness

The thickness of the structural board can be as thin as 100mm, which is 30% thinner compared to traditional composite boards, thereby increasing the floor-to-ceiling height.

Well-formed

The product has a compressive strength greater than 100 MPa and a flexural strength greater than 15 MPa. It is highly strong, solving the problems of corner chipping and edge damage commonly found in traditional laminated panels. The seams are tightly joined with minimal gaps, requiring no on-site secondary treatment, and concrete can be poured directly.

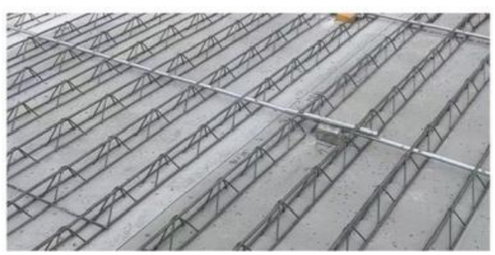
Low cost

Efficient product hoisting and installation; on-site rebar tying reduced by more than 50%, no formwork required and less support needed, significantly lowering construction costs. The floors and main structure are lightweight, with low structural costs.

Green and environmentally friendly

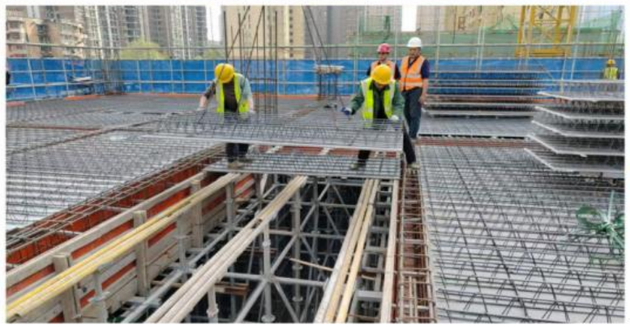
Industrialized production of products, no need for steaming curing, fast demolding, mold-free, minimal support, reducing onsite wood usage; high flatness, no need for plastering; effectively reduces carbon emissions and highly aligns with the national 'dual carbon' strategy.

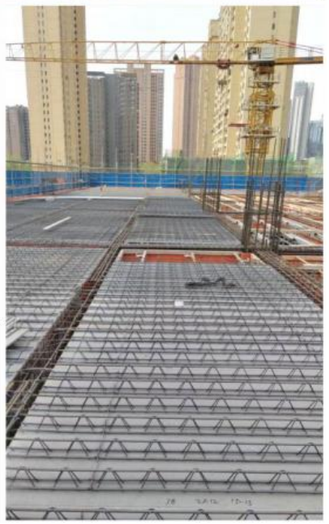
Continuous Paving Effect of UHPC Thin Composite Slabs



Implementation Case

Lingkong Zhiyi, Dongxihu, Wuhan





This project is one of Wuhan's ultra-large-scale prefabricated residential developments, with a total of 100,000 m² of thin composite slabs to be supplied.

Implementation Case

Implementation Case

Wuhan Dongxihu Wushang Wholesale Supermarket

Nanjing Yanziji Elementary School

The Core of Architecture, the Choice for the Future

Global Leader in UHPC

Global UHPC.leader

UHPC

Application Areas

UHPC Series Product Applications

Applications of UHPC

APPLICATION AREAS

1、Traffic Engineering

UHPC can be applied in multiple scenarios, including prefabricated components, wet joints, steel-UHPC composite structures, UHPC-concrete composite structures, and crash barriers.

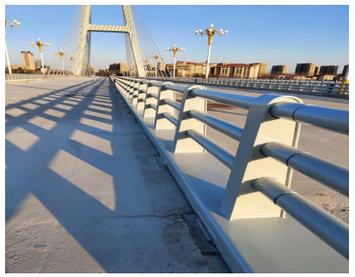
Main Channel T-Beam

Wet joint of elevated pier column

Elevated π-beam

Tianma Road Heavy-duty Pavement

Main span of the bridge Bridge deck wet joint



Bridge crash barrier

Bridge deck pavement

Rail Transit Blocking Panel

APPLICATION AREAS

2、Construction Engineering

UHPC can be applied to the construction of prefabricated buildings, precast building components, precast panels, main structural components, as well as large auxiliary buildings and structures.

Prefabricated Substation Building

Assembly Building Node Connection

Tech Park Underground UHPC Slabs

Special structure of the villa basement

Prefabricated building frame column joint connection

Reinforced truss floor decking

Prefabricated stairs

manhole cover

3、Reinforce protection

UHPC is widely used in the structural reinforcement of old buildings, maintenance and reinforcement of bridges and tunnels, structures for geological disaster prevention, construction of nuclear, biological, and chemical protection facilities, as well as the structural reinforcement of important infrastructures such as reservoirs, dams, and nuclear power plants.

Renovation and Reinforcement of Old Houses

Reinforcement of old highway bridge

Reservoir spillway repair

4、Building curtain wall

UHPC can be applied to high-performance curtain wall panels, ultra-thin and ultra-light curtain wall components, complex-shaped curtain wall structures, fireproof and heat-insulating curtain wall systems, as well as custom UHPC curtain wall panels that combine art and functionality, providing unlimited possibilities for modern architectural design.

Cultural Museum

Yugang Ancient City

30BKAP Villa

Medical School Headquarters Base

APPLICATION AREAS

5、Urban housing and municipal facilities

UHPC can be used for landscape components such as pedestrian bridges, viewing platforms, water feature decorations, and artistic sculptures, as well as architectural elements like decorative fences, artistic benches, and unique lighting fixtures, along with various other types of innovative applications.

Lounge chair

Bathtub

Curb

Pipeline

6、Energy Engineering

UHPC can be applied to the reinforcement of transmission tower foundations, wind turbine tower structures, nuclear power plant containment structures and internal components, solar photovoltaic panel support structures and bases, as well as the enclosures and load-bearing structures of energy storage facilities.

Wind Turbine Foundation Reinforcement

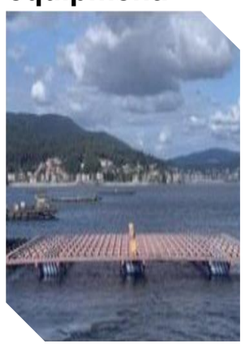
Wind turbine tower structure

Photovoltaic support structure

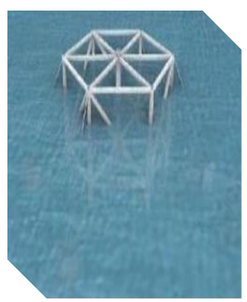
Chemical energy storage box

7、Marine Engineering

The applications of UHPC cover support structures for offshore platforms, lining materials for subsea tunnels, foundations for offshore wind power, breakwaters and coastal protection structures, protective casings for marine pipelines, and pressure-resistant housings for deep-sea exploration equipment.



Offshore aquaculture platform



Aquaculture cage

Offshore oil platform

Seawall flood control slope

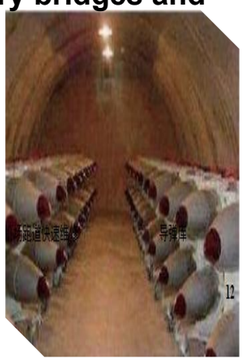
8、Military Engineering

UHPC demonstrates unique advantages in protective shelter construction, missile silo and launch platform support, protective layers for military vehicles and equipment, reinforcement of underground command centers and communication facilities, as well as strengthening military bridges and road structures.

Military command post

Missile launch silo

Rapid runway repair



Missile silo

UHPC Series Product Application Case Appreciation

美国旧金山奥克兰公园观光塔
OAKLAND PARK SIGHTSEEING TOWER
SAN FRANCISCO,USA

Dubbed the 'Last Modernist'

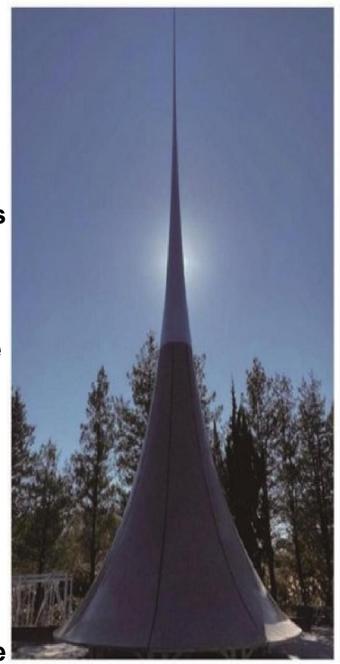
Contemporary Artist

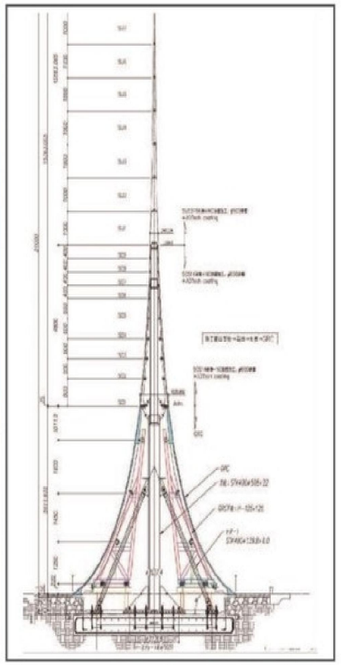
Hiroshi Sugimoto

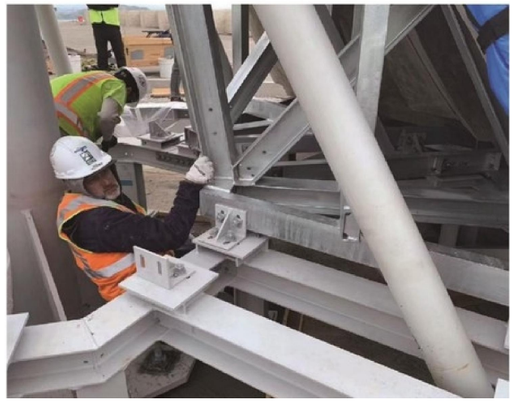
Design Unit: Institute of New Materials
Curtain Wall Unit: Shanghai Mingmao International Trade Co., Ltd.
Project Address: Oakland, California, USA on the West Coast of the United States
Completion Date: December 2022

奥克兰位于美国西海岸加利福尼亚州，奥克兰公园依山傍海，风光秀丽，冬暖夏凉，气候富人。富饶的自然资源和宜人的气候景色，使这里充满了浪漫灿烂的气息，深深地吸引着世界各地的旅游观光者。观光塔的建立更是成为了奥克兰城市的 建筑地标，吸引着游客的驻足和观望。该项目位于美国旧金山大桥畔的奥克兰公园，观光塔高21米，底部周长22.14米，表面效果采用水洗石镜面。

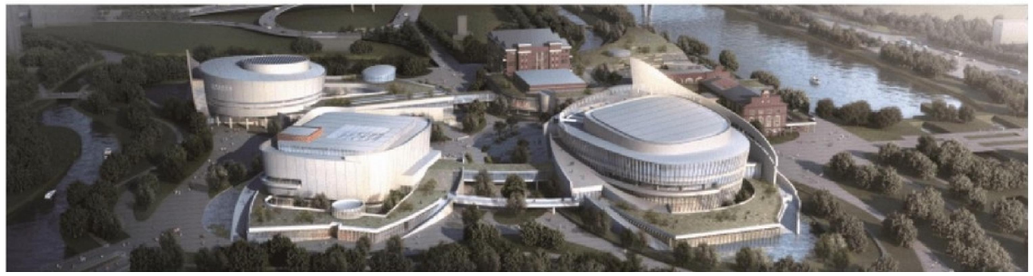
Oakland is located in California,on the west coast of the United States, Oak- land Park is surrounded by mountains and thesea, beautiful scenery, warm winter and cool summer, pleasant climate. The rich natural resources and pleasant climate make this place full of romantic and s plendid atmo- sphere,which deeply attracts tourists from all over the world. The establish- ment of the observation tower has become an architecturallandmark of Auckland city,attracting tourists to stop and watch.The project is located in Oakland Park by the San Francisco Bridge,USA,the observation tower is 5 meters high,the bottom circumference is 15 meters,and the surface effect is made of washed stone mirror.







无锡·江阴国乐岛
JIANGYIN GUOLE ISLAND,WUXI



Architect

Cheng Taining **Master of Engineering Design in China**

Construction Unit: Jiangyin Housing and Urban-Rural Development Bureau
Design Units: Jiangsu Zhongrui Huadong Architectural Design & Research Institute Co., Ltd.
Hangzhou Zhonglian Zhujing Architectural Design Co., Ltd.
Curtain Wall Unit: Shenzhen Boda Construction Group Co., Ltd.
Project Address: Liyong Road, Jiangyin City, Wuxi
UHPC Usage: Approximately 27,000 m²
Completion Date: August 2023

国乐岛项目北靠北大街历史文化街区，西临锡澄运河，总建筑面积12。5万平方米，是江阴“一江一河”城市T台重要组成部分。

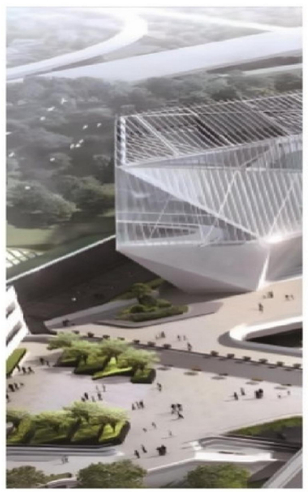
The Guole Island project is bordered by the historical and cultural block of North Street in the north and the xicheng Canal in the west,with a total construction area of 125,000 square meters.It is an important part ofjiangyin's "one river, one river"city runway.

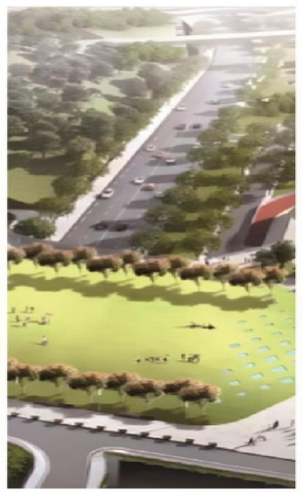
香 港 城 市 大 学 图 书 馆
CITY UNIVERSITY OF HONG KONG LIBRARY PROJECT

Construction Company: China State Construction Fourth Engineering Bureau Co., Ltd.
Design Company: HENN HAIN Architectural Design Engineering Co., Ltd.
Curtain Wall Company: Shenzhen Yihua Architectural Decoration Engineering Co., Ltd.
Project Address: Pingshan East Area, Songshan Lake Science City, Dongguan
UHPC Usage: Approximately 4,000 m²
Completion Time: March 2025

香港城市大学图书馆 (City University of Hong Kong Library)是香港城市大学的主要学术资源中心。图书馆位于校园内的张祖杰学术大楼，并设有多个楼层。图书馆采用大悬挑钢结构设计，成就了凌空飞扬的建筑形态，与平台设计相结合，完 美衔接一、二期，是香港城市大学(东莞)校园标志性建筑。它是一个重要的学术资源中心，为学生和教师提供丰富的图书馆藏和多种学习设施，旨在支持学术研究和知识传播。

The City University of Hong Kong Library is the main academic resource center of City University of Hong Kong Located in the Academic Building,the library spans across multiple floors.The library adopts a large cantilever steel structure design,which has achieved a flying architectural form.Combined with the platform design,it perfectly connects the first and second phases.It is a landmark building on the campus of the City University of Hong Kong(Donggu- an).It is an important academic resource center,providing students and faculty with a rich collection and a variety of learning facilities.It aims to support academic research and knowledge dissemination.




中国人民大学-通州校区
RENMIN UNIVERSITY OF CHINA TONGZHOU CAMPUS

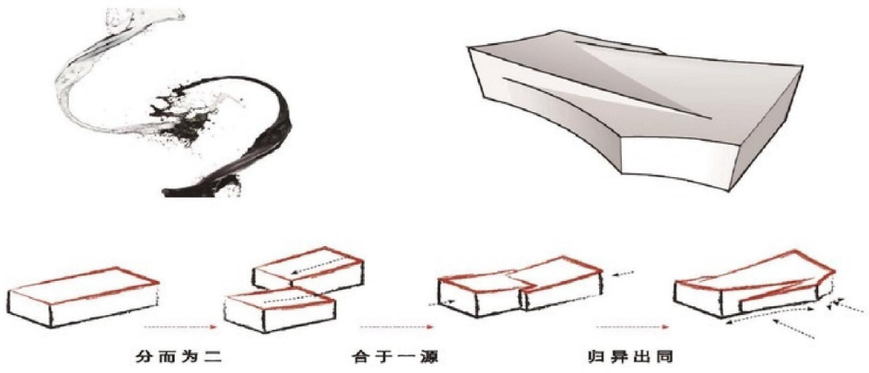
Construction Company: China State Construction Engineering Corporation First Division (Group) Co., Ltd.
Curtain Wall Company: China Railway First Group Construction Engineering Co., Ltd.
Project Address: Yunhe East Street, Tongzhou District, Beijing
UHPC Usage: Approximately 13,000 m²
Completion Time: January 2023

中国人民大学通州新校位于北京市通州区潞城镇，北京城市副中心核心区域，毗邻北京行政办公区，范围为东至春宜路、南至运河东街、西至规划城市支路、北至玉带河大街。是国内首个大批量使用装饰复合一体板的项目。

Tongzhou New School of Renmin University of China is located in Lucheng Town,Tongzhou District,Beijing,the sub central core area of Beijing City,adjacent to the Beijing Administrative Office Area,with the range of Chunyi Road in the east,Yunhe East Street in the south,planned urban branch road in the west,and Yudaihe Street in the north.It is the first project to use decorative composite panels in large quantities in China.

合肥美术馆
HEFEI ARTMUSEUM

Construction Unit: Hefei Federation of Literary and Art Circles, Hefei Key Project Construction Management Bureau
Design Unit: Tongji University Architectural Design and Research Institute (Group) Co., Ltd.
Curtain Wall Unit: CSCEC Shenzhen Decoration Co., Ltd.
Project Address: Wenbo Park, Government Affairs District, Hefei
UHPC Usage: Approximately 8,800 m²
Completion Date: August 2024



合肥美术馆（合肥市美术馆）位于合肥市怀宁路与万佛湖路交叉口，安徽省文博园地块东南片区，与 安徽省博物馆、安徽地质博物馆一同形成中轴对称布 局。合肥美术馆设计总用地面积1.42万平方米（约 21.33亩），总建筑面积3.6万平方米，其中地上建筑 面积1.6万平方米，地下建筑面积2万平方米，项目建 设1栋地上4层、地下2层单体建筑。包括主体建筑、 艺术广场、绿化景观等.

The Hefei Art Museum(Hefei Art Museum)is located at the intersection of Huaining Road and Wanfo Lake Road in Hefei,in the southeast areaof the Anhui Provincial Cultural and Museum Park plot, and is adjacent to the Anhui Provincial Museum。

The museum and Anhui Geological Museum form a symmetrical layout along the central axis.

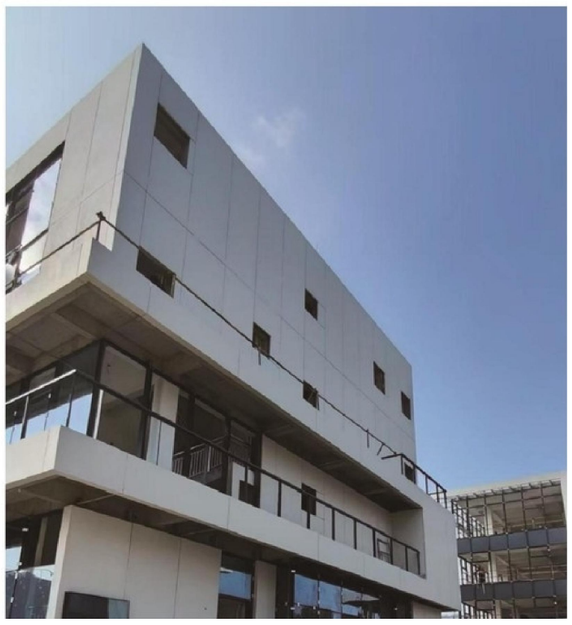
安吉科创中心
ANJI SCIENCE AND TECHNOLOGY INNOVATION CENTER

Construction Contractor: Zhejiang Lixin Construction Co., Ltd.
Curtain Wall Contractor: Hangzhou Xinuo Decoration Co., Ltd.
Project Address: Lingfeng Road, Anji, Huzhou, Zhejiang Province
UHPC Usage: 16,000 m²
Completion Date: November 2024

安吉“两山”未来科技城迎宾绿轴改造提升项目位于安吉灵峰路（胜利西路至墨竹路）。项目主要建设内容包括城市街道改造工程约15万平方米、景观提升工程约20万平方米、景观延伸工程约3万平方米，以及相关的配套工程。项目总用地面 积约28万平方米。

The Anji "TWo Mountains"Future Technology City Welcome Green Axis Renovation and Upgrading Project is located on Lingfeng Road (Shengli West Road to)in AnjiMozhu Road).The main construction content of the project includes urban street renovation of about 150000 square meters and landscape enhancement

The project covers an area of approximately 200000 square meters,the landscape extension project covers an area of approximately 30000 square meters,and related supporting facilities.projectThe total land area is approximately 280000 square meters.

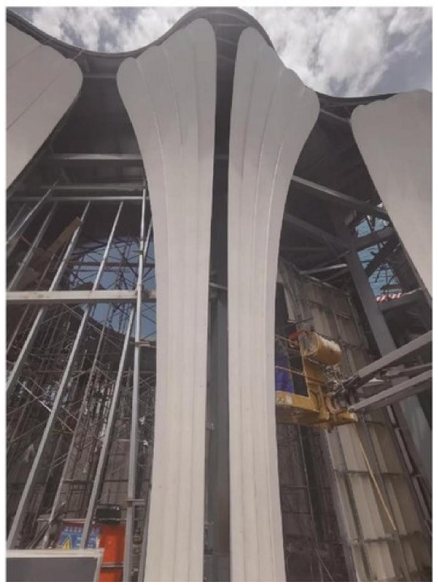


金地·喜悦里
KINGDEE JOYLAND

Construction Contractor: Tianjin Fuchun Jiangpan Real Estate Co., Ltd. (Houtai Group)
Proxy Construction Unit: Gemdale Corporation
Project Address: West Side of Changfeng Road, Xiyingmen Subdistrict, Xiqing District, Tianjin
UHPC Usage: Approximately 500m²

金地 ·喜悦里紧邻熙悦汇，同频南开配套资源；立序黄河道畔，黄河道作为天津的人文、通达、生态之脉，赋予居者便捷。项目规划占地面积约3.6万平米，一期容积率约1.87。作为市场新规4.0全架空府院洋房社区，为城市改善而来。

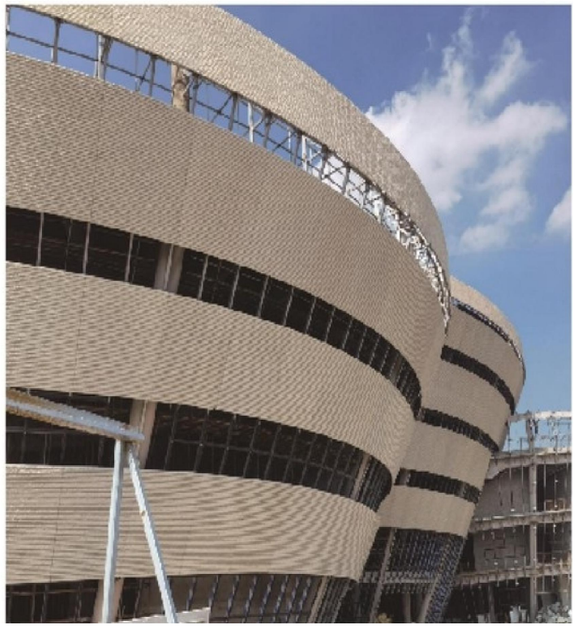
Jindi Jiayueli is located adjacent to Xiuyuihu,sharing the same frequency with Xinkai's supporting resources.It issituated on the Huanghe Road,which is the culttural,accessible and ecological artery of Tianjin,providing convenience for the residents.The project covers an area of approximately 36,000 square meters,and the first phase has a floor area ratio of about 1.87.As a new market regulation 4.0 fully open-air courtyard mansion community,it is designed to improve the city.



上海松江职工文化中心
SHANGHAI SONGJIANG COMPREHENSIVE ACTIVITY CENTER PROJECT

Construction Unit: Songjiang District Federation of Trade Unions
Curtain Wall Unit: Shanghai Zhuzong Metal Structure Co., Ltd.
Project Address: Songjiang International Ecological Business District, Zhongshan Street, Songjiang District
UHPC Usage: Approximately 4500 m²

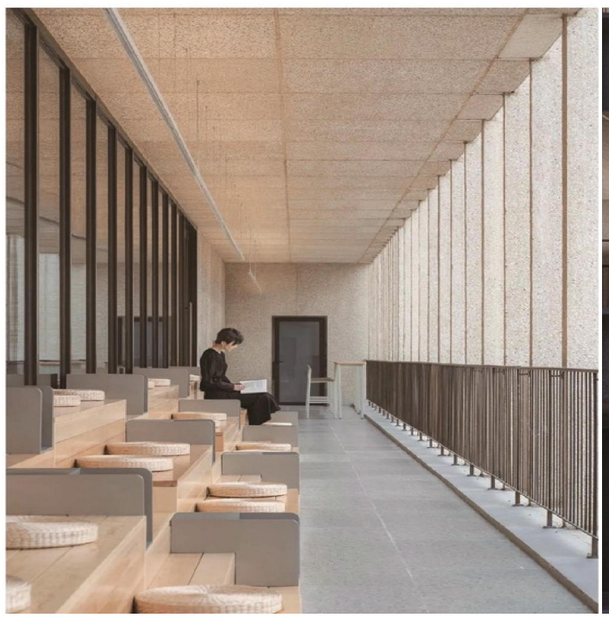
Completion Time: November 2019



松江区职工活动中心，位于上海松江区松江国际生态商务区内，外观造型比较“奇特”，由中间一幢大碗型建筑和东西两幢小碗型建筑相互搭接而成，总建筑面积3.68万平方米。

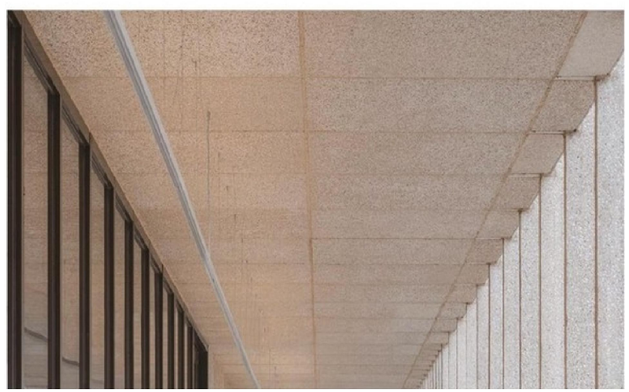
Songjiang District staff activity Center,located in Songjiang International Ecological Business Zone,Songjiang District,Shanghai,the appearance of the relatively "strange",by the middle of a large bowl building and two small bowl building from the east and west of each other,a total con- struc- tion area of 36,800 square meters.

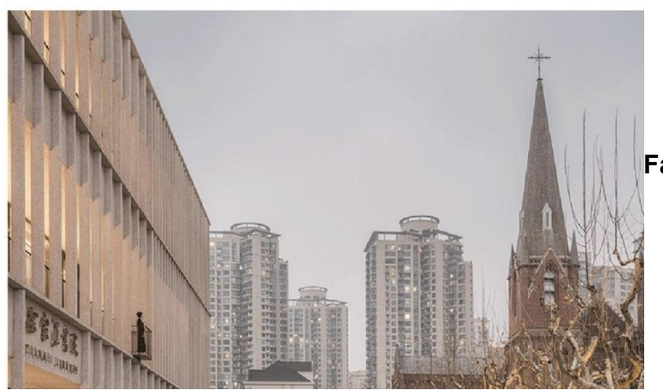
徐家汇书院
XUJIAHUI ACADEMY



本项目位于上海徐汇区，该项目外立面主要由GRC幕墙大板组成。该项目的建成将成为徐汇区一道亮丽的风景线准板宽度1400mm， 最大板跨4340mm;HPC材料近1万平方，表面肌理为米黄色水洗石效果.

This project is located in Xuhui District, Shanghai. The exterior facade of the project mainly consists of GRC curtain wall panels.The completion of this project will become a beautiful scenic spot in Xuhui District,with a standard board width of 1400mm and a maximum board span of 4340mm,HPC material covers nearly 10000 square meters,with a surface texture of beige washed stone effect。

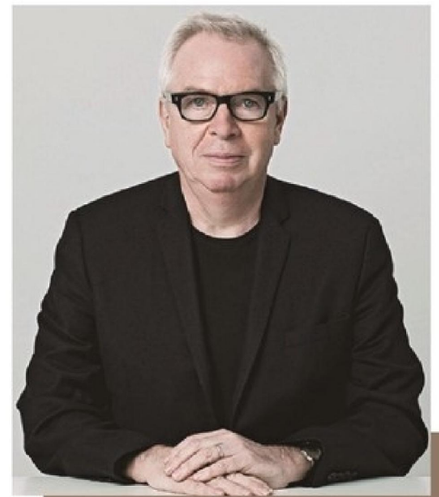




Pritzker Architecture Prize winner

British architect

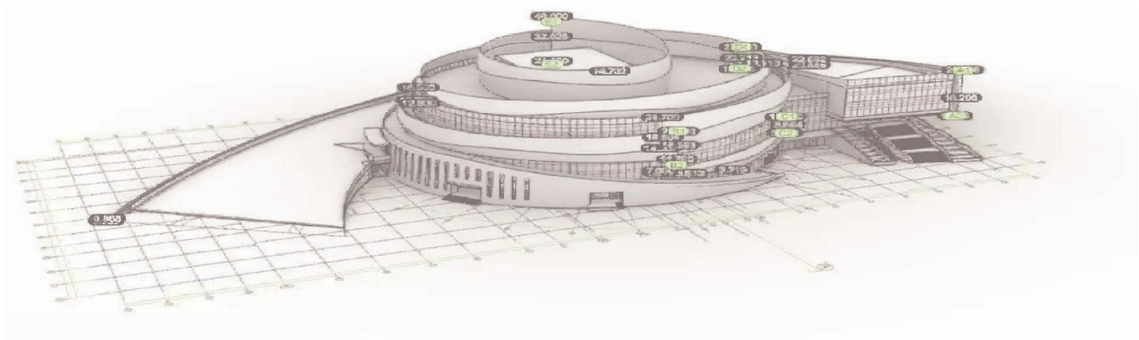
Paul David Chipperfield



Construction Unit: Xuhui District Culture and Tourism Bureau,Xuhui District Library
Design Unit: Wutopia Lab
Facade Unit: Shanghai Chaoshan Industrial Co., Ltd.
Project Address: No. 158, Caoxi North Road, Xuhui District
HPC Usage: Approximately 10,000 m²

Completion Date: December 2021

杭州运河大剧院
HANGZHOU CANAL GRAND THEATER



Design Unit: Zhejiang Province Architectural Design and Research Institute
Curtain Wall Unit: Zhejiang Shengda Energy-saving Building Materials Technology Co., Ltd.
Project Address: No. 399, Qiaonong Street, Gongshu District, Hangzhou
HPC Usage: Approximately 5,500 m²
Completion Date: March 2021

杭州运河大剧院地面建筑面积19000平方米，兼具文化展示及商业配套功能，设有1200座通用剧院及400座多功能小剧院，还有数码科技集成空间、空中多功能厅等特色配套商业设施。

with a floor area of 19,000 square meters,Hangzhou Canal Grand Theater is equipped with 1,200 general theaters and 400 multifunctional smalltheaters,as well as digital technology integration space,air mulifunctional hall and other supporting commercial facilities.