

ZhongTin Fireproof Building Materials Co.,Ltd.

JiangMen PengDa Door Industry Co.,Ltd.

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Fire & Sound Insulation Safety Solution

Fire Compartment Wall System

PASS BY ISO9001:2015 CERTIFICATION
FIRE PROTECTION CERTIFICATION

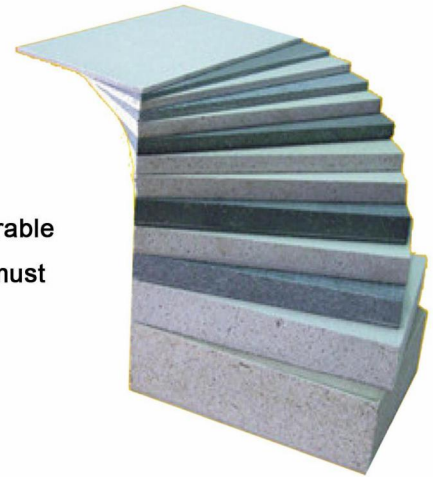


About MgO Board

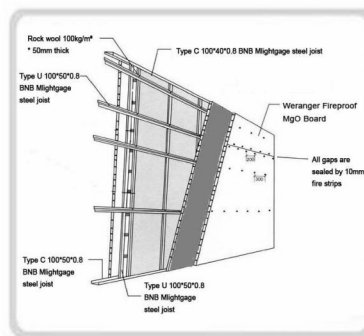
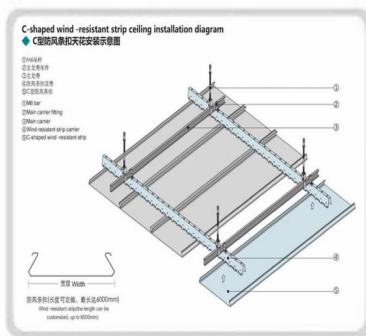
What is MgO Board?

MgO board is fiberglass mesh reinforced magnesium oxide cement board. The main component is magnesium oxide which was found by Sorel in 1867. Magnesium oxide can set in 8 hours, has high strength and is 3 times more durable than Portland cement. It is an ideal raw material for steel furnace bricks, which must withstand a temperature up to 1700°C.

The components of MgO board are magnesium oxide, magnesium chloride, magnesium sulfate, fiberglass mesh, wood particles and perlite.



Application



Fire-proof, environmental protection and durability requirements of partition system, ceiling system, pipedecoration style, building sandwich, sound insulation system, heat insulation system, fire separation area and wadded board, especially suitable for hotel, senior club, cinema, airport, railway station, hospital, school, nightclub, KTV, gymnasium and senior office building

Size

THK(mm)	Conventional THK(mm)	Conventional Size(mm)
3-50	3、5、6、8、9 10、12、15、18	1220*2440、915*2440、915*1830、 1220*2700、1220*3000

Excellent performance

- Fire-proof Non-combustible
- Simple installation
- Lightweight and Strong
- Lightweight & Seismic
- Heat insulation & Energy saving
- Safe & Health
- Multifunctionality
- Insect-resistant mouldproof
- Water & Humidity resistant
- Sound insulation
- Structural durabilities

Advice

Use high quality keel high quality anti-rust screw stainless steel gun nail, to ensure the system durable and safe

Parameter & comparison

Performance parameter

Test Item	Estimated Value	Test Item	Estimated Value
Fireproof performance	Flame retardant A1	Duration of fire resistance	>2h(Double-sided 12mm“Werange” board 80mm thick partition wall)
Density	0.85-1.5t/m ³	Duration of fire resistance	>2h(Both sides of the double 9mm “Werange” board 111mm thick partition wall)
Moisture content	≤8%	Rupture strength	>16MPa
Drying shrinkage	≤0.3%	Impact strength	>5.5KJ/m ³
Bulking factor	≤0.6%	Health&Safety	No radioactive material, No asbestos No formaldehyde
Screw holding force	≥70N/mm	Alkali resistance	Outward Abnormal
Impermeability	Non-droplet&Non-damp	Smoke Toxicity	AQ1
Chlorine ion content	≤10%	Permeability resistance	No visible moisture & water droplets on the back
Sound insulation	STC 40-65 db	Thermal conductivity	0.179

Comparisons

In the market, magnesium board, calcium silicate.gypsum and compressed cement sheeting are commonly applied as partitions.suspended ceilings, ductwork and E&M service enclosures.

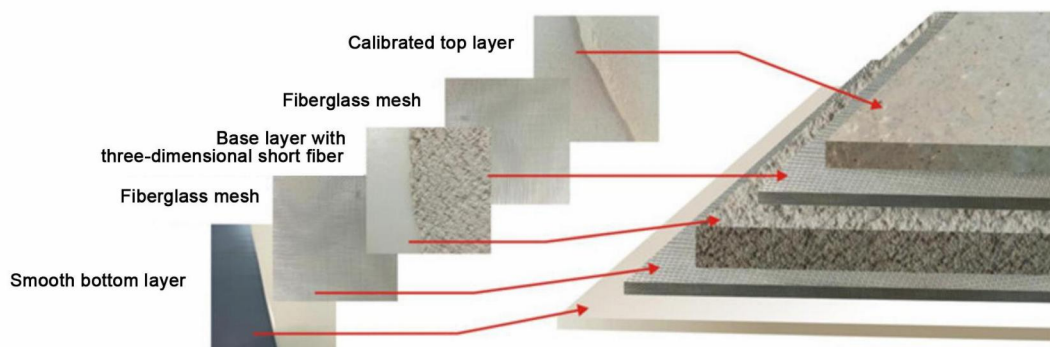
A comparison chart of these 4 types panel products

Name Item	Weranger MgO board	Calcium Silicate Board	Gypsum Board	Compressed Cement Sheetting
Main Components	Magnesium oxide Magnesia chloride	Quartz powder Portland cement Lime	Gypsum	Protland cement
Reinforced Fiber	Fiberglass mesh Wood particles	Lignocellulosic Paper fiber	Kraft paper	Lignocellulosic Asbestos
Structure of Fiber	Balanced layers of fiberglass mesh, combined with short fiber	Short fiber only	Two laminated kraft paper	Short fiber only
Fire-proof Performance	A1 non*combustibility	A1 non-combustibility	B Grade retardant	A1 non-combustibility
Carbonisation	Stable and carbonized gradually	Burst off	Carbonized at 200°C	Burst off
Density	0.9-1.2g/cm ³	0.95-1.4g/cm ³	1-1.2g/cm ³	1.4-2g/cm ³
Strength	Light weight and high strength	Light weight and medium strength	Light weight and low strength	Heavy and brittle
Suitability	Can be laminated with paper.cloth film veneer, aluminum and tiles	Can be laminated with paper.cloth Film and Ule.but easy to break	Bad	Average
Environmental conservation	Non-toxic	Unhealthy if second hand paper or asbestos is used	Non-toxic	Unhealthy if second handpaper«ror asbestos is used

* The above data are based on standard quality in the market

Solutions of manufacturing

“Weranger®” board under certain circumstance can be a substitute to stone、metal、timber or plastic panel.

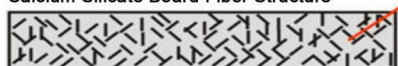


The high compressive strenght and duability of magnesium oxide cement,the balancing of fiberglass mesh and the threedimensional structure of wood particles achieve a light weight and high strength versatile eco panel product. It is an excellent example of the successful application of moderm composite materials.

Cement and gypsum are both brittle.so the strength of compressed cement sheeting and gypsum the board relies on its fiber and foamed molecular structure.

The following diagram shows the fiber and foamed molecular structure of different panel products.

Calcium Silicate Board Fiber Structure



Short Fiber

Short fiber from cement base can not restore tensile strength weakened bending strength poor durability

Paper-faced Gypsum Board Fiber Structure



Kraft Paper

Poor flexural strength not poor waterproof durability

Compressed Cement Sheeting Fiber Structure



Short Fiber

Short fiber from cement base can not restore tensile strength weakened bending strength poor durability

“Weranger”board Fiber Structure



Three-dimensional Short Fiber

Fiberglass Mesh

The combination of cloth balance force and local toughness of solid staple fiber has great flexural strength and durable function



A beautiful Curve From
A 3mm-thick Werangerboard



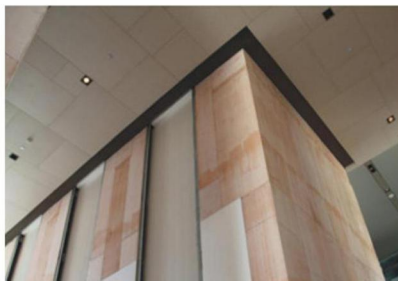
108KG Concrete Block

9mm Weranger Board

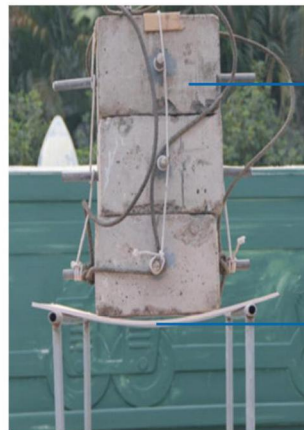
1600mm Span



9mm Werangerboard at 4 by 8 foot
can be held by one hand



Fireproof Decorative Board



325KG Concrete Block

9mm Weranger Board

900mm Span

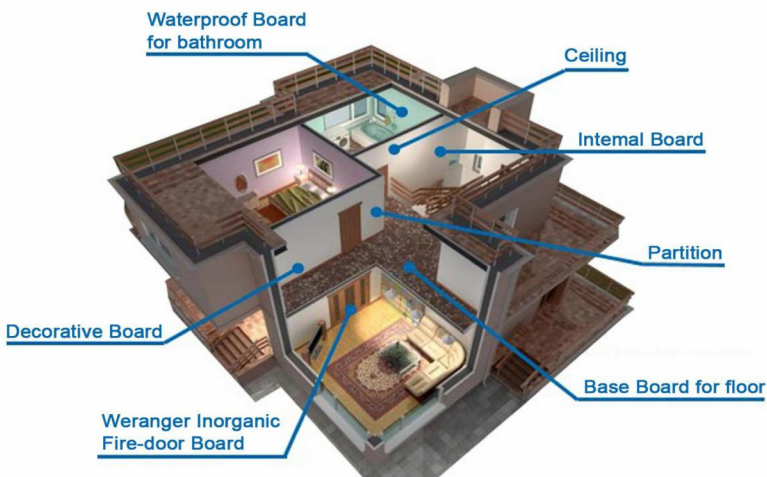
Component System&Applications



“Weranger®” manufactures a whole range of panels such as load-bearing floor panel,internal wall panel,external wall panel,roof and sheathing panel for steel/timber framed houses

Solutions of manufacturing

- **Solutions of high-end and durable renovation**
Hotel and mansion high standard functional partition ceiling
- **Solutions of decoration and fire safety**
Hotel nightclub, KTV, cinema, hospital, airport and other high-risk commercial places fire decoration
- **Solutions of comprehensive substitutions for applications of different types of boards**
Replace not fireproof and waterproof wood board, not fire resistant plastic board, not heat resistant metal board and easily broken stone board and ceramic board
- **Solutions of comprehensive substitutions for uses of different types of finishes**
More than seven kinds of finishing materials reflects the compatibility of the “Weranger” board
- **Solutions of unique decorative panel for chain stores**
Solve the problem of brand style decoration style and labor material cost
- **Solutions of panels for steel/timber framed houses**
Fire-proof, water-proof and termite-proof board all - round use in the house and outside the base plate and decorative partition and load
- **Solutions of panels for fire doors**
A solution for all application “Weranger” board except for hardware and sealing fireproof strips
- **Solutions of equipment insulations**
Production equipment, mechanical and electronic products, “Weranger” board can be used for fire prevention, waterproof and heat insulation

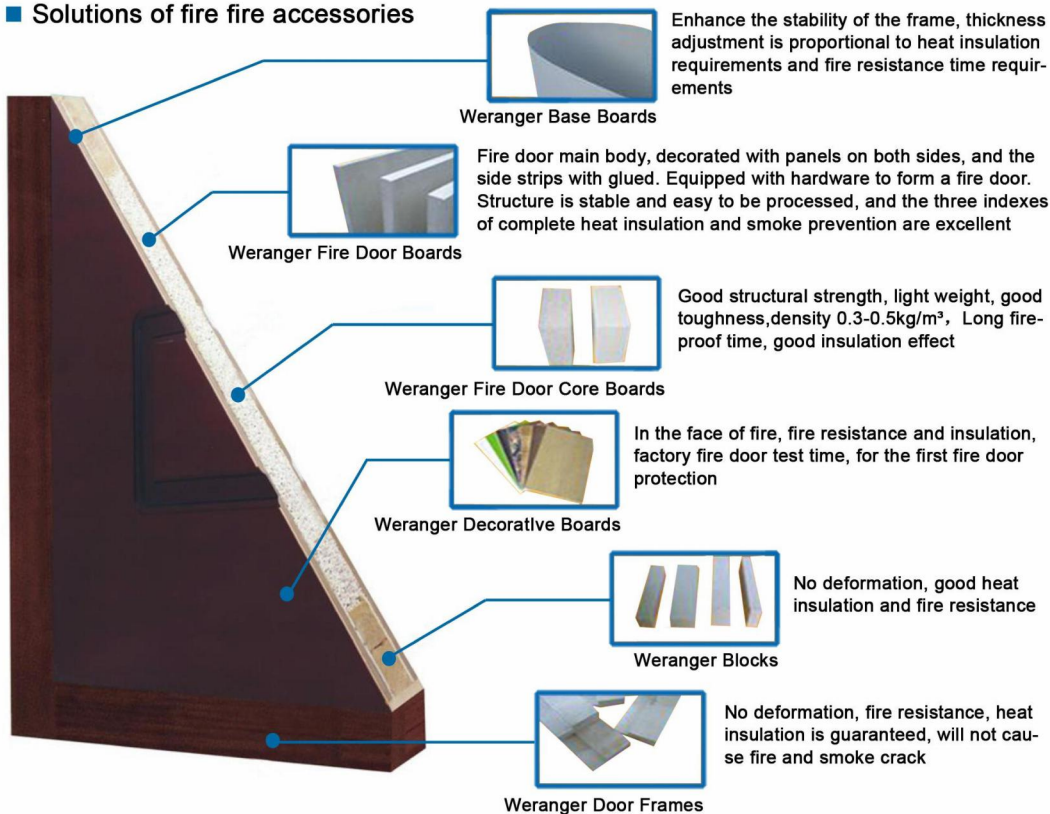


“Weranger®” board properties are best preserved ,if prior to used,it has been properly stored as per our storage guidelines

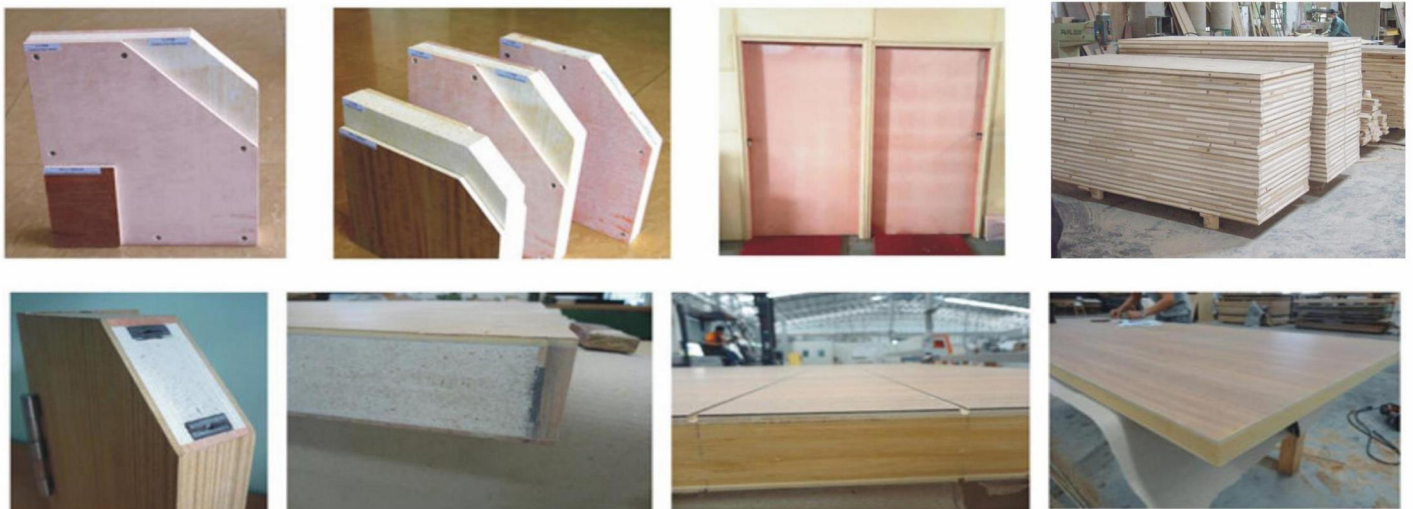
Solutions of fire rating

“Weranger®” board, solutions of fire rating integrity and insulation for fire doors

Solutions of fire fire accessories



Fire Rated Door Modles



Fire Door Testing Cases (UL/BS/EN Standard Testing)



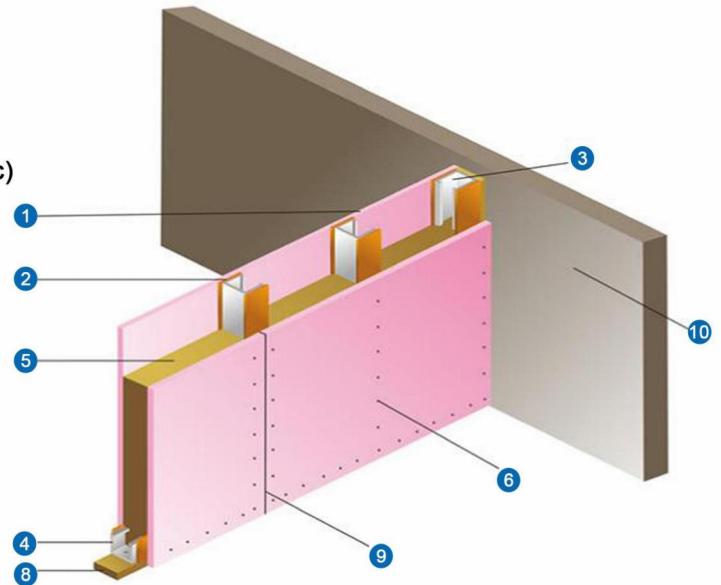
Applications

“Weranger®” Steel Stud Non-loadbearing Partition

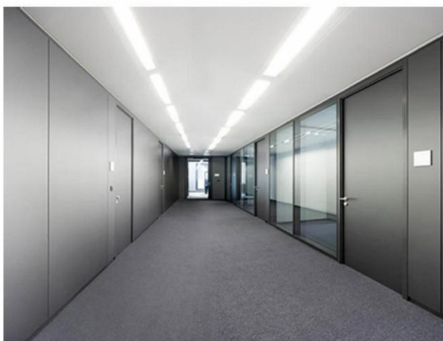
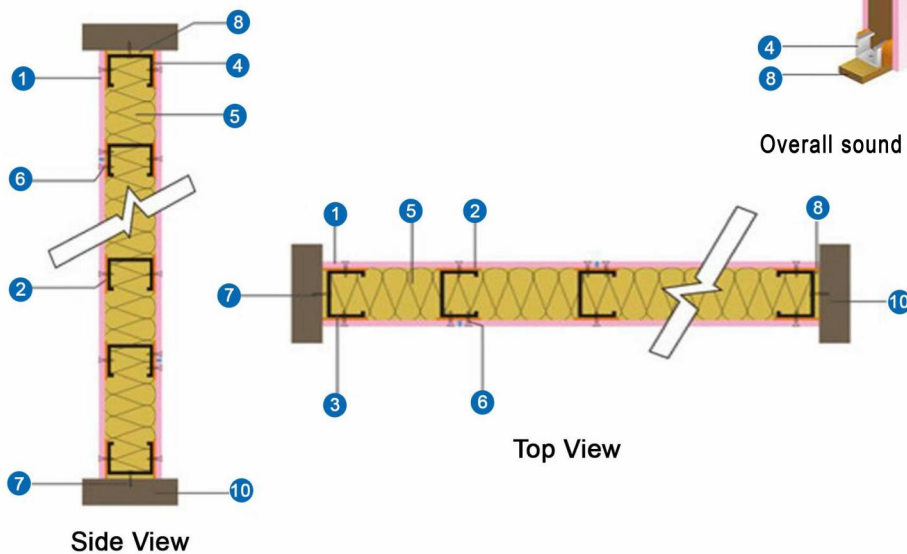
Technical Date:

Nominal thickness of partition: 148mm

- ① Weranger board, each side 12 mm thick
- ② Weranger board fillets 3 mm thick x 90 mm wide
- ③ Vertical stud 100 mm x 50 mm x 0.8 mm thick (at 610 mm c/c)
- ④ Top and bottom tracks 100 mm x 40 mm x 0.8 mm
- ⑤ Rock wool 100 kg/m³ x 50 mm thick
- ⑥ M4 antirust self-tapping screws at 200 mm centres
- ⑦ M6 expansion bolt at 600 mm c/c
- ⑧ Rock wool seal 10 mm thick by 50 mm wide
- ⑨ All gaps are sealed by acrylic sealant
- ⑩ Concrete



Overall sound insulation effect can be achieved STC 40~65db

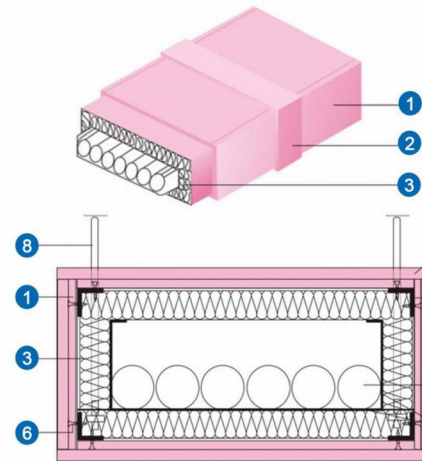


Applications

“Weranger®” E&M Services Enclosure

Technical Date:

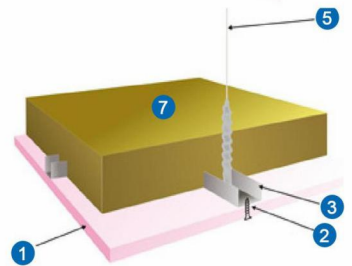
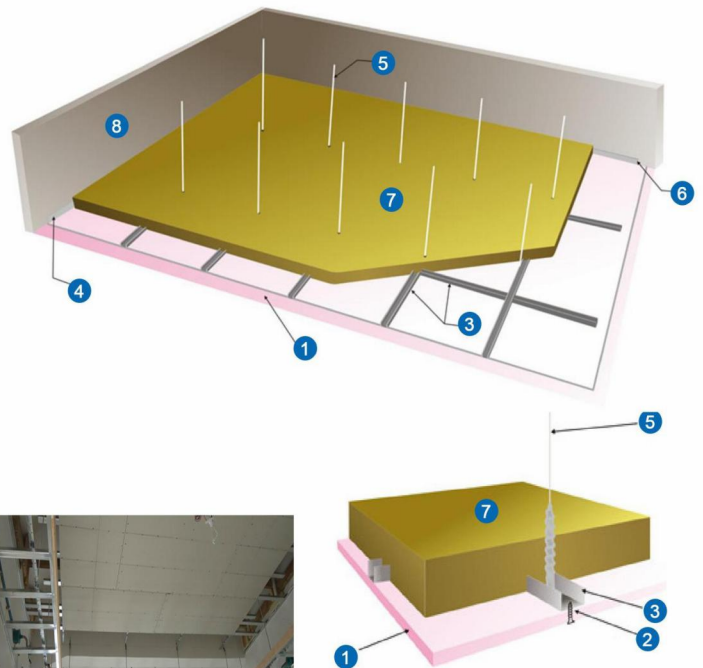
- ① Weranger board, 20 mm thick
- ② Weranger board fillets 12 mm thick by 50mm wide
- ③ Rock wool 100kg/m³ x 50mm thick
- ④ Steel angle minimum 50mm x 40mm x 0.6mm at corners
- ⑤ E&M services like cable trunking and steel pipes, which are self-supporting
- ⑥ M4 antirust self-tapping screws at 200 mm centres
- ⑦ Steel cable tray
- ⑧ Threaded rod hanger min.10mm diameter



“Weranger®” Steel Stud Suspended Ceiling System

Technical Date:

- ① Weranger board, 9 mm thick
- ② 25 mm self tapping screws at nominal 200 mm centres
- ③ Steel channel 50 mm x 50 mm x 0.6 thick mm at 610 mm by 1220 mm centres
- ④ Steel angel 30 mm x 30 mm x 0.6 mm thick
- ⑤ Hanger at 1220 mm centres with hanger wire of at least 3mm diameter
- ⑥ All gaps are sealed by acrylic sealant
- ⑦ Rock wool 50 mm by 100 kg/m³
- ⑧ Concrete



Project Cases



Sheraton zhuhai hotel

- Steel/Wooden fire door



Zhuhai golf resort project

- Steel/Wooden fire door
- Fume exhaust ductwork



Building of Macao's lower court

- Steel/Wooden fire door



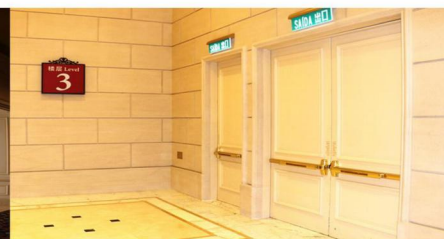
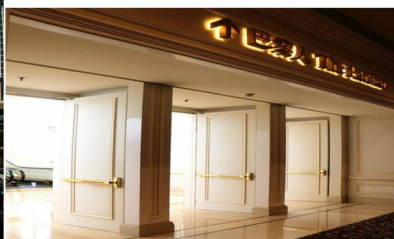
Teaching building and public area of university of macau

- Steel/Wooden fire door
- Fire-proof Partition Project



The Parisian Macao Hotel

- Steel/Wooden fire door
- Fume exhaust ductwork
- Fire-proof Partition Project



Pullman zhuhai Hotel

- Steel/Wooden fire door
- Fire-proof Partition Project



Hong kong-zhuhai-macao bridge zhuhai port

- Steel/Wooden fire door
- Fire-proof Partition Project



Project Cases



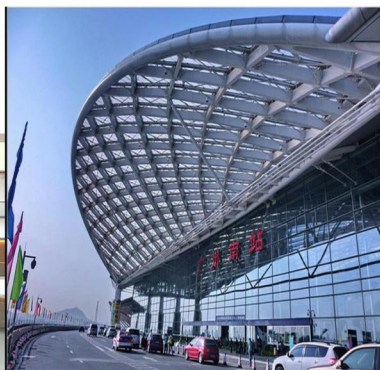
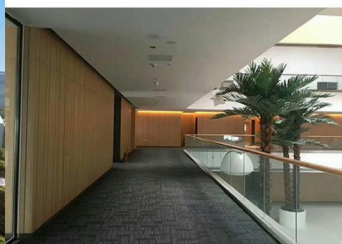
Shangri-la hotel guangzhou

- Steel/Wooden fire door
- Fire-proof Partition Project



Hengqin financial media center

- Fire-proof Partition Project



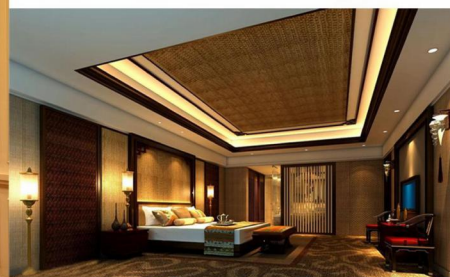
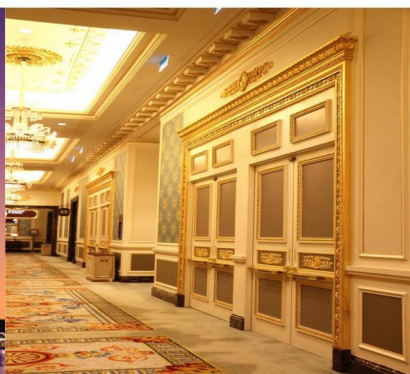
Guangzhou South Railway Station

- Steel/Wooden fire door



Macau Venice sands Hotel

- Steel/Wooden fire door
- Fire-proof Partition Project



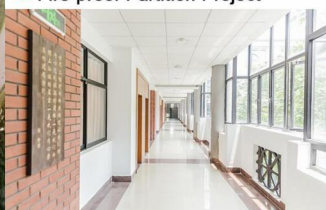
Wuhan third people's hospital

- Steel/Wooden fire door
- Fire-proof Partition Project



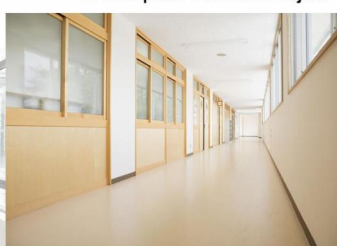
Zhuhai Huazhong middle school

- Steel/Wooden fire door
- Fire-proof Partition Project



BNU Zhuhai campus

- Steel/Wooden fire door
- Fire-proof Partition Project





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