



# Eco-friendly Home

天津市弗雷姆新能源科技  
有限责任公司

Tianjin Flame New Energy  
Technology Co.,Ltd.





## New Prefabricated Construction

Tianjin Flame is committed to the development of various energy-saving prefabricated construction, development, production and sales, technical services and engineering construction. Tianjin Flame is focused on providing the overall solution for the green and environmental friendly construction.



Manufacturing center





## 产品介绍 Product Introduction

The low-floor cold-formed thin-walled steel plate wall structure is a new type of building structure technology, which is a kind of "box" structure composed of composite wall panels, compensating the shortage of brick wall structure and frame structure;

**It is very suitable for the buildings with floors less than 30 floors.**

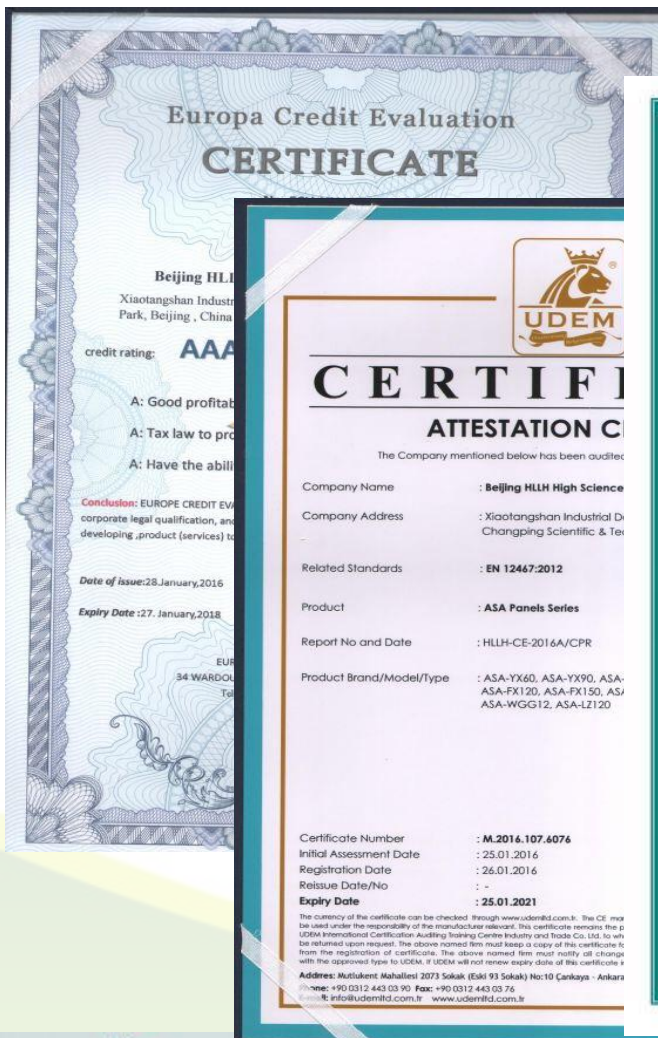
Compared with the traditional brick-concrete structure and frame-type construction technology, it is the innovation of building materials and building technology in the construction field. It can completely replace the traditional brick-concrete structure, frame-type structure and other architectural forms in the low-rise building, changing the architectural traditional construction mode for the low-rise building.







# 技术荣誉 Technology Awards



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# 技术荣誉 Technology Awards



**National Invention Patent**  
**Utility Model Patent**



# 产品介绍 Product Introduction

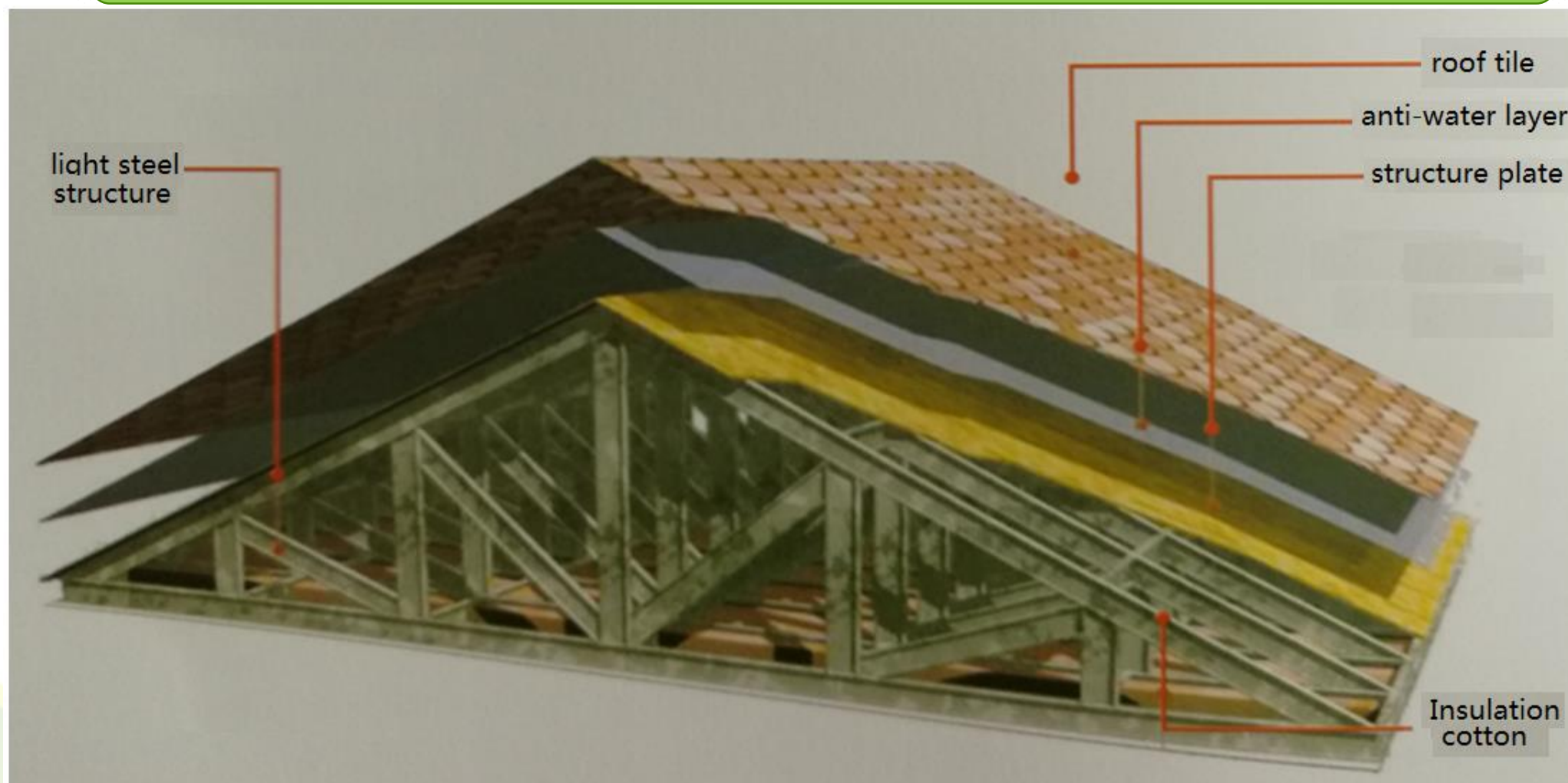
Main features:

- 1) it is earthquake resistance;
- 2) it is energy saving and environmental friendly;
- 3) it is easy for installation and simple assembly method;
- 4) it can be constructed in a short time;
- 5) it is with a long lifespan, at least 50 years;





# 产品介绍 Product Introduction

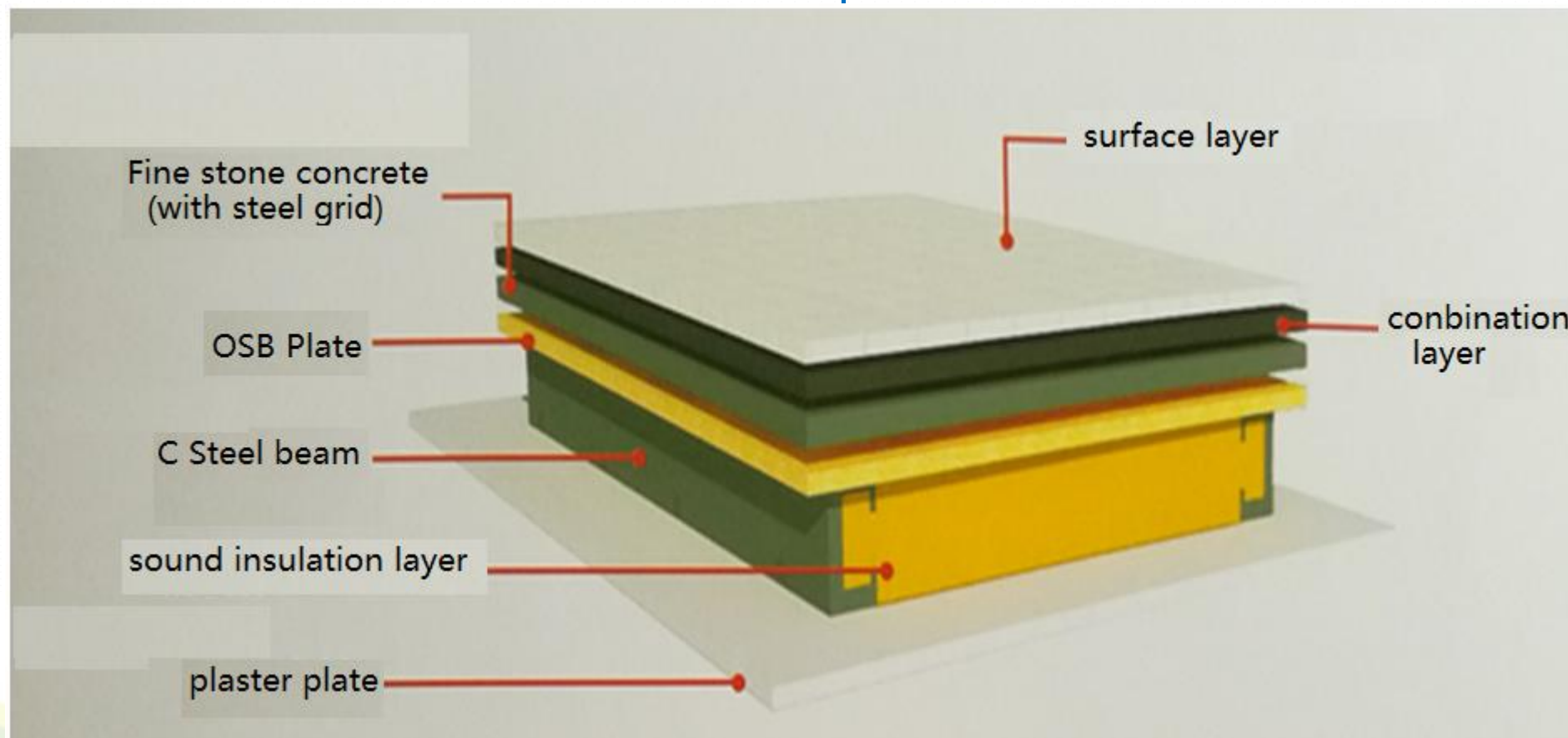


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# 产品介绍 Product Introduction

## Surface part

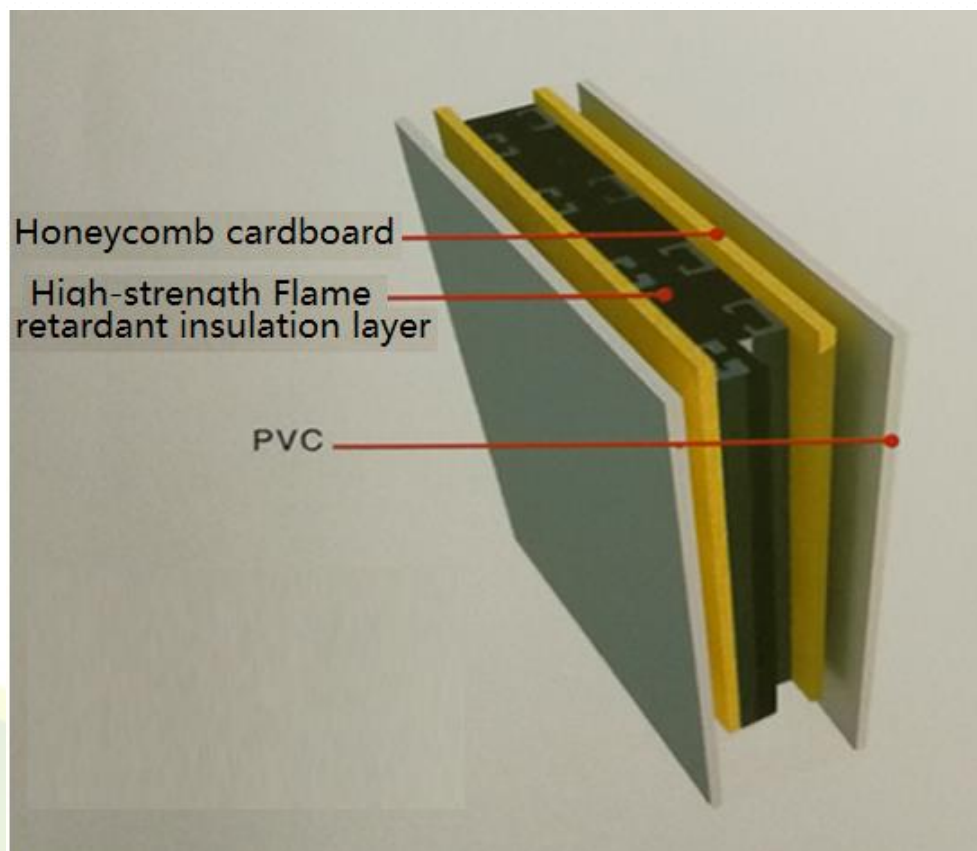




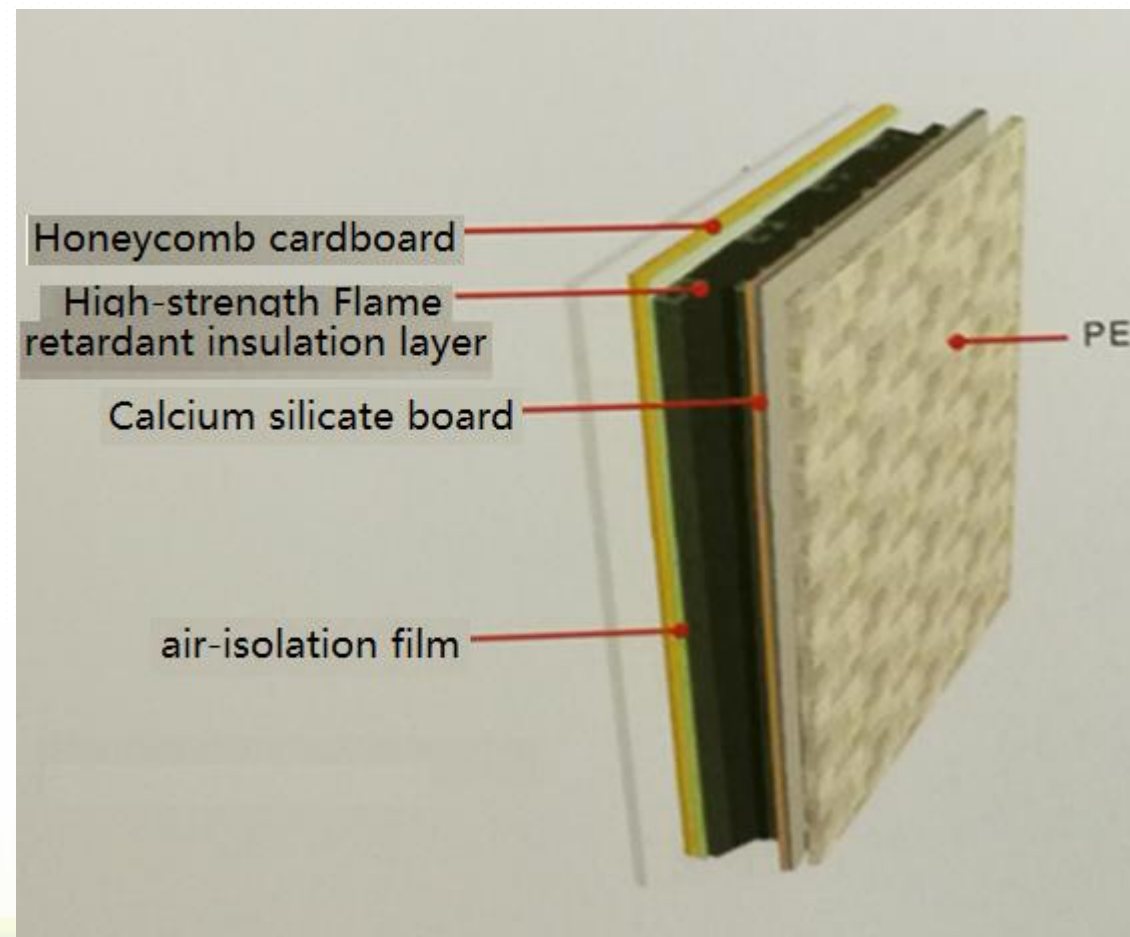


# 产品介绍 Product Introduction

internal wall part



external wall part





## 复合墙板 Composite Wallboard

The composite wallboard is a new generation of high-performance building inner partition produced by industrialization. It is made up of a variety of building materials featured in environmental-friendly, energy-saving, pollution-free, earthquake-resistant, fire-proof, heat-insulating, sound-proof and quick construction.

The wood-plastic honeycomb composite wall is made of special recycled paper and is modeled after the honeycomb structure. It consists of wood plastic, stone plastic wallboard, honeycomb paperboard and environmental-friendly adhesive. The wood-plastic wallboard is made of PE and PVC wood-plastic as the composite panel of the panel; the stone-plastic main material is made of stone powder as the composite material of the panel. Honeycomb paper core is made of high-strength corrugated paper treated with special flame retardant process, and environmentally friendly corn starch glue for viscose.

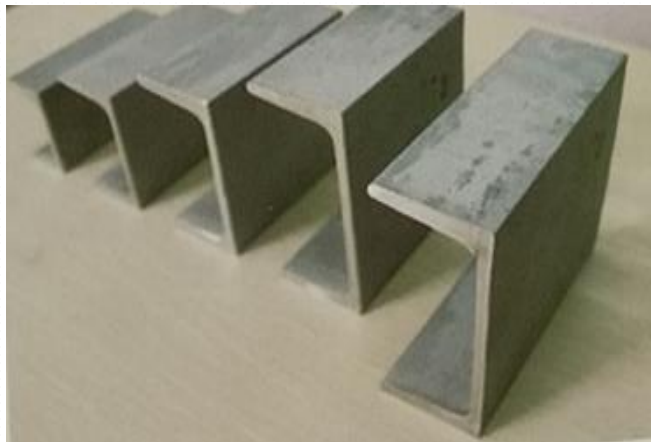




## 产品介绍 Product Introduction

The steel structure is a light and extremely vital rigid structure system.

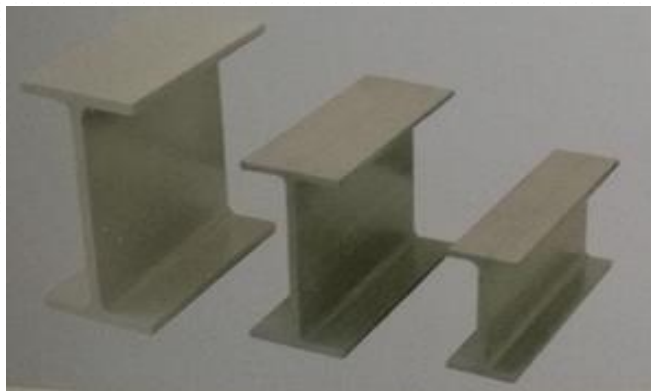
It is widely used in office buildings, villas, warehouses, gymnasiums, casinos, residential buildings, etc. It has the characteristics of convenient transportation, short construction period, movable type, and demolition.



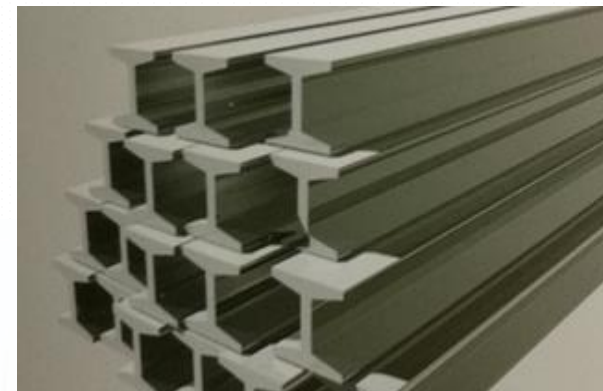
Groove steel



C steel



H Steel



I Steel







# 产品介绍 Product Introduction

**1.Anti-earthquake and wind-resistant:** The box-type structure composed of composite plates has stronger shock resistance. It is suitable for earthquake-resistant at 8 degree or more, and it can resist hurricanes of 70 meter/second.

**2.Energy saving:** The outer wall retaining structure is a combination of thermal insulation material and light steel. The wall panels are connected by staggered seams with excellent tightness. The heat transfer coefficient of the wall is 0.32, and the energy saving is not less than 8%.

**3. Fire prevention:** the wood-plastic and stone-plastic wallboards will never burn, and will not generate harmful gases. It is an ideal fireproof material.

**4. Environmental protection:** There is less dust pollution during the construction process, and the house panels can be reused after demolition.

**5.Excellent sound insulation:** It can be separated from the volume of 36~56 decibels, and has excellent sound insulation and sound absorption effects.

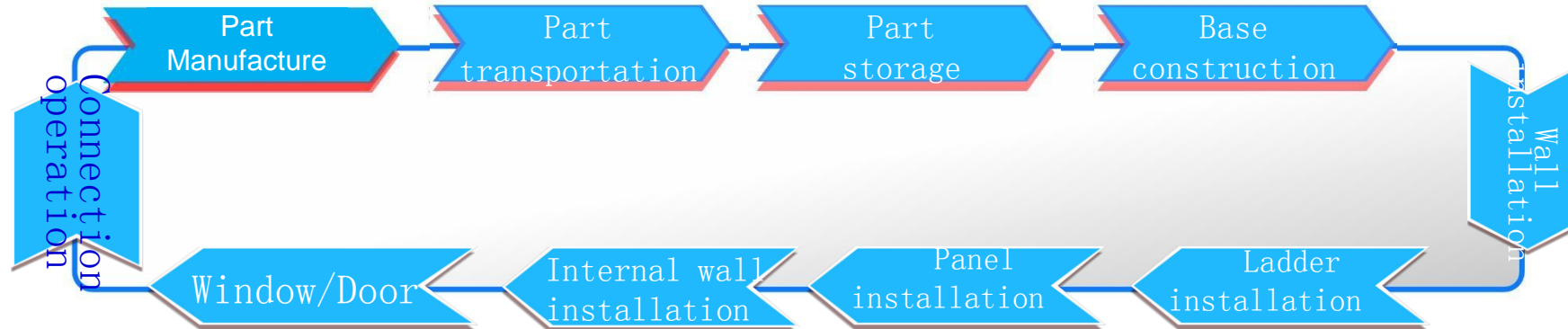
**6.Durability:** The steel is made of ultra-high-grade anti-corrosion high-strength cold-rolled galvanized steel sheet filled with insulation material, and has good corrosion resistance.





# 施工流程 Construction Process

## Engineering Practice—key of the construction



This process has realized the integrated work flow from parts transportation, parts onsite installation, wall installation, ladder installation, panel installation, internal wall installation, window/door installation and connection operation.



Part transportation



Part storage



wall installation



connection operation

**Function:** it has solved the problem of low installation efficiency, orderless work process, realized the recycling use of facilities and labor, significantly reducing time





# 施工流程 Construction Process



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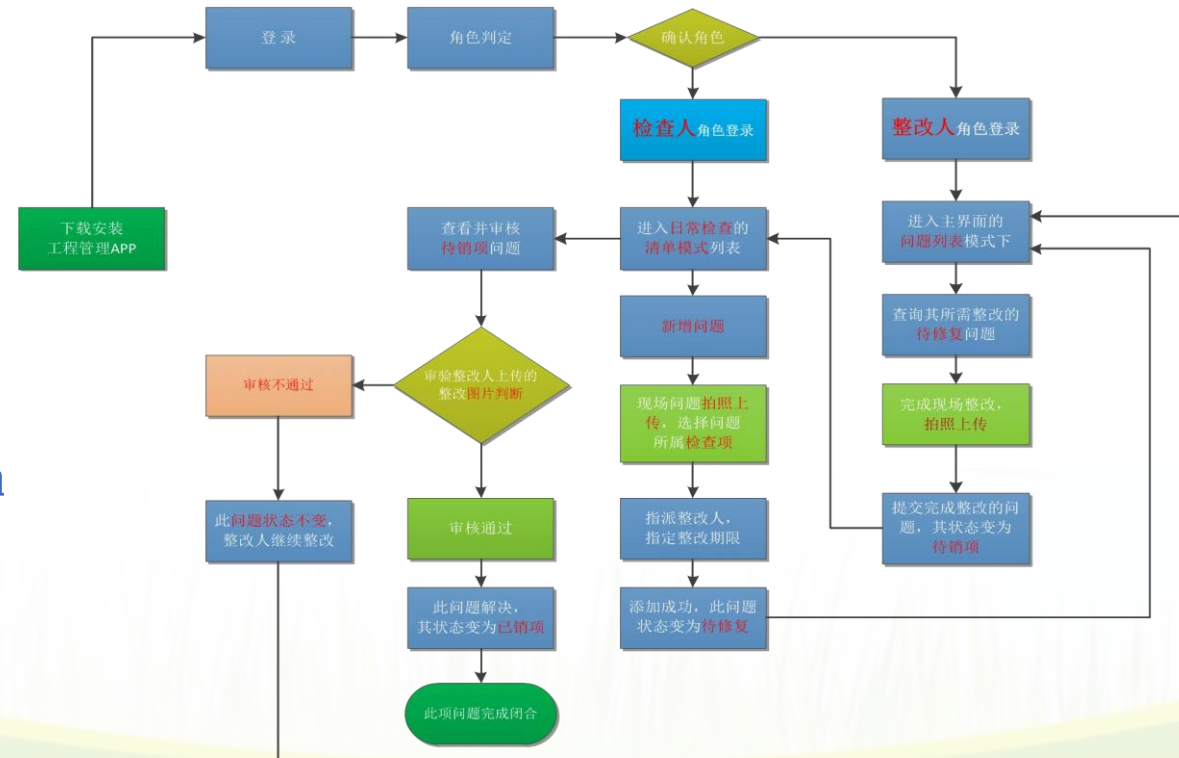




# 施工流程 Construction Process

## Engineering Practice—Developed a construction process information monitoring management system

Real-time monitoring of the construction process of prefabricated components, and timely feedback information through the cloud platform, solving the problems of component accuracy check and positioning and installation accuracy



Development process of  
construction process  
monitoring management system





# 产品介绍 Product Introduction

## Low-floor construction



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## 产品介绍 Product Introduction



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## 产品介绍 Product Introduction



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# 施工流程 Construction Process

## Cost and economic benefit analysis

- The prefabrication rate of the ring-reinforced anchored concrete shear wall structure is 60%, and the assembly rate is more than 50%;
- Prefabrication rate of prefabricated rigid column hybrid beam frame structure is 85%, and assembly rate is more than 50%;
- Reduced construction waste by more than 80%;
- Reduced labor by more than 50%;
- Overall housing gain rate increased by more than 3%;
- Reduced the total construction period by more than 30%;
- Added 50mm thick concrete protective layer for the external wall insulation layer, which greatly improves the fire resistance of the external wall insulation layer and its durability is increased;







# 产品介绍 Product Introduction

## High-floor construction



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# 产品介绍 Product Introduction

High-floor construction



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## 风格选择 Style Selection

According to different countries, the style can be customized, and the different styles can be selected as follows:

1. European Palace Style

2. European Rural Style

3. Americal simple Style

4. British retro Style

5. Romantic tenderness Style

6. Chinese elegance Style







# 风格选择 Style Selection



## 1.European Palace Style







## 风格选择 Style Selection



## 2.European Rural Style





## 风格选择 Style Selection

商品情景 COMMODITY SITUATION



### 3.Americal simple Style



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# 风格选择 Style Selection



## 4. British retro Style







## 风格选择 Style Selection



### 5. Romantic tenderness Style





## 风格选择 Style Selection



6. Chinese elegance Style

**Other styles are available upon request!**



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## 应用案例 Case History



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## 应用案例 Case History



# 应用案例 Case History





# 应用案例 Case History



三层建筑平面图



二层建筑平面图



一层建筑平面图







## 应用案例 Case History



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## 应用案例 Case History

**Project location:** Dubai

**Product name:** Module house

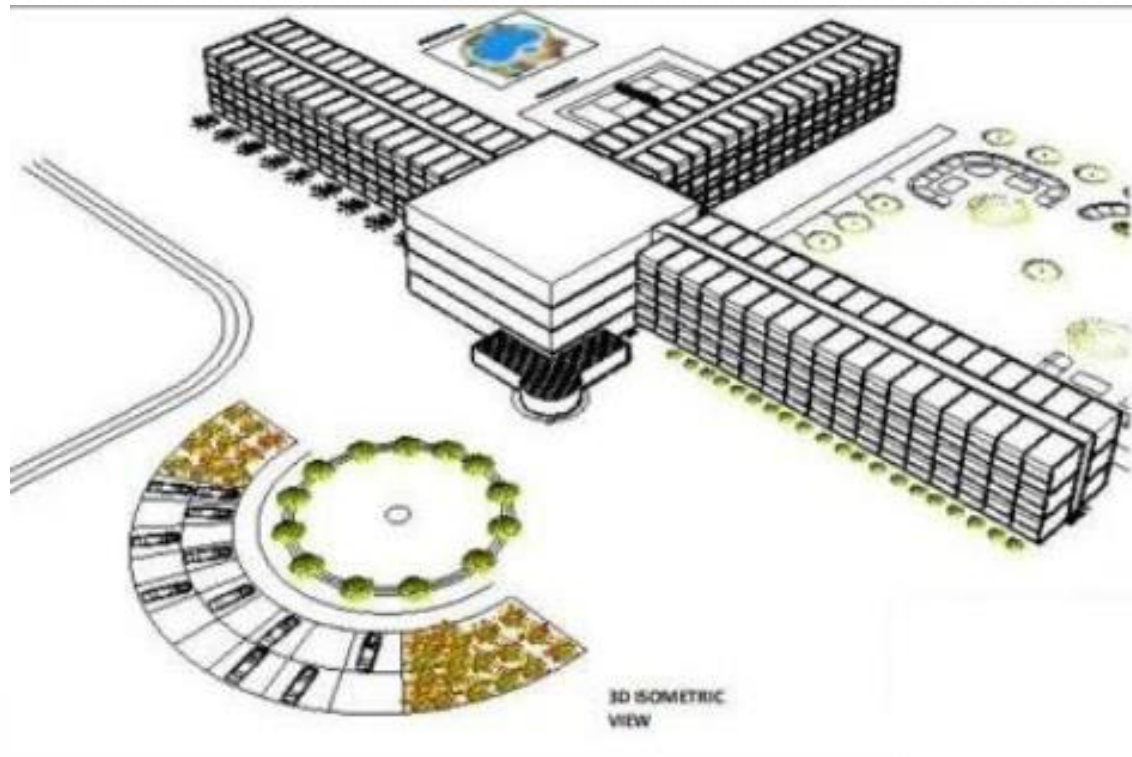
**Customer:** Local engineering company

**Application:** Hotel

**Total area:** 8283.4 Sqm

**Project information:**

The prefabricated construction will be the first hotel for their development with total budget at around 5 million USD.







## 应用案例 Case History

**Project location:** Brazil

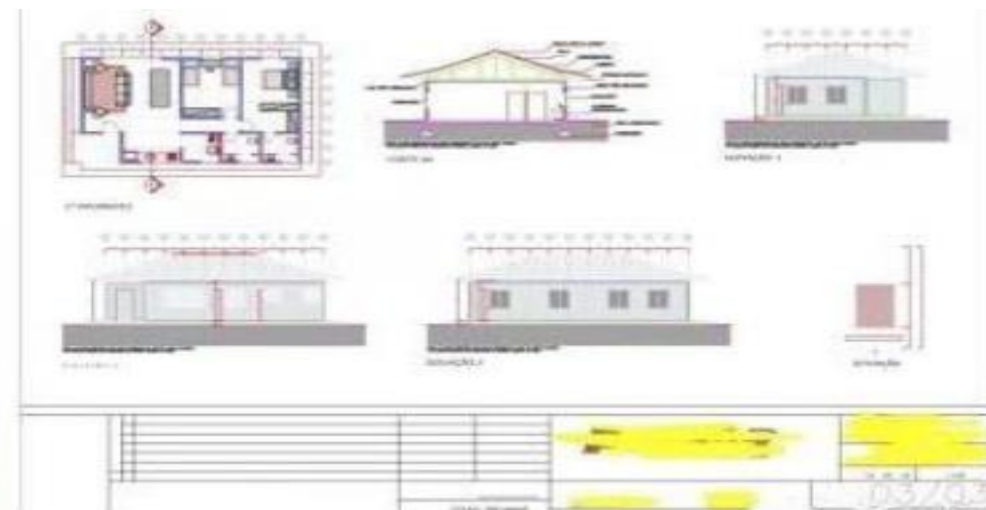
**Product name:** Module house

**Customer:** Local designing company

**Application:** Residential area

**Project information:**

The prefabricated construction will be installed in Divnopolis city in Brazil, mainly for commercial center, public construction ( school, administration center), residential application.





## 应用案例 Case History

**Project location:** Mosco, Russia

Product name: Module house

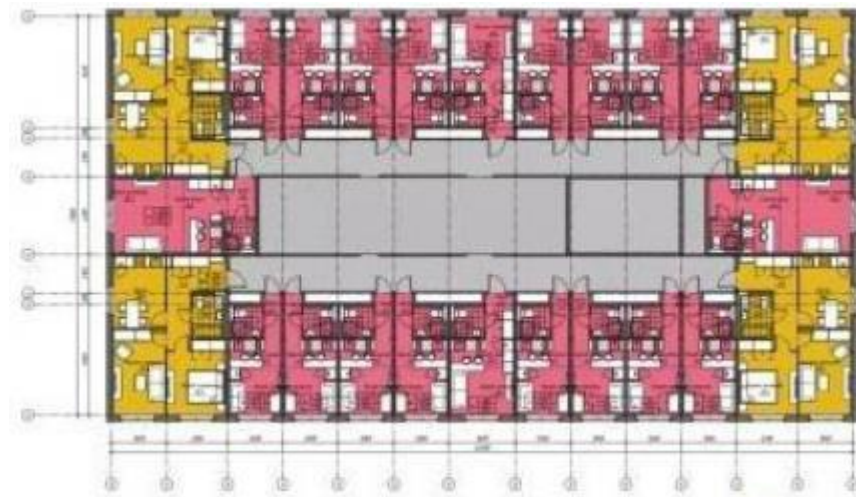
Customer: Local real estate company

Application: Residential area

Total floors: 27 floors

Project information:

The prefabricated construction will be installed in Mosco of Russia, mainly use as CBD for commercial center.







# Thanks !

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