

SAUDI ARABIA SMART VILLA



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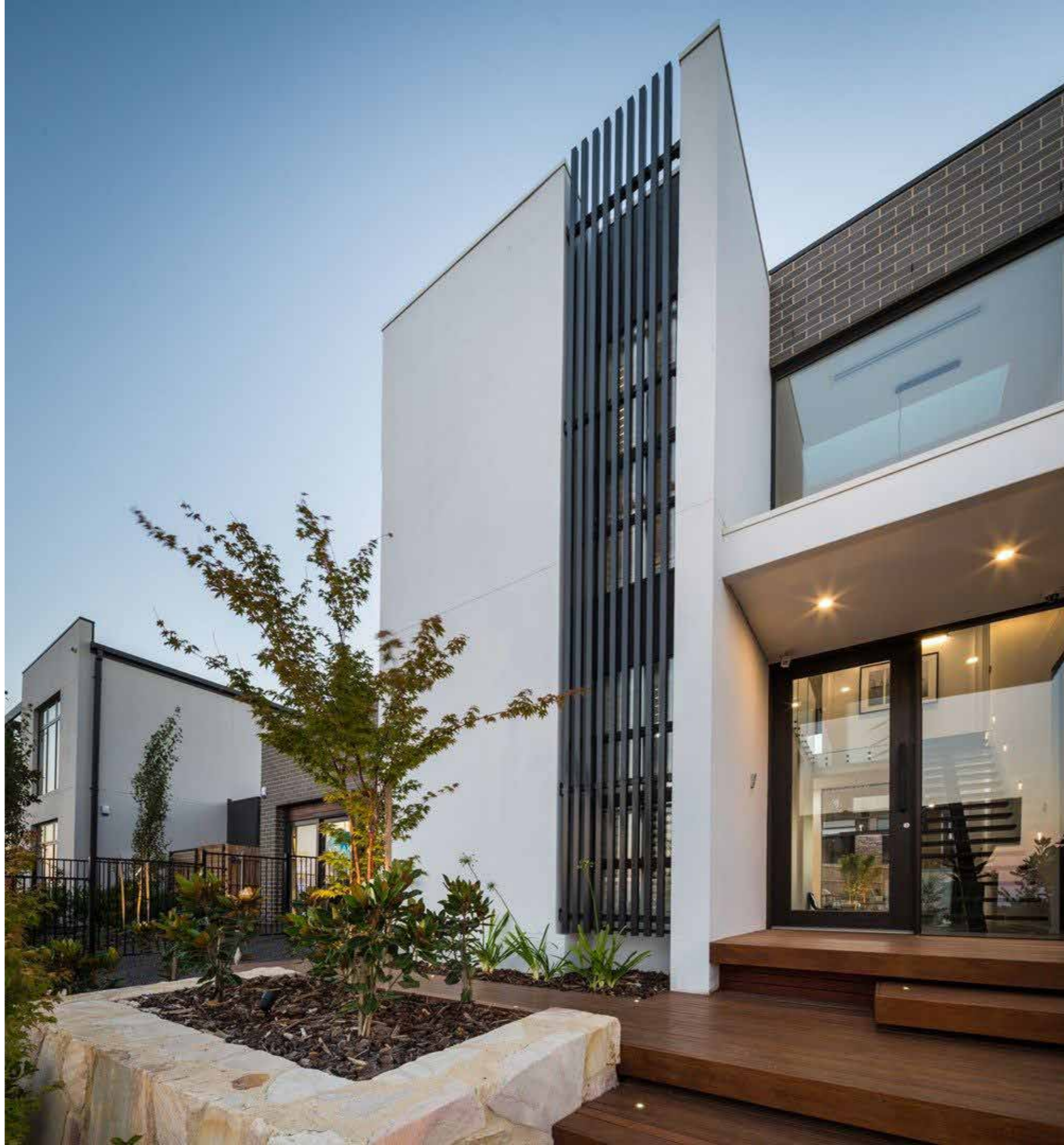
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PART 1

RENDERINGS & PLANS

A decorative graphic consisting of two thick yellow lines. One line is horizontal and spans the width of the page. The second line starts from the left edge, runs horizontally, then descends diagonally to the right, crosses the first line, ascends diagonally to the right, and finally runs horizontally to the right edge.



PROGRAMME 1



GROUND FLOOR PLAN

FLOOR AREA: 146.68m²
 TOTAL AREA: 271.36m²
 GARAGE AREA: 36.00m²
 CLEAR HEIGHT: 3.15m

COPYRIGHT:			
KEY PLAN:			
NOTES:			
GENERAL NOTES: USE FIGURED DIMENSIONS IN PREFERENCE TO SCALED DIMENSIONS. CONFIRM THE SCALE OF HARD COPY DRAWINGS BY USING THE ATTACHED SCALE BAR. CHECK ALL DIMENSIONS ON SITE BEFORE FABRICATION OR BEFORE SET OUT.			
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CLIENT:	NORTH:		
PROJECT:			
BANGLADESH VILLA			
TITLE:			
GROUND FLOOR PLAN			
PROJECT NUMBER:	DRAWING NUMBER:	REV	
J-01			

PROGRAMME 1



SECOND FLOOR PLAN

FLOOR AREA: 124.68m²
 CLEAR HEIGHT: 3.0m

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KEY PLAN:

NOTES:

REVISION	AMENDMENT	APPROVED	DATE

GENERAL NOTES:
 USE FIGURED DIMENSIONS IN PREFERENCE TO SCALED
 CONFIRM THE SCALE OF HARD COPY DRAWINGS BY USING
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BANGLADESH VILLA

TITLE:

SECOND FLOOR PLAN

PROJECT NUMBER:	DRAWING NUMBER:	REV
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PROGRAMME 2

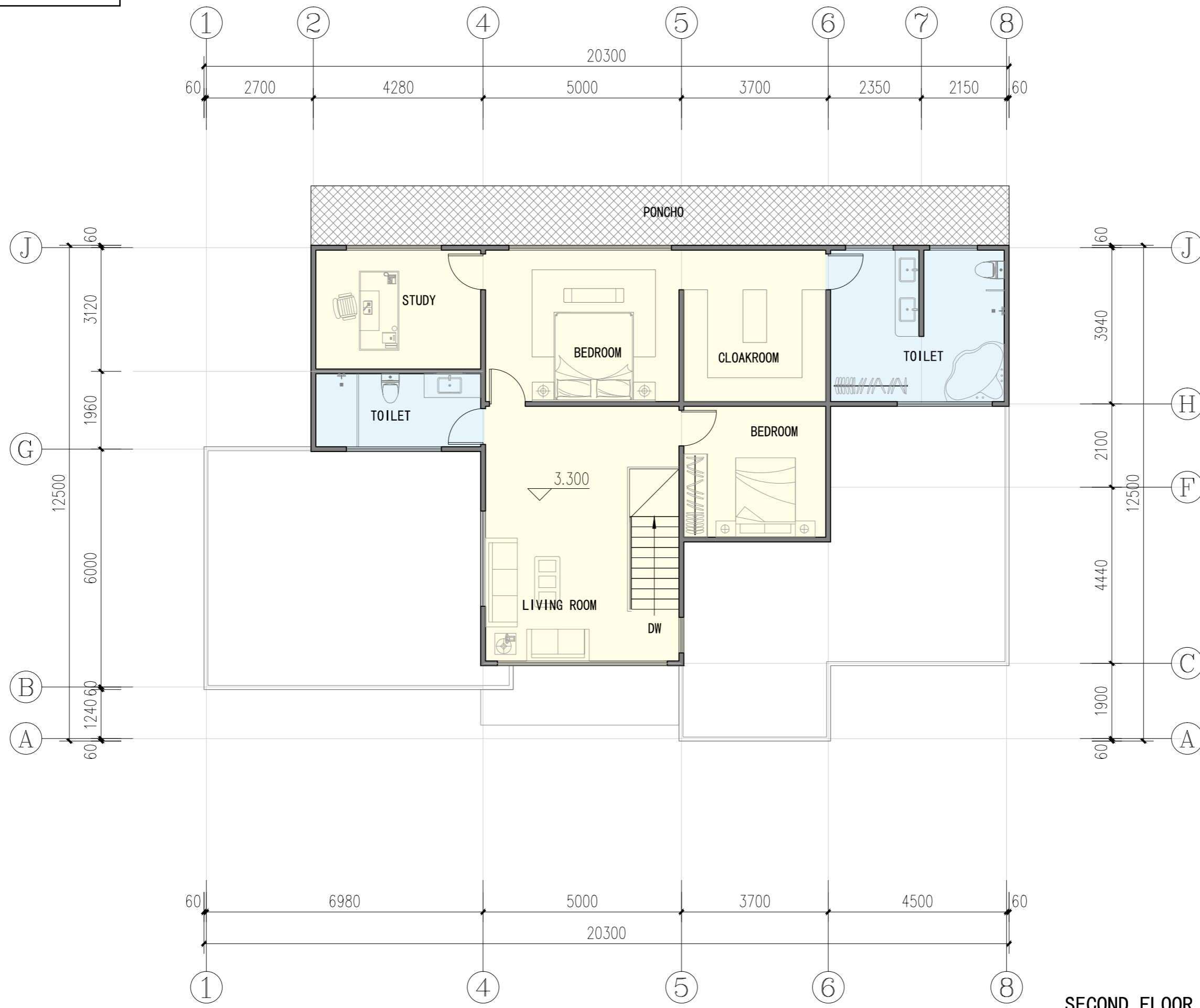


GROUND FLOOR PLAN

FLOOR AREA: 170.12m²
 TOTAL AREA: 292.59m²
 GARAGE AREA: 42.8m²
 CLEAR HEIGHT: 3.15m

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KEY PLAN:			
NOTES:			
GENERAL NOTES: USE FIGURED DIMENSIONS IN PREFERENCE TO SCALED CONFIRM THE SCALE OF HARD COPY DRAWINGS BY USING THE ATTACHED SCALE BAR. CHECK ALL DIMENSIONS ON SITE BEFORE FABRICATION OR BEFORE SET OUT.			
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GROUND FLOOR PLAN			
PROJECT NUMBER:	DRAWING NUMBER:	REV	
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PROGRAMME 2



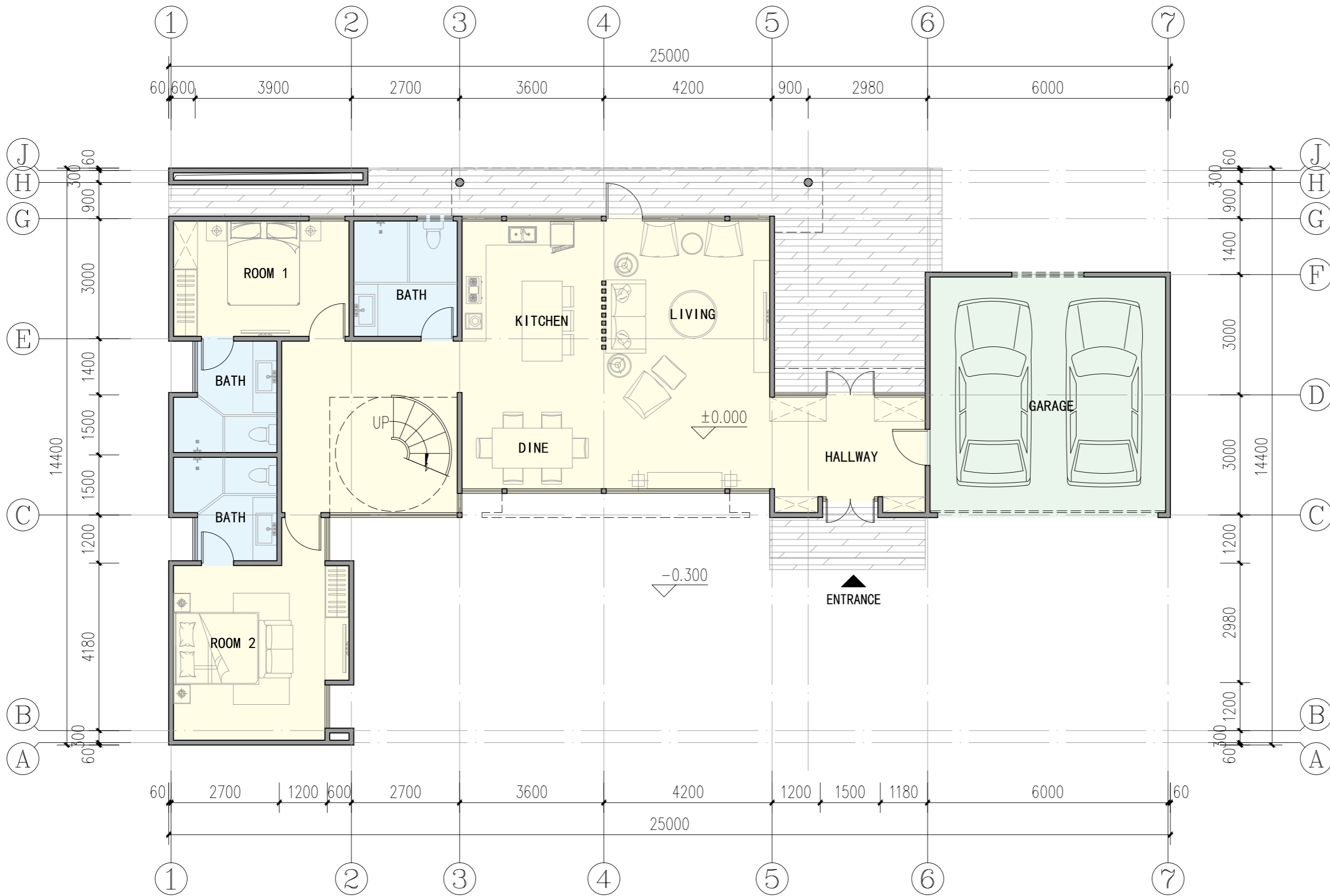
SECOND FLOOR PLAN

FLOOR AREA: 122.47m²
 CLEAR HEIGHT: 3.0m

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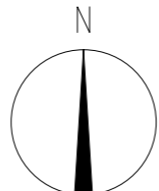


PROGRAMME 3



GROUND FLOOR PLAN

FLOOR AREA: 143.81m²
 TOTAL AREA: 248.88m²
 GARAGE AREA: 37.45m²
 CLEAR HEIGHT: 3.15m



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KEY PLAN:

NOTES:

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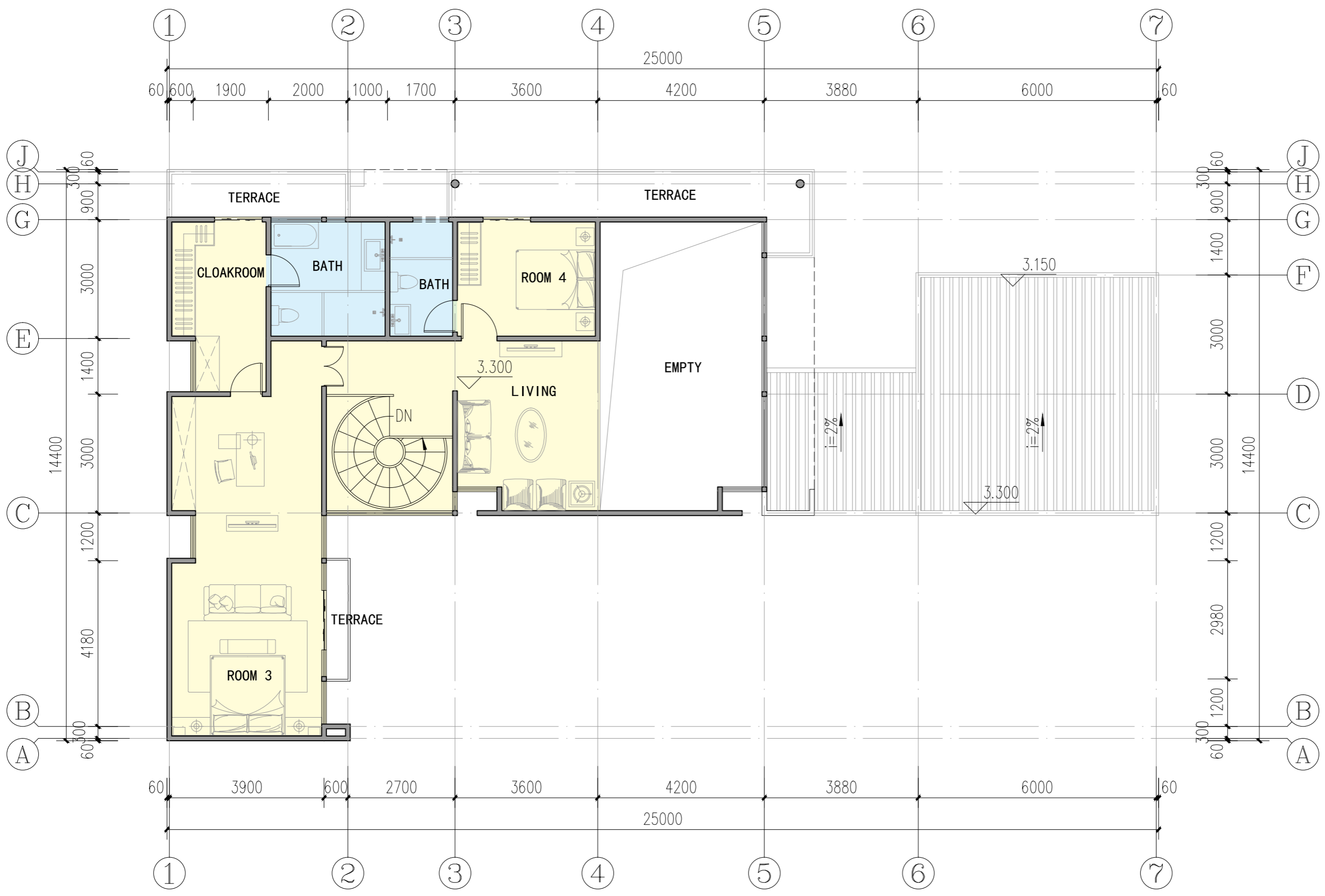
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GROUND FLOOR PLAN

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PROGRAMME 3

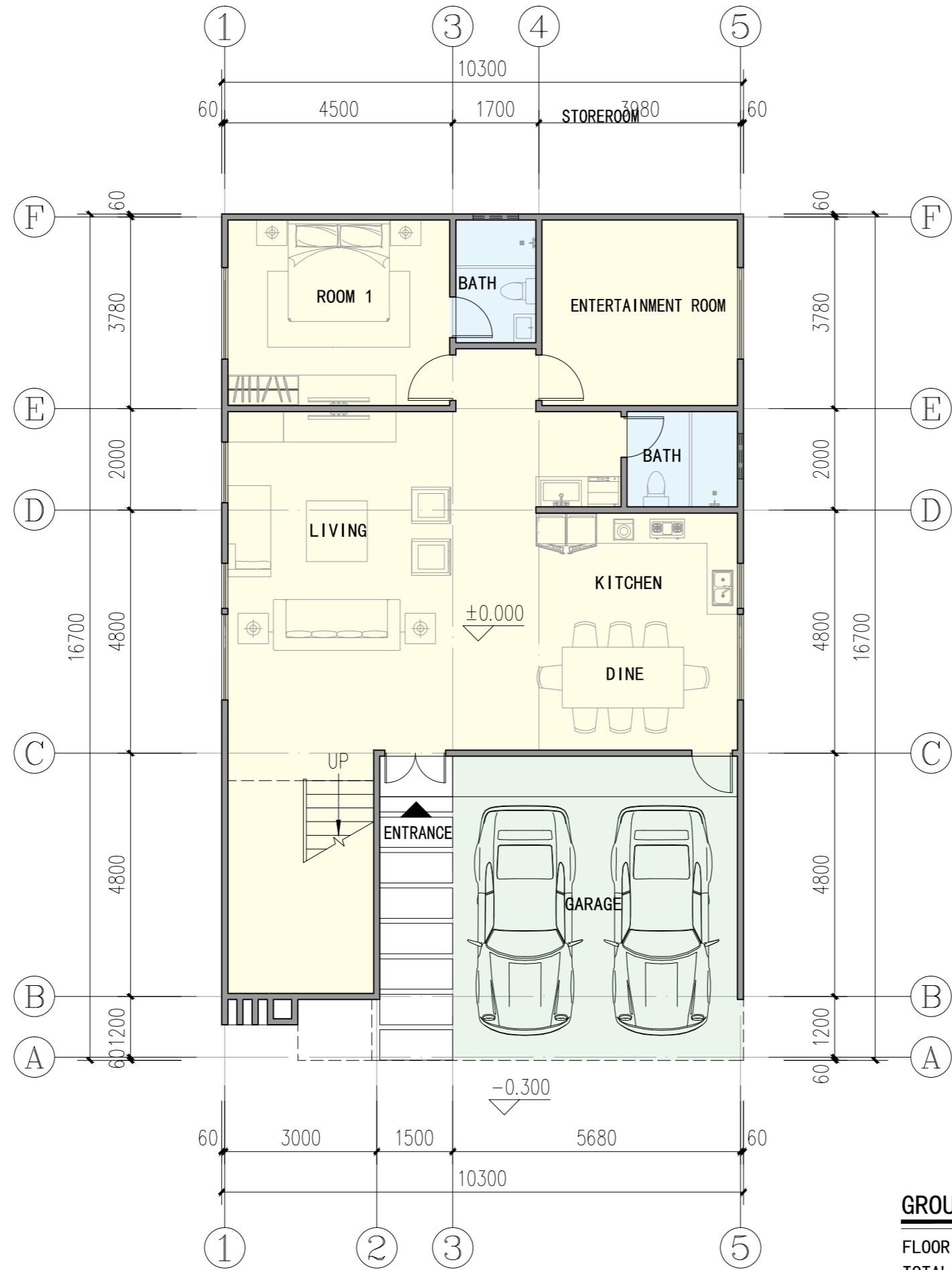


SECOND FLOOR PLAN
 FLOOR AREA: 105.07. m²
 CLEAR HEIGHT: 3.0m

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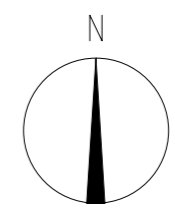


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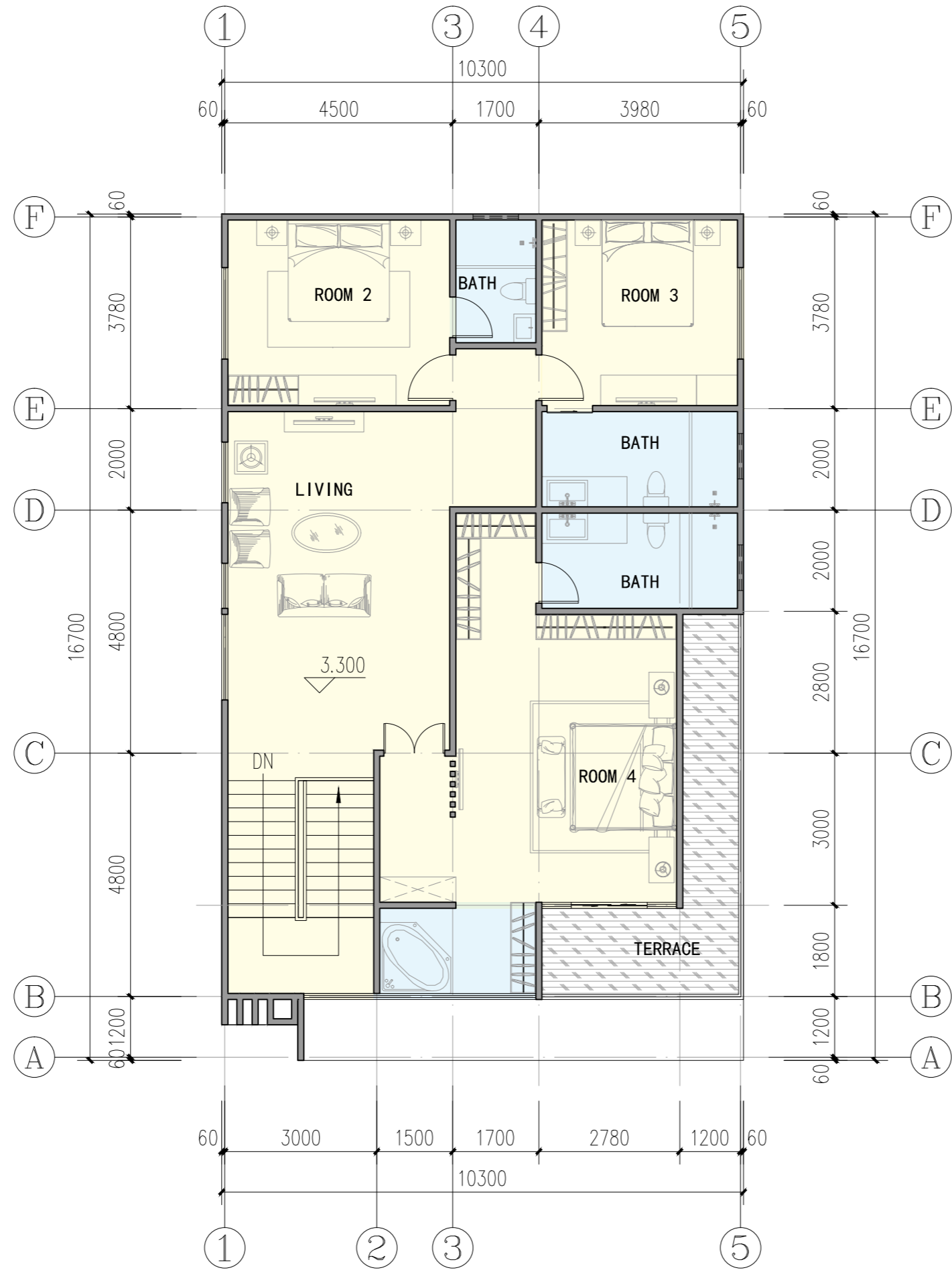
GROUND FLOOR PLAN

FLOOR AREA: 125.19m²
 TOTAL AREA: 270.71m²
 GARAGE AREA: 34.44m²
 CLEAR HEIGHT: 3.15m



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BANGLADESH VILLA			
TITLE:			
GROUND FLOOR PLAN			
PROJECT NUMBER:	DRAWING NUMBER:	REV	
J-01			

PROGRAMME 4



SECOND FLOOR PLAN

FLOOR AREA: 145.53m²
 CLEAR HEIGHT: 3.0m

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KEY PLAN:

NOTES:

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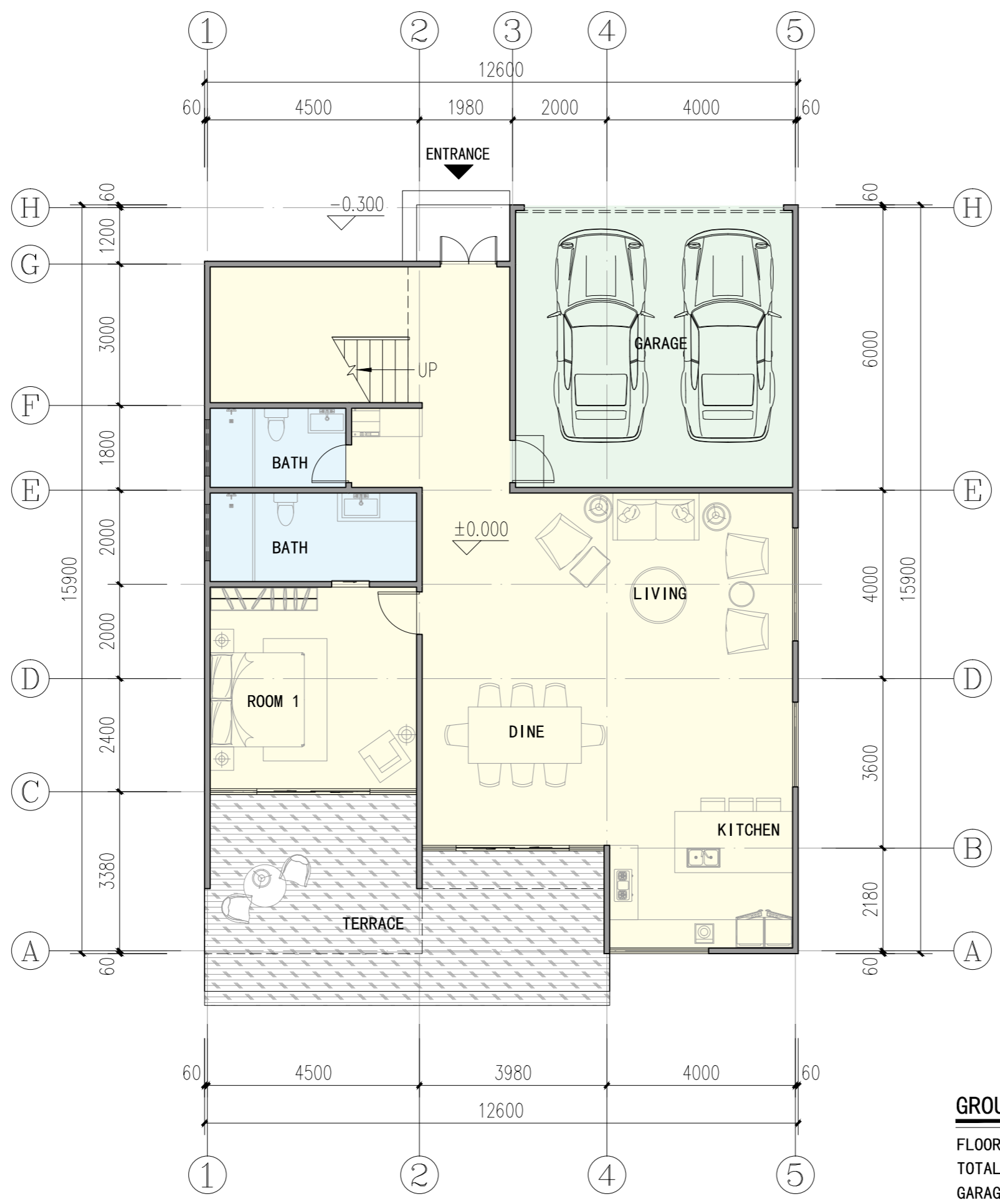
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PROJECT NUMBER: DRAWING NUMBER: REV

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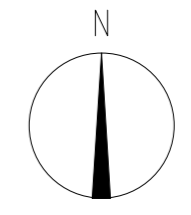


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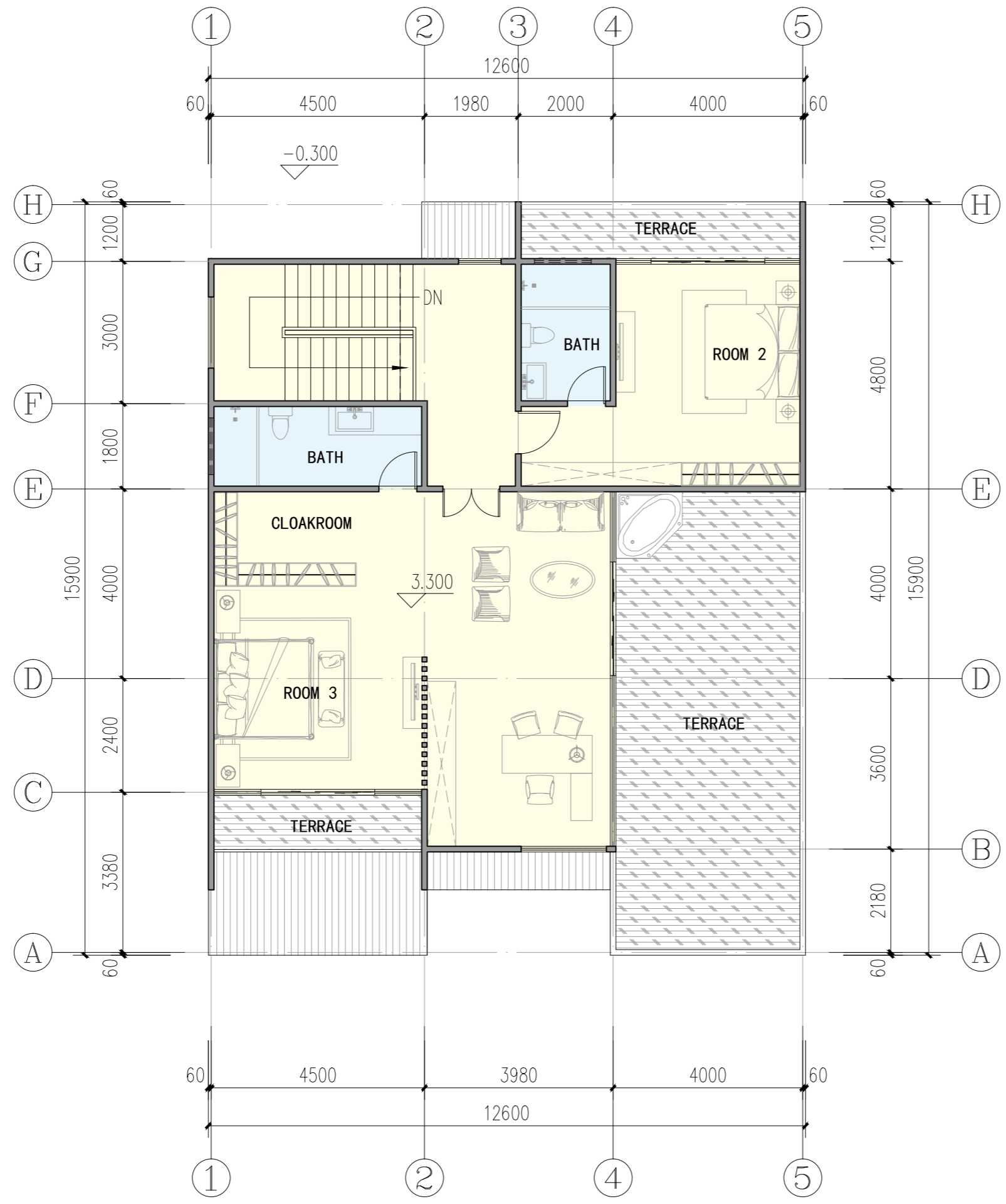
GROUND FLOOR PLAN

FLOOR AREA : 132. 53m²
 TOTAL AREA : 254. 48m²
 GARAGE AREA : 36. 14m²
 CLEAR HEIGHT : 3. 15m



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PROGRAMME 5



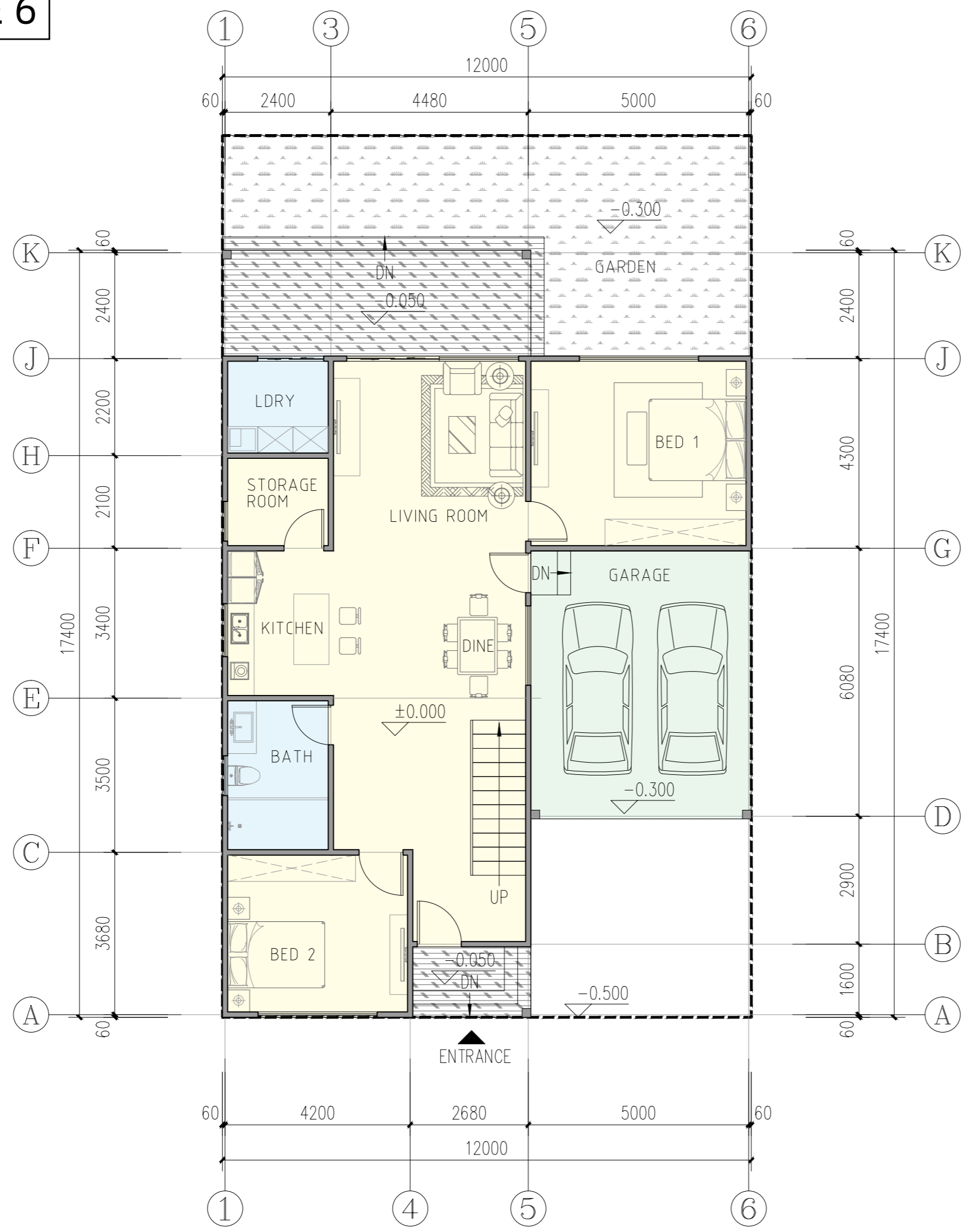
SECOND FLOOR PLAN

FLOOR AREA: 121.95m²
 CLEAR HEIGHT: 3.0m

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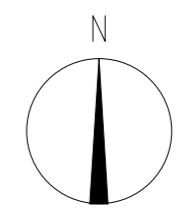


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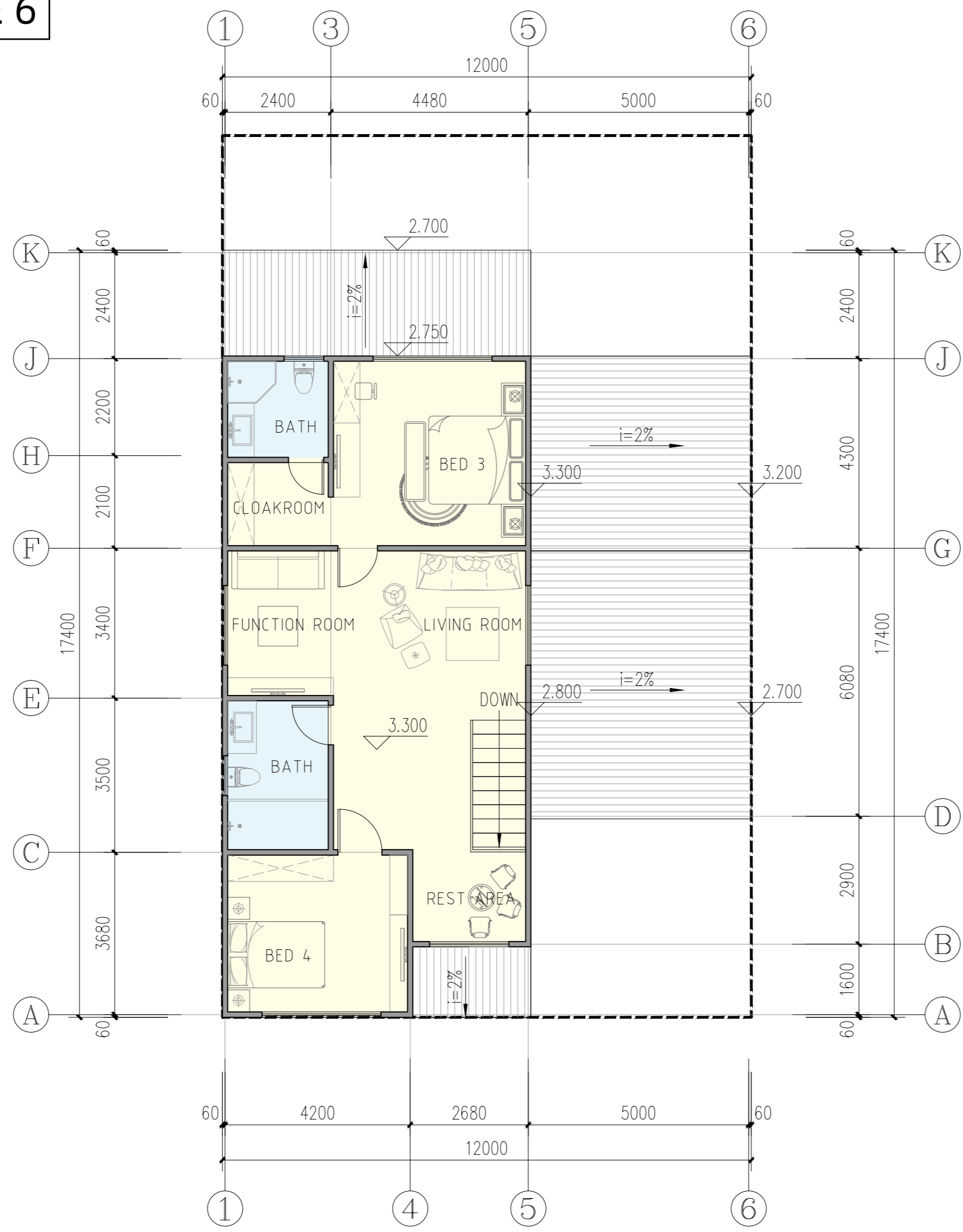
GROUND FLOOR PLAN

FLOOR AREA: 143.90m²
 TOTAL AREA: 244.61m²
 GARAGE AREA: 30.40m²
 CLEAR HEIGHT: 3.15m



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GROUND FLOOR PLAN			
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PROGRAMME 6



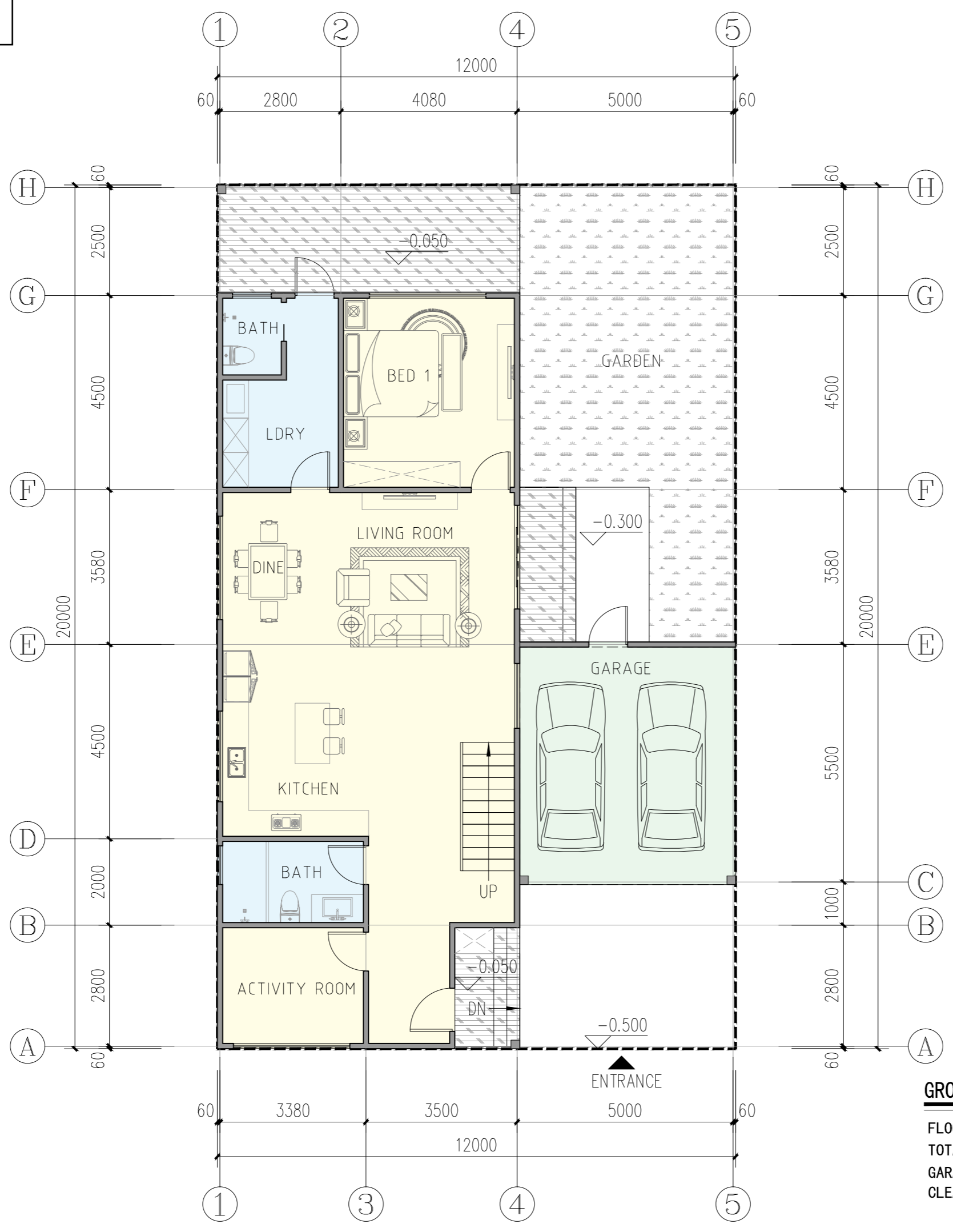
SECOND FLOOR PLAN

FLOOR AREA: 100.71m²
 CLEAR HEIGHT: 3.0m

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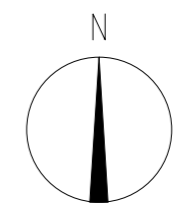


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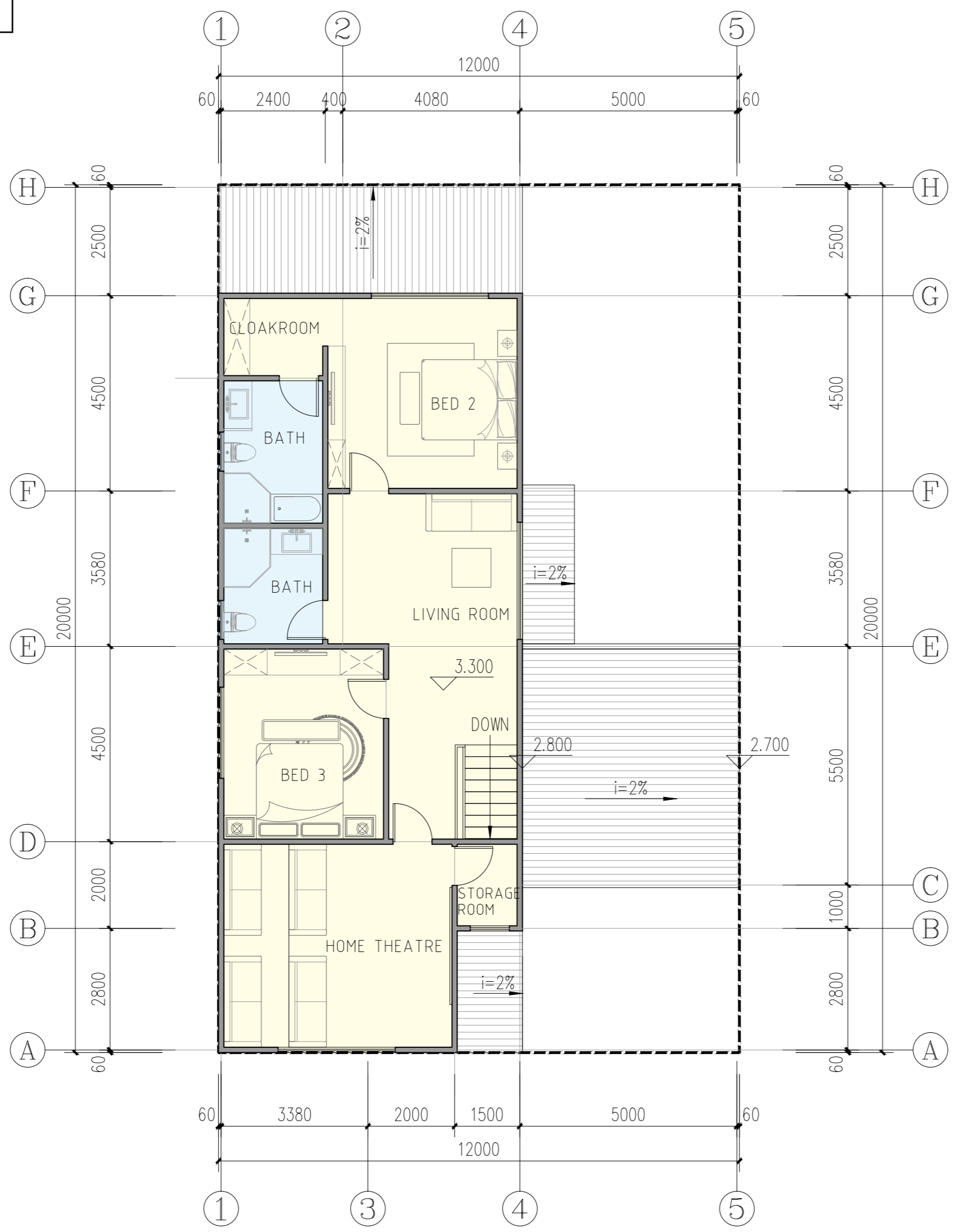


GROUND FLOOR PLAN

FLOOR AREA: 140.00m²
 TOTAL AREA: 258.32m²
 GARAGE AREA: 28.10m²
 CLEAR HEIGHT: 3.50m



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NOTES:			
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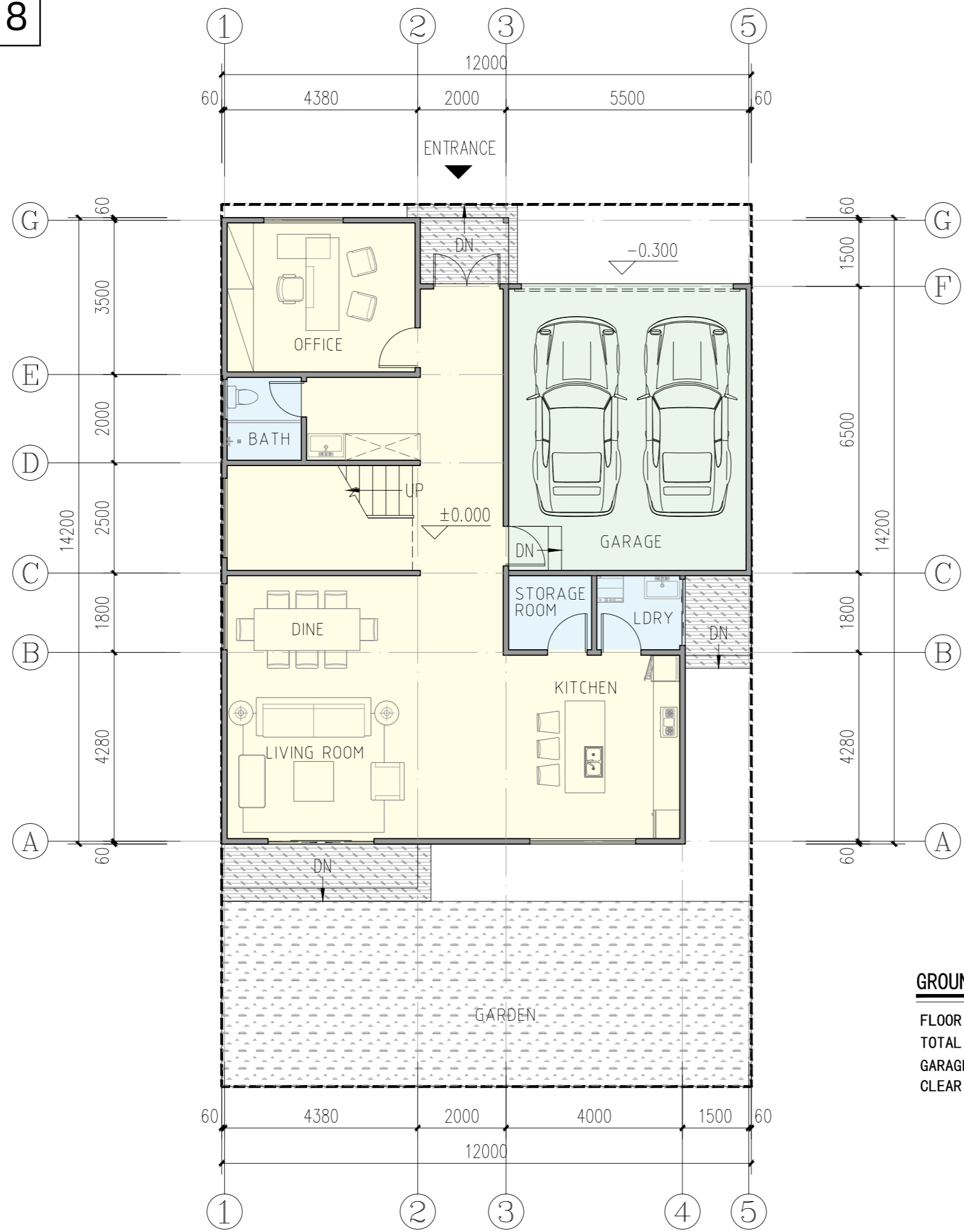


SECOND FLOOR PLAN
 FLOOR AREA: 118.3m²
 CLEAR HEIGHT: 3.0m

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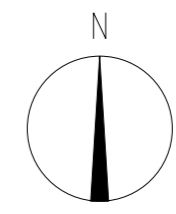


PROGRAMME 8



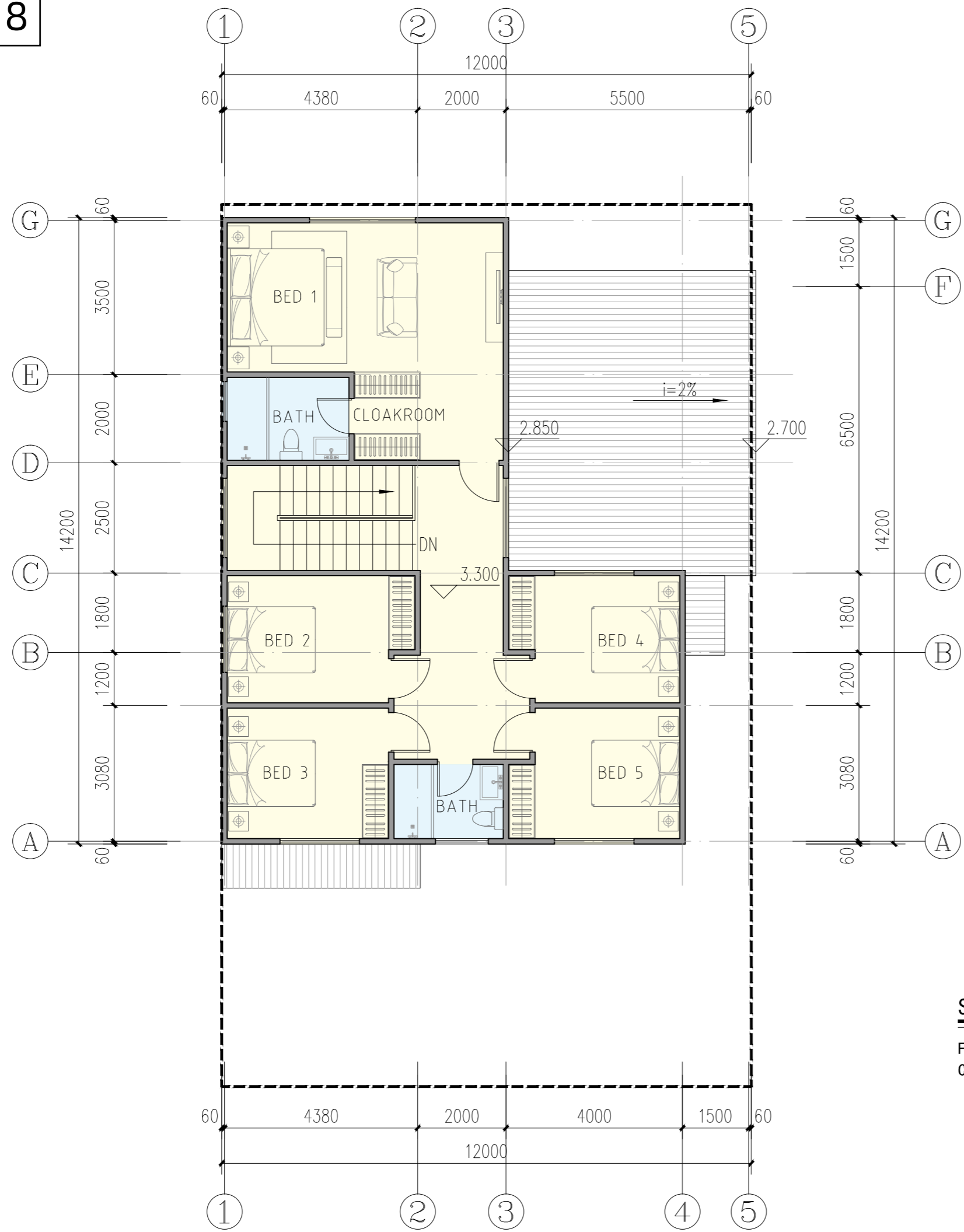
GROUND FLOOR PLAN

FLOOR AREA: 116.62m²
 TOTAL AREA: 233.72m²
 GARAGE AREA: 36.41m²
 CLEAR HEIGHT: 3.30m



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NOTES:			
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BANGLADESH VILLA			
TITLE:			
GROUND FLOOR PLAN			
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PROGRAMME 8



SECOND FLOOR PLAN

FLOOR AREA: 117.10m²
 CLEAR HEIGHT: 3.0m

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KEY PLAN:			
NOTES:			
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GENERAL NOTES:			
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SECOND FLOOR PLAN			
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PART2

PREFABRICATED QUICK ASSEMBLY PANEL SYSTEM



Prefabricated quick assembly panel system

The product of us are intelligent and reliable, and have reached **the world-class level.** We have imported **advanced production technology and equipment from Germany,** and have gathered the top design and R&D teams in the professional field. All products have been designed by a professional team to meet the local construction requirements of Saudi Arabia (fire prevention, sound insulation, and high thermal insulation). The structural design standards exceed the structural standards of Saudi Arabia (The local design standard wind speed is 166km/h, PGA design standard is 0.2g, our product design standard wind speed is 175km/h, PGA design standard is 0.3g under the condition of the main structure are not damaged).



Building standards

Comply with the national standards of Saudi Building Code (SBC 2018) and International Building Code (IBC 2018).



Structural system

The structural safety level meets the requirements of Design Loads and Associated Criteria for Buildings and Other Structures (ASCE Standard-ASCE/SEI 7-16), wind speed is 175km/h, and the PGA design reaches 0.3g.



Fire and sound insulation

The main materials reach the fireproof level of the incombustible grade; using special research and development materials, the sound insulation and noise reduction effect can reach 40-50DB..



Thermal insulation

The use of patented new thermal insulation materials can achieve 65% energy saving efficiency; the thermal resistance of the wall, the heat transfer coefficient of the external wall, and the solar radiation absorption coefficient are all at the leading level in the industry.



Technology and environmental protection

Adopting innovative design, leading technology and intelligent equipment, new environmentally friendly materials and top-level manufacturing technology to meet the highest standards of environmental protection



High prefabrication rate

The prefabrication rate of the product reaches more than 90%, which can save a lot of on-site work and is easy to disassemble, and the loss rate is less than 5%



What is the Prefabricated quick assembly panel system ?

Prefabricated quick assembly panel system is a high-performance building system for residential and light commercial buildings. The traditional panel consists of two structural panels (usually OSB) .We have improved the traditional prefabricated quick assembly panel system, giving it more powerful load-bearing capacity and plasticity, replacing the original wooden edge with a more durable lightweight steel edge. The OSB board is replaced by a more mildew proof and waterproof MGO. The insulation foam core is still used in the middle, and a new prefabricated quick assembly panel system is formed. Panels are manufactured under factory controlled conditions and are suitable for almost any architectural design. The building system built is very robust, energy-saving and cost-effective.



Easy Installation

The new prefabricated quick assembly panel system is a simple way to build high-performance structures that meet or exceed building requirements and energy codes. It is the easiest way to meet air penetration, R-value and continuous insulation standards, while significantly reducing time and labor.

Fast and Efficient

Compared with the traditional light steel structure, the new prefabricated quick assembly panel system has better thermal insulation performance and air tightness. In terms of labor, prefabricated quick assembly panel system saves more than 90% of labor, can integrate building structure, building thermal insulation and architectural aesthetics, and realize rapid construction.

Health And Energy Saving

Build healthier and energy-saving elastic structures for customers who care about the environment. Prefabricated quick assembly panel system provides excellent strength against wind, snow and natural disasters. A tighter shell means significantly reducing air leakage, so as to create a healthier and more efficient building.

Unfading Merit

As the future housekeeper, our responsibility is to create a comfortable and responsible space. The buildings built with the new prefabricated quick assembly panel system show the degree of concern for customers and the environment. We are proud of building a lasting heritage and is determined to become a leader in best practices.

► Technology quick assembly technology

PRODUCTION STRENGTH

Our factory covers an area of 200,00m² , yearly output of 70,000 m²,and average delivery time is 4-8 weeks. With strength of German advanced technology introduced , We are well prepared to provide high quality modular construction worldwide .



EASY TRANSPORTATION

Due to the technology of quick assembly panel system , modular house demonstrate prominent advantage in its transportation compare to traditional buildings in its volume and weight , the precast panels , floor and roof are all well fitted to all kinds of transportation.



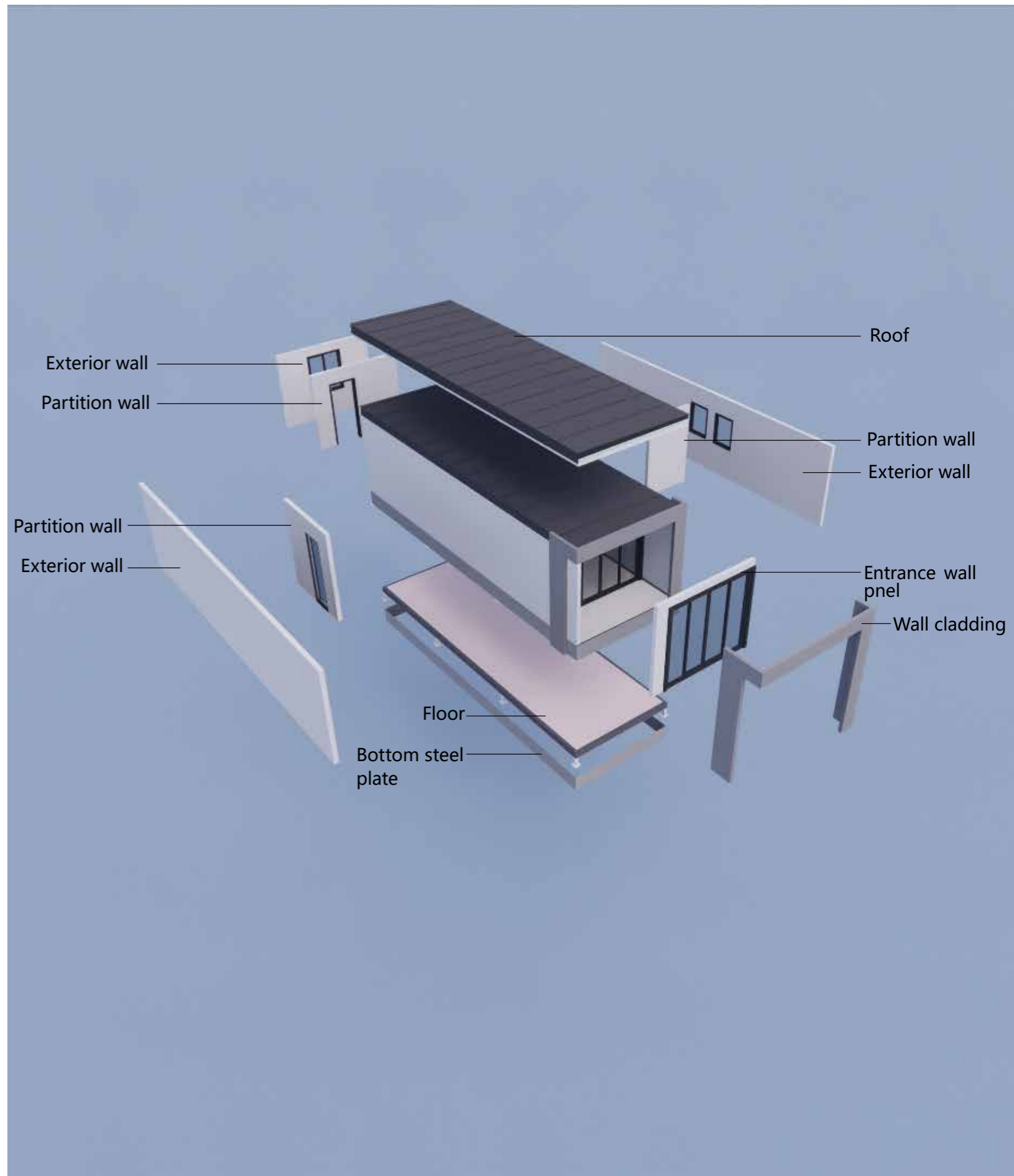
FAST CONSTRUCTION

Through the patented fixed system and special node design, the on-site rapid assembly is realized without expensive skilled technicians. The concept of building blocks is used to reduce the on-site assembly cost. According to the size of the house, the on-site construction time is 4 hours-2 working days.



APPLICATION

We developed a new type of quick assembly panel system, which is suitable for various types of low rise buildings. For example, public and municipal buildings, home stay houses, temporary isolation and resettlement houses and other buildings.



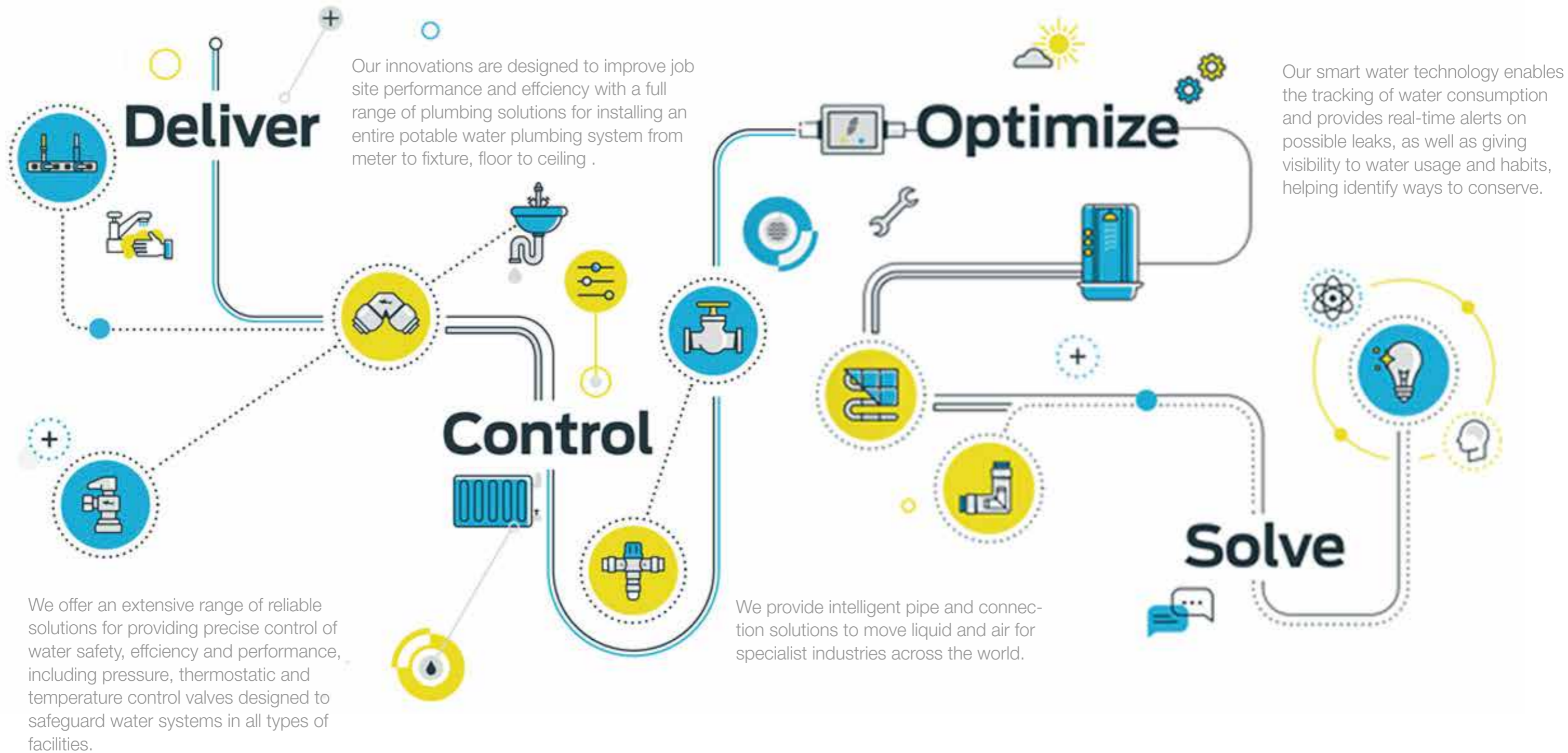


Wall installation sequence: Floor --- Wall panel--- Roof --- Garage

1. Install the floor bottom frame. After the floor support is positioned, measure the horizontal point with a level gauge.
2. Install the fixing bolts on the wall panel, sleeve the bolts on the fixing bolts, and slowly and parallel lower the wall panel until the wall panel is in full contact with the floor. While locking the bolts, ensure that the wall remains vertical to facilitate subsequent wall panel installation.
3. Assemble the wall panels in sequence and adjust the installation angle to ensure the vertical state of each wall panel until all wall panels are installed.
4. Install lifting lugs on the roof and hoist them in parallel. When the roof drops to 100mm, thread wires.
5. After putting on the wires, slowly lower the roof and fit it with the wallboard.
6. Hoist the garage in parallel, place the column base at the connection of the garage column base in turn, and lower it to the ground after installation in turn.
7. Finally, the pendant around the house is installed.

Only 5 workers are needed in the whole process, and the installation is completed within 24 hours

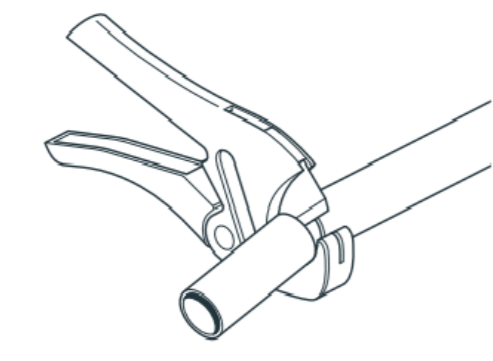
► Smart Plumbing System



► Plumbing Connection Method - Fast, Safe, Clean

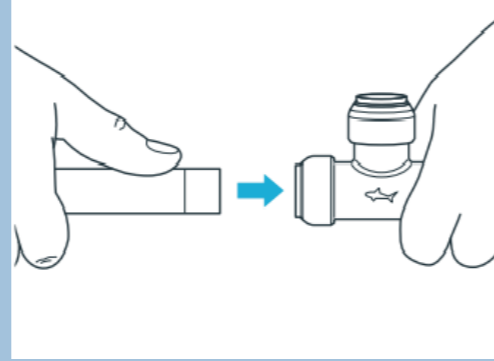


Cut



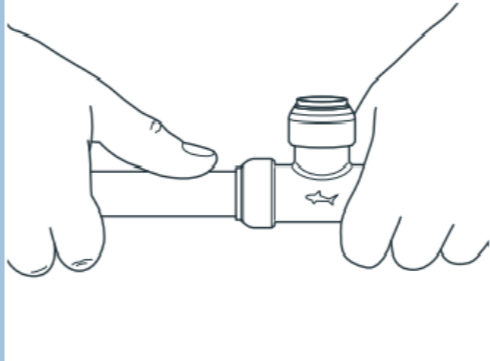
Cut the pipe square removing rough edges and debris. Mark the pipe to the correct insertion depth.

Push

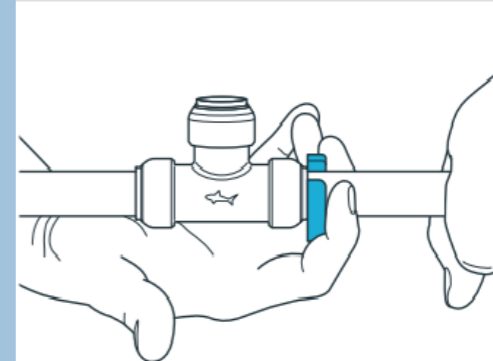


Push pipe and fitting together up to the depth mark.

Done



Disconnect

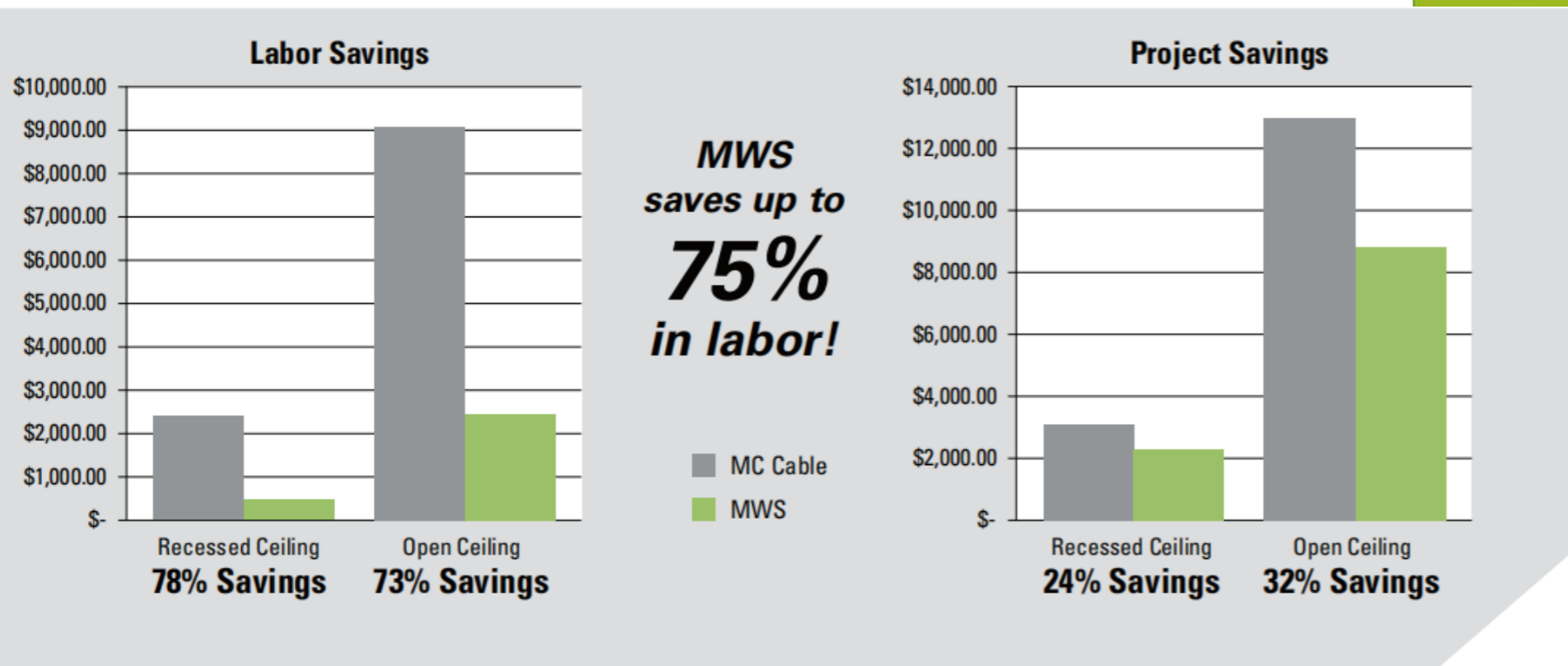


Using the disconnect clip, fittings can be easily changed, removed and reused.

► Modular Wire System

Simple plug and play installation

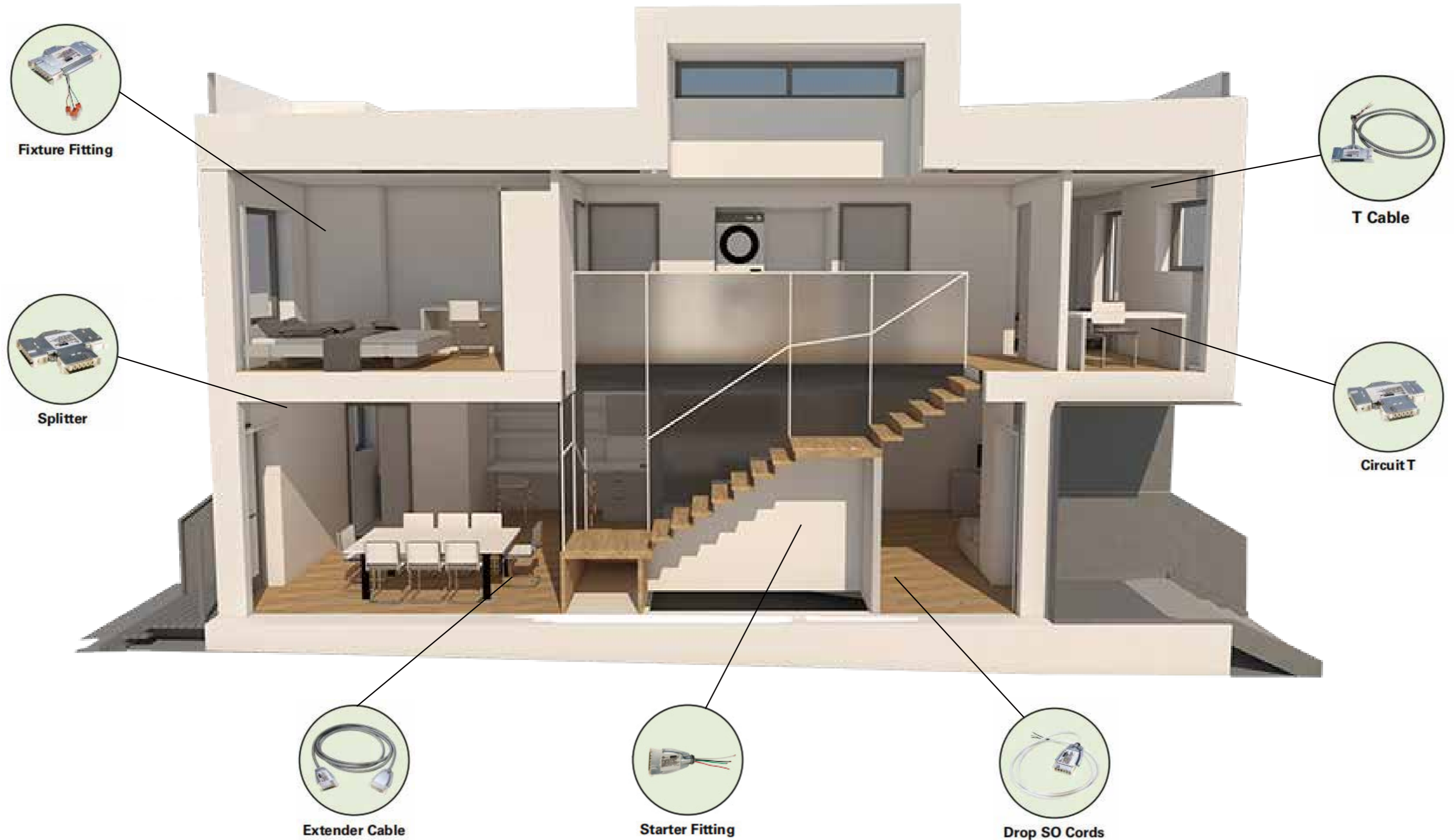
Fast, positive latching to prevent accidental disconnect



Benefits of Modular Wire System

- 1、 Lowest installation cost compared to MC Cable
- 2、 On-site labor can be reduced up to 70%
- 3、 Significant time and money saved
- 4、 Enhanced project management
- 5、 Easy-to-install

► Modular Wire System-Time Saving, High Efficiency and Low Cost



Key elements of Prefabricated quick assembly panel system :

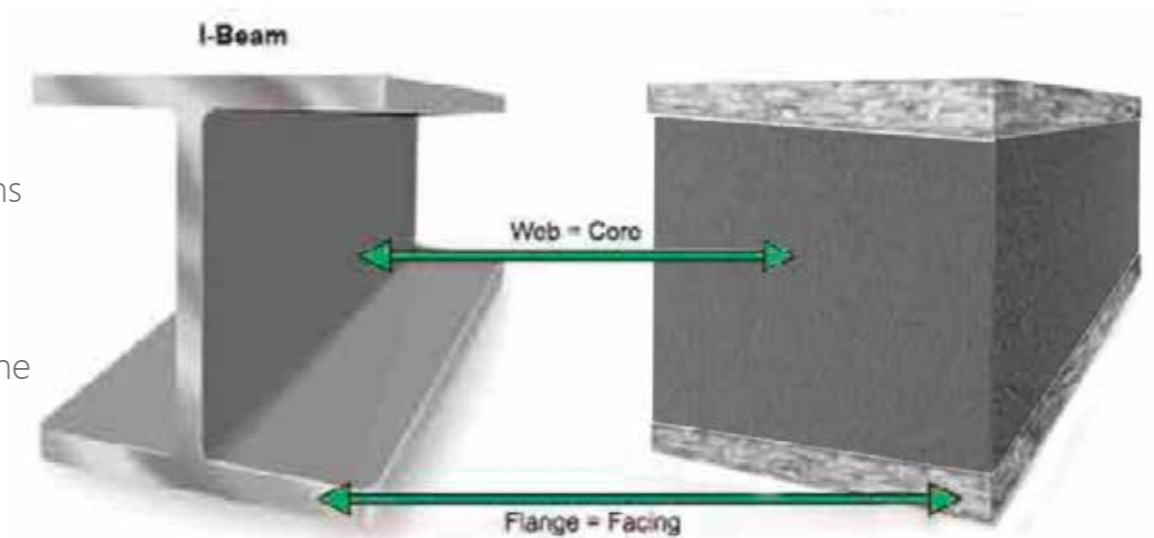
- 1、 Proprietary fixing system which allows super fast assembly without requiring expensive skilled workman;
 - (1)、 Walls: Quick connection system between wall-boards;
 - (2)、 Floor: adjustable height multi platform floor system;
 - (3)、 Roof: large format quick joining connection system;
- 2、 Manufacturing with large format panels;
 - (1)、 MGO board with GPS core;
 - (2)、 Sizes: up to 6m long and 3 m high;
 - (3)、 Walls: 120 mm external walls, 120 mm interior walls;

Advantages of Prefabricated quick assembly panel system include:

- 1、 Allows for highly efficient CAM manufacturing process
- 2、 Rapid on-site installation
- 3、 Improved building quality
- 4、 Design flexibility
- 5、 Superior structural performance with rigid building structures
- 6、 High fire-ratings
- 7、 Environmentally sustainable
- 8、 Earthquake resistance and wind protection
- 9、 Excellent thermal properties – 70% more energy efficient than conventional concrete and Millwork.

Prefabricated quick assembly panel system – Strength:

- 1、 Rigid foam core with two layers of structural board
- 2、 Superior structural performance than wood framed and steel framed walls (up to 2X)
- 3、 Share the same structural properties as L-Beams and I-Beams
- 4、 Under extreme conditions such as earthquake and wind protection, the seismic performance of the panel is better than that of other buildings.



Prefabricated quick assembly panel system – Sound insulation:

Two rows of 50x100mm wooden keels are staggered between traditional walls, and sound-absorbing material (STC 55) is placed on one side.

Prefabricated quick assembly panel can reach (stc58-59).

The prefabricated panel has continuous insulation and fewer gaps to be sealed than traditional wood structure and light steel structure walls, So there are fewer ways for sound to go through the gaps in the wall components.

STC 58 or STC 59





Prefabricated quick assembly panel system – Fire Ratings:

- 1、 We customized MGO meets all fire rating single storey and low rise residential units in Australia, Europe, Japan and North America.
- 2、 Most 12mm MGO board has a two-hour fire rating.
- 3、 MGO board does not burn, and is a poor conductor of heat.
- 4、 MGO does not produce toxic off-gassing when burned at temperatures greater than 700 degrees.
- 5、 MGO is stronger than plywood, OSB, and particleboard. It doesn't off-gas VOCs like OSB's formaldehyde-laden glue.
- 6、 MGO has superior fire suppression characteristics when compared to portland cement, OSB, and plywood.
- 7、 MGO's water-resistant characteristics make it more resistant to mould than plywood, OSB, and gypsum board.

property	values		
Density, lb./cu.ft	1	2	3
Compressive strength,p.s.i	12-17	31-37	52-56
Tensile strength,p.s.i	22-27	58-61	92-95
Thermal resistance,R/in	3.8	4.2	4.3

Density (pcf)	Mean Test Temperature (F)	K Factor (BTU-In./Ft.2HR F)
1.0	0	.22
	40	.24
	75	.26
	100	.28
2.0	0	.20
	40	.21
	75	.23
	100	.25

■ Excellent Insulation Value

GPS has strong resistance to heat flow. Its uniform and closed honeycomb structure limits radiation, convection and conduction heat transfer.

■ Significant Cost Savings

GPS material prices are highly competitive in the market. The versatility and light weight of the material itself make it more economical in design and development, product assembly and distribution costs.

■ Water Absorption And Moisture Permeability

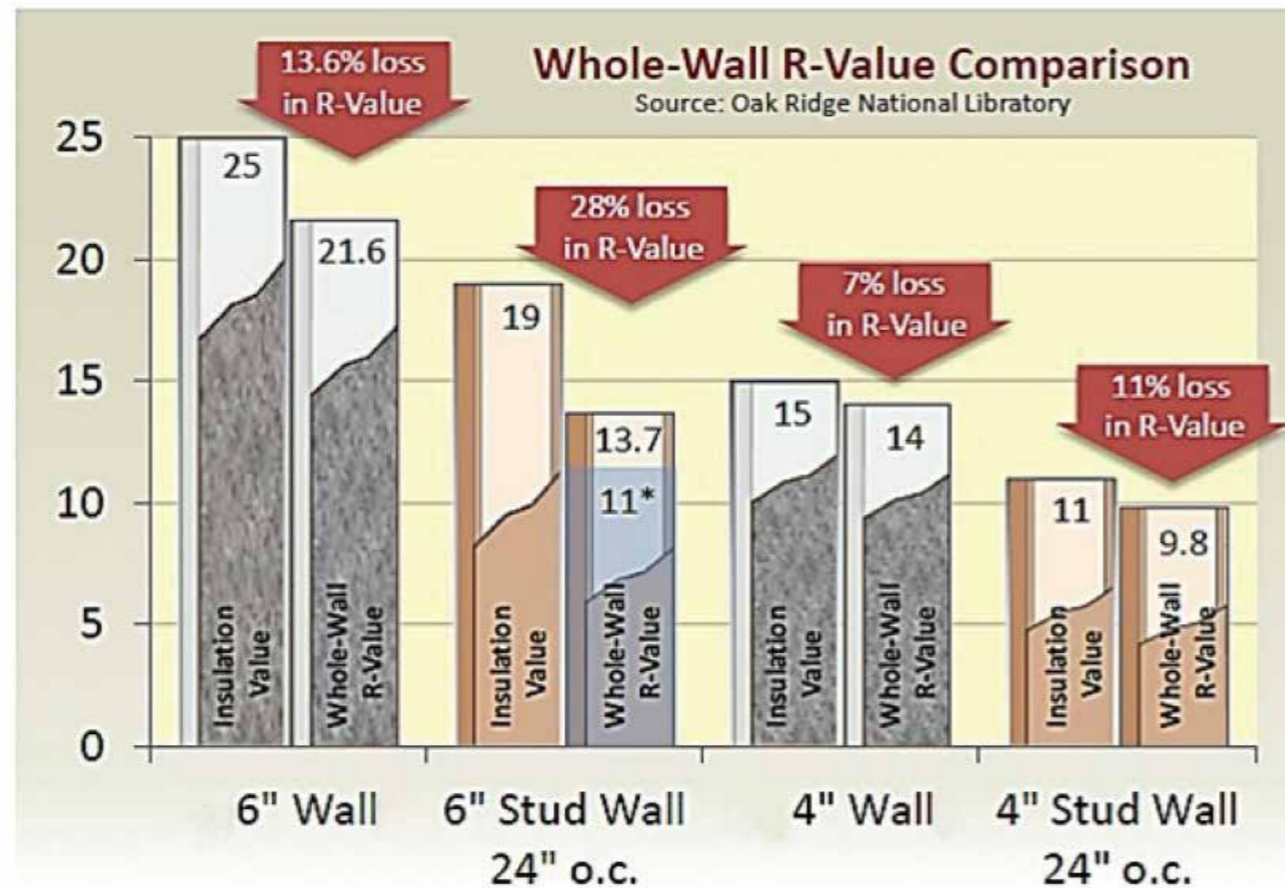
The porous structure of polystyrene is basically impermeable and provides zero capillary.

■ Chemical Resistance

Aqueous solutions of water and salts, acids and bases do not affect molded polystyrene, and most organic solvents are incompatible with GPS.

Based on Test Results: Whole Wall Rating Label for Structural Panel: Steady – State Thermal Analysis. June 4, 1999, Oak Ridge National Laboratory. Also refer to Federal Trade Commission 16 CFR Part 460, labeling of home insulation.

PANEL THICKNESS	PERFORMANCE VALUE ****
4 ½"	R-25
6 ½"	R-38
8 ¼"	R-50
10 ¼"	R-62

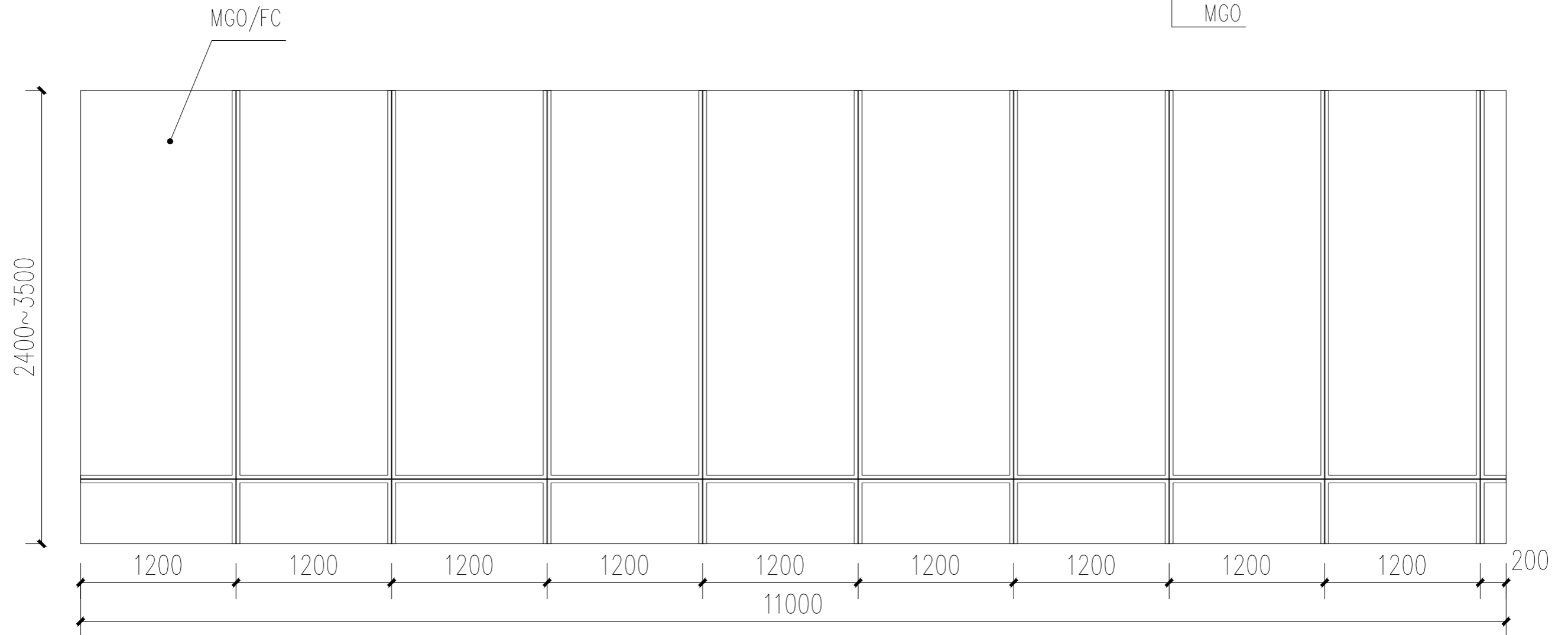
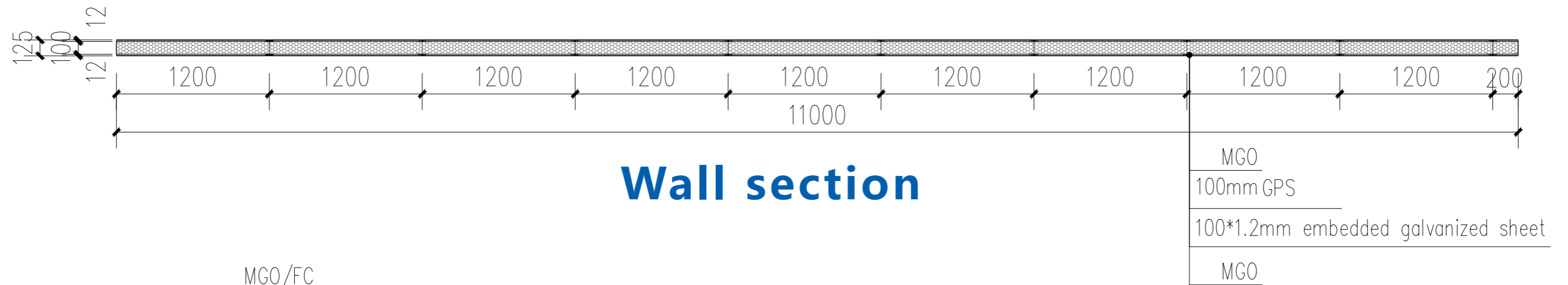


Prefabricated quick assembly panel system -Thermal Performance:

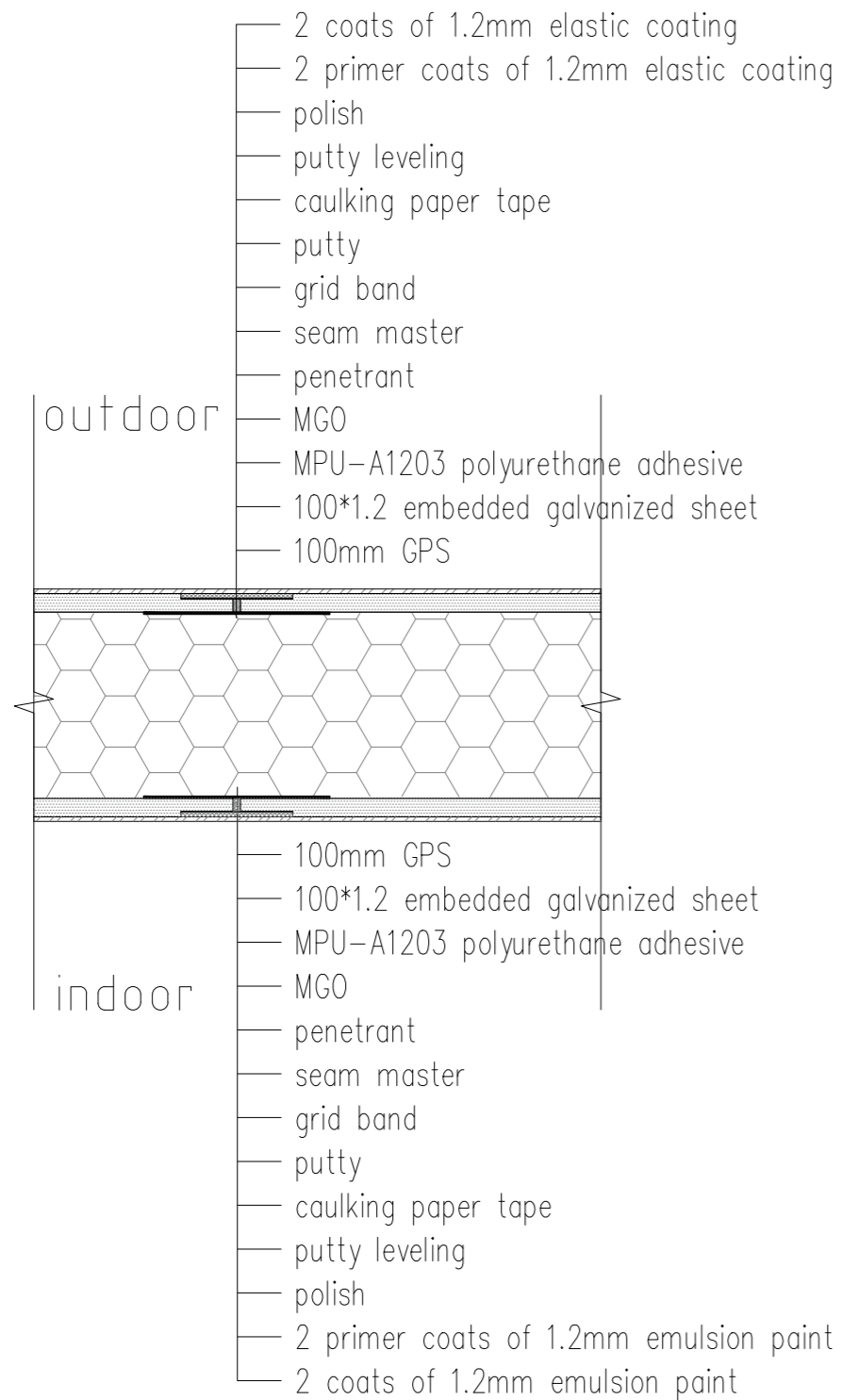
Insulation is one of the key components of any energy-saving residential or commercial building.

Insulation is evaluated by R value and the thermal resistance of materials is measured. Insulating materials with higher R value form a more effective thermal barrier between outdoor temperature and indoor air-conditioned space. As shown in the figure, prefabricated wall panels provide more R values than wooden dragon bone walls or light steel walls of the same thickness.

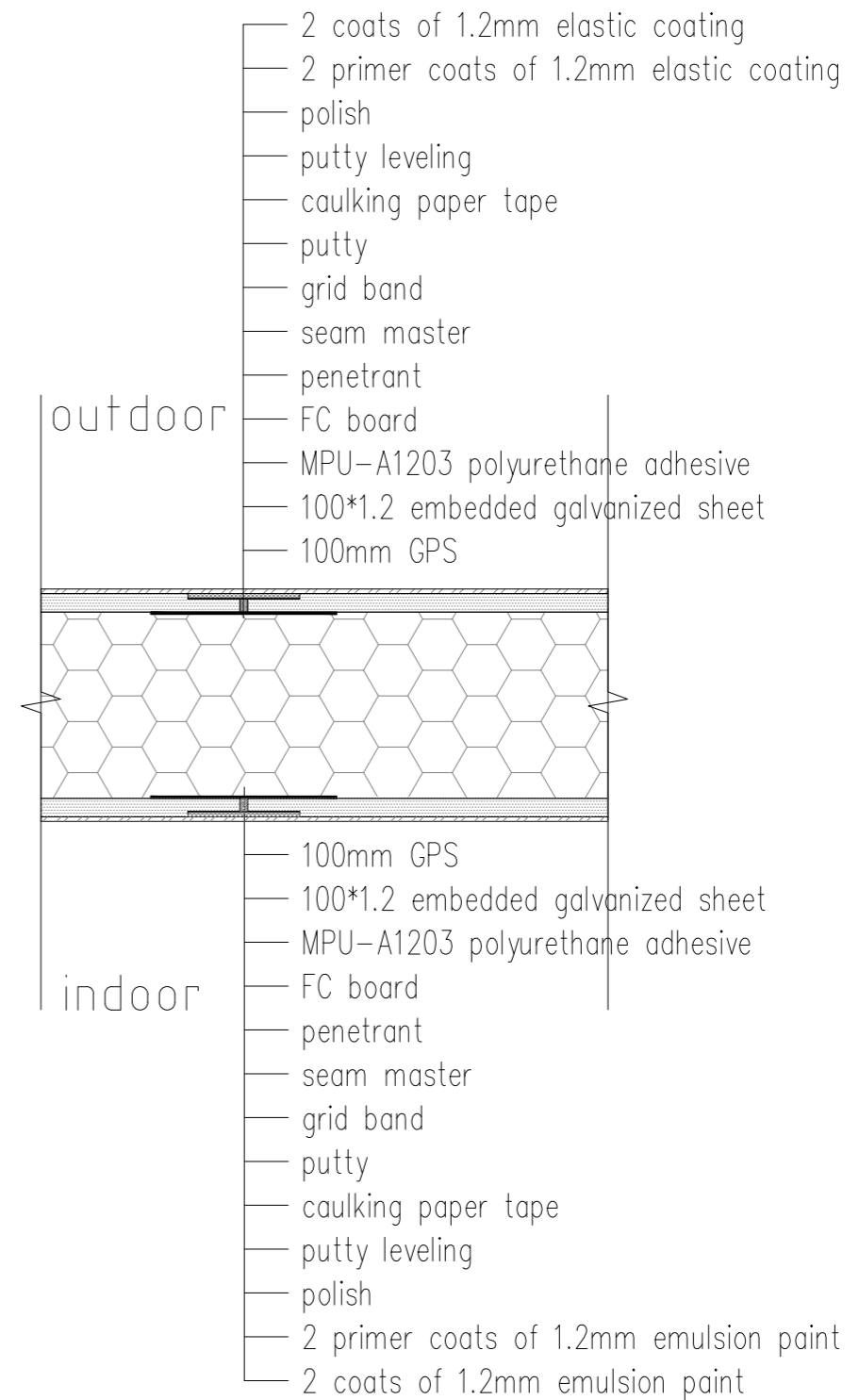
1. Very high R values and very low thermal bridges minimize heat transfer between the internal and external surfaces of the building
2. In closed buildings, the energy consumption is low and the thermal efficiency is as high as 95%
3. Low carbon emission green building technology
4. When considering real-world factors such as thermal bridges and spray foam (PU) and glass fiber installation gaps, precast wallboard can provide continuous insulation, maintain its prescribed R value, and be better than glass fiber insulation.
5. When the wood keel or steel structure in the structure transfers heat from the interior of the building to the outer surface, a thermal bridge will occur, but there is only a small amount of steel structure in the prefabricated plate quick assembly panel. Therefore, the generation of thermal bridge phenomenon is far lower than that of traditional structures.



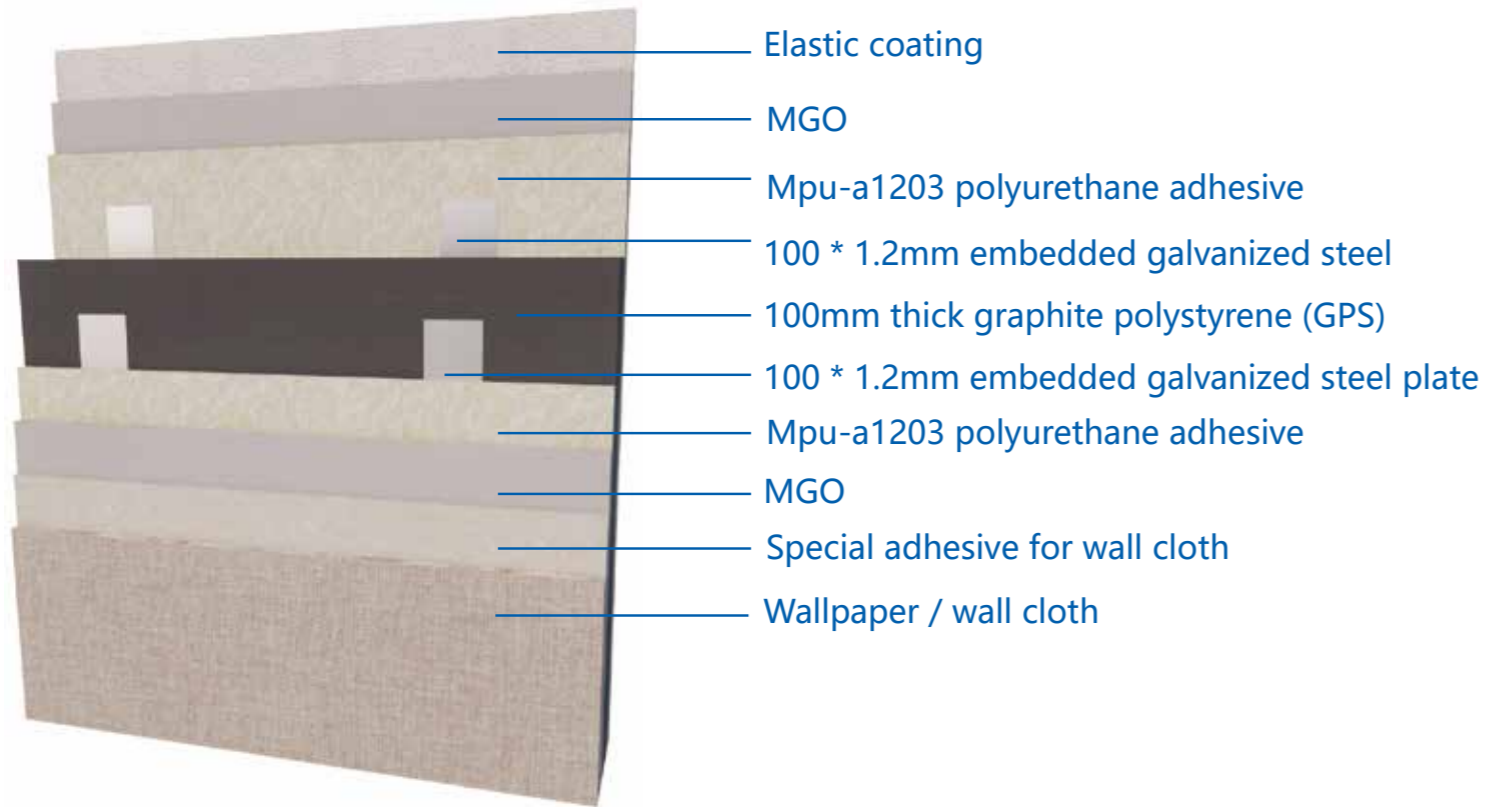
MGO/FC splicing diagram



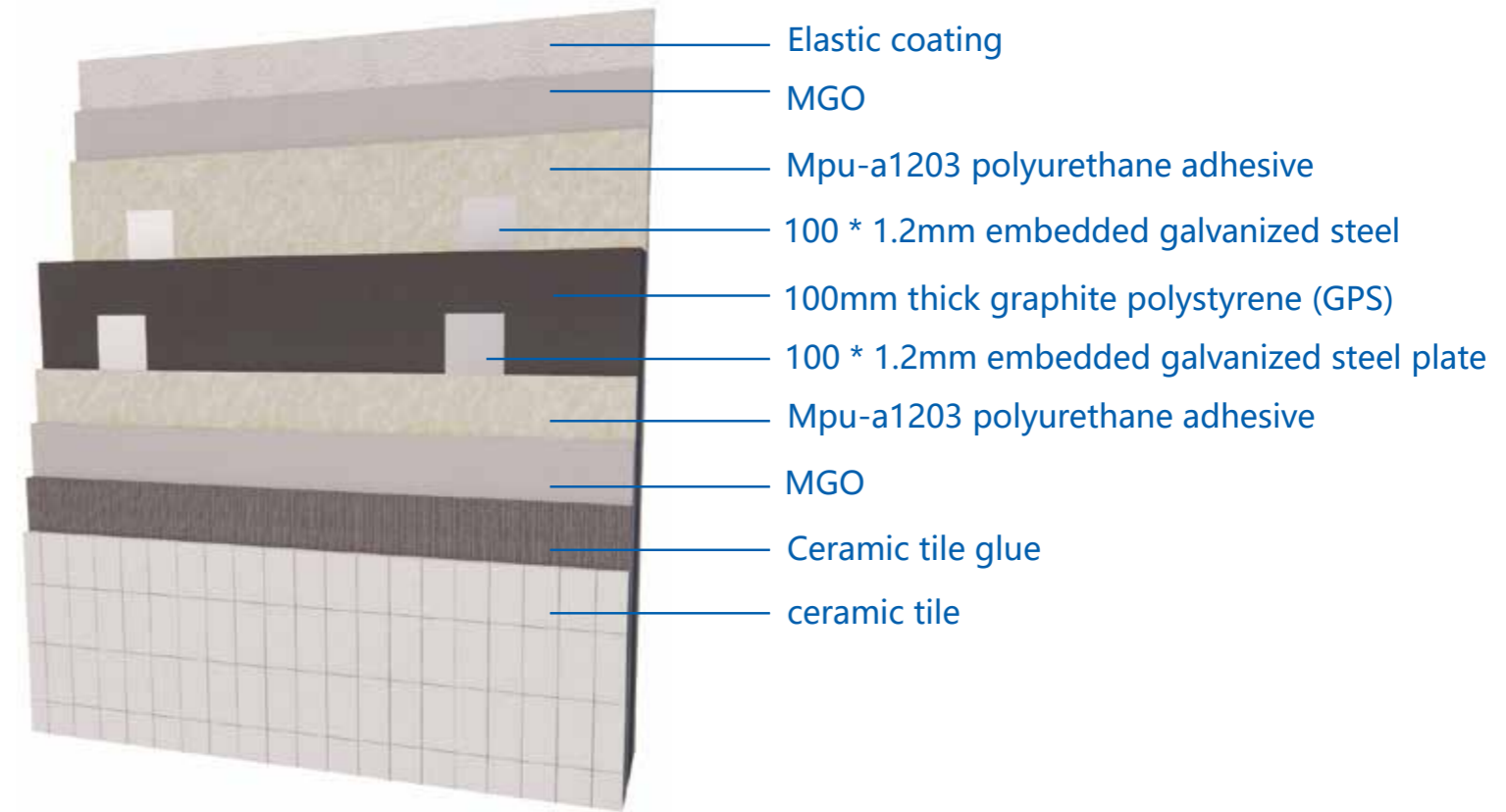
DETAIL I (MGO)



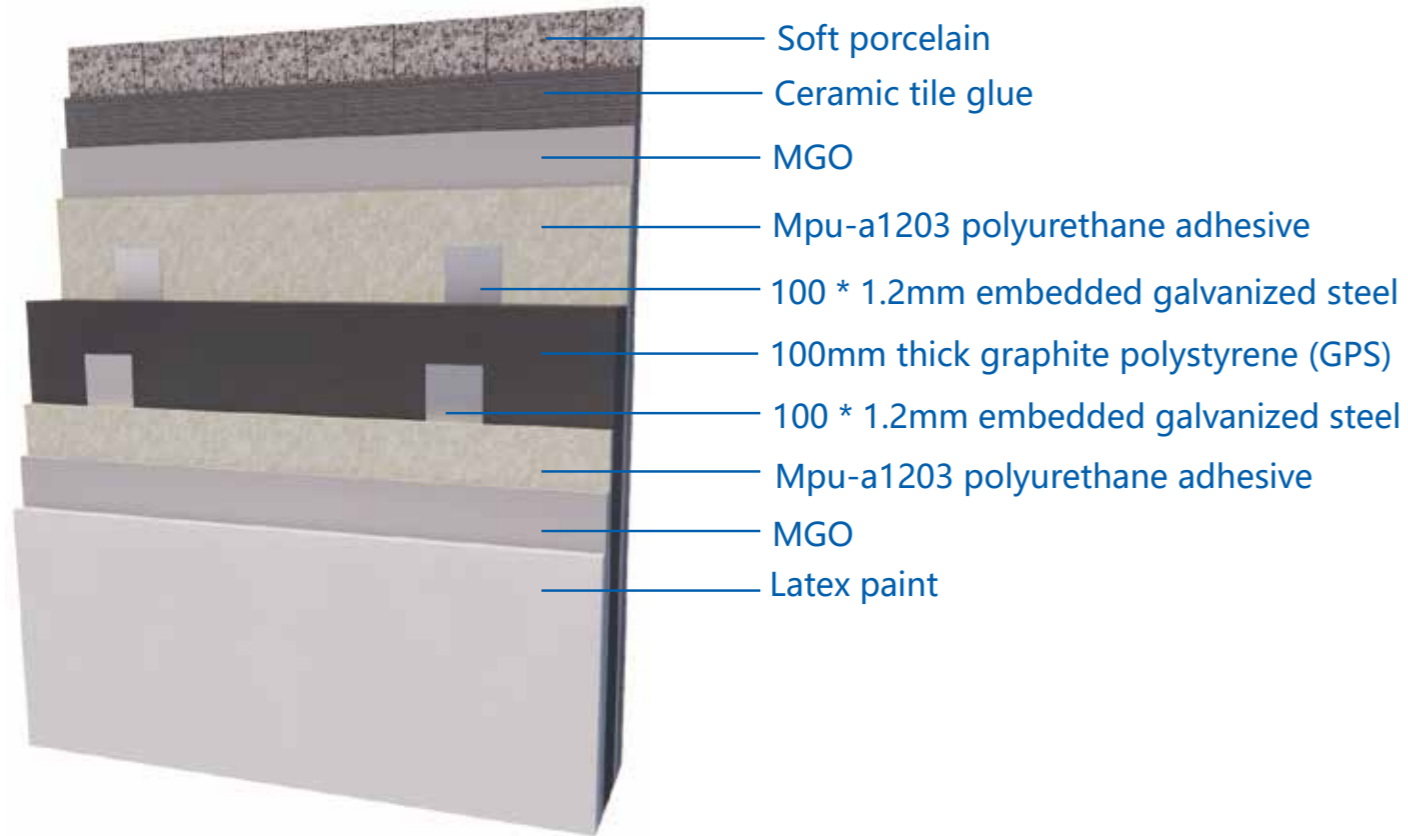
DETAIL II (FC Board)



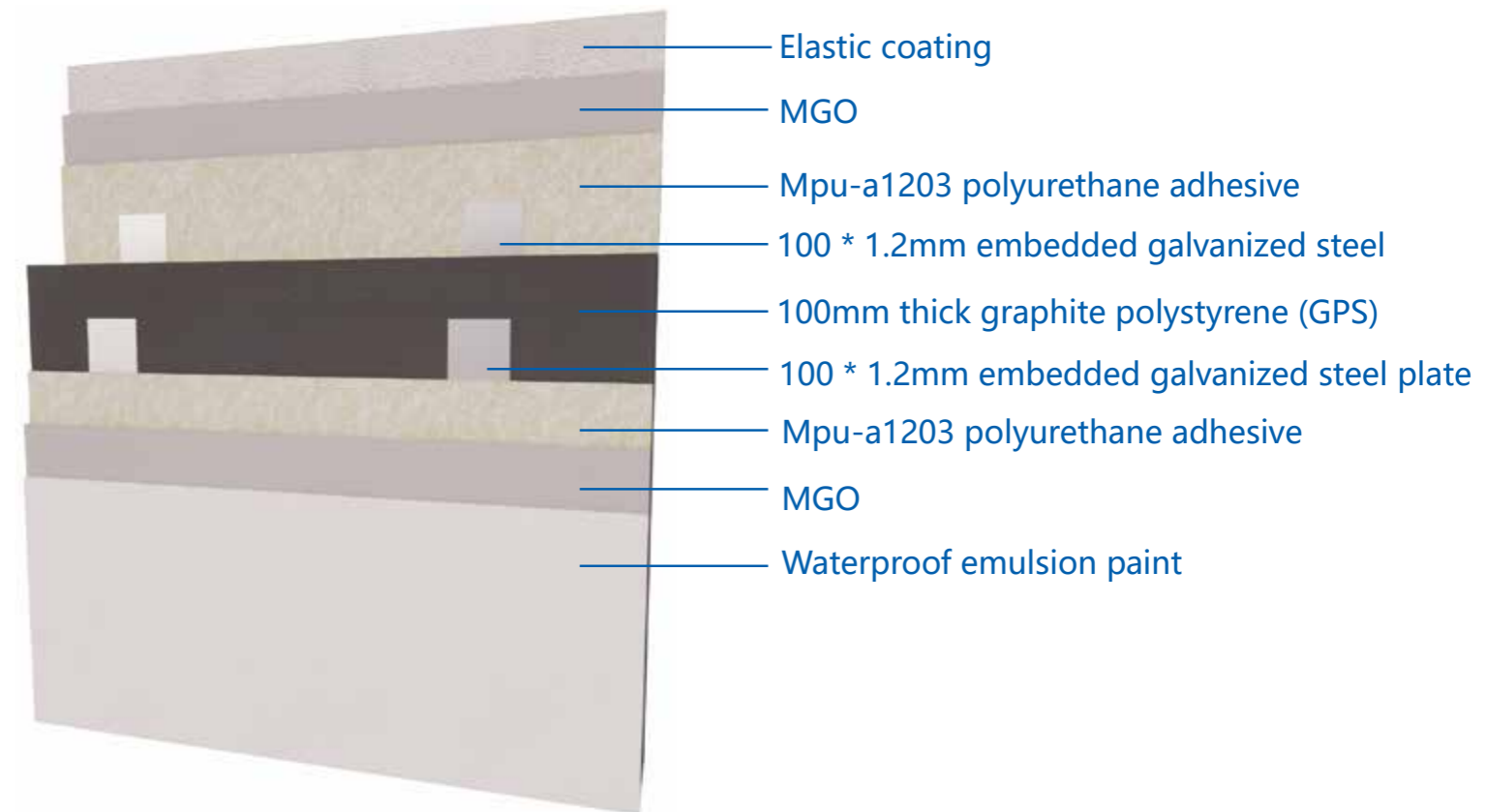
Wall construction drawing I (interior wall: wall cloth / wallpaper)



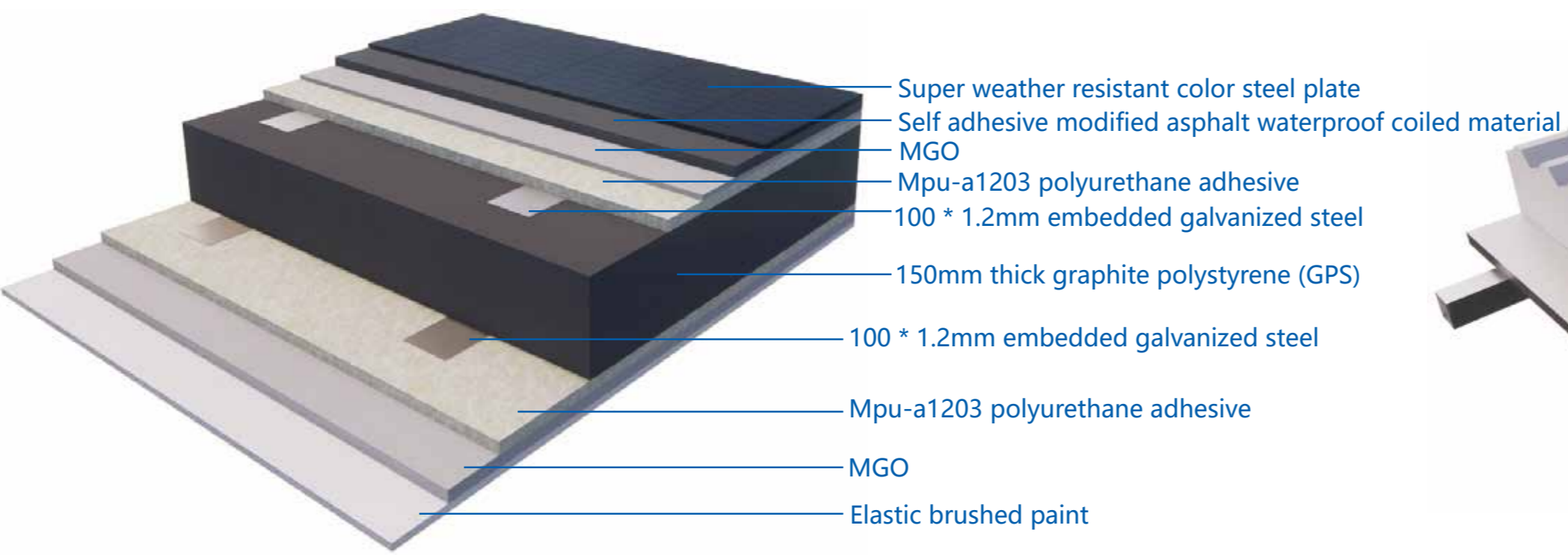
Wall construction drawing II (interior wall: ceramic tile)



Wall construction drawing III (exterior wall: soft porcelain)



Wall construction drawing IV (exterior wall: elastic coating)



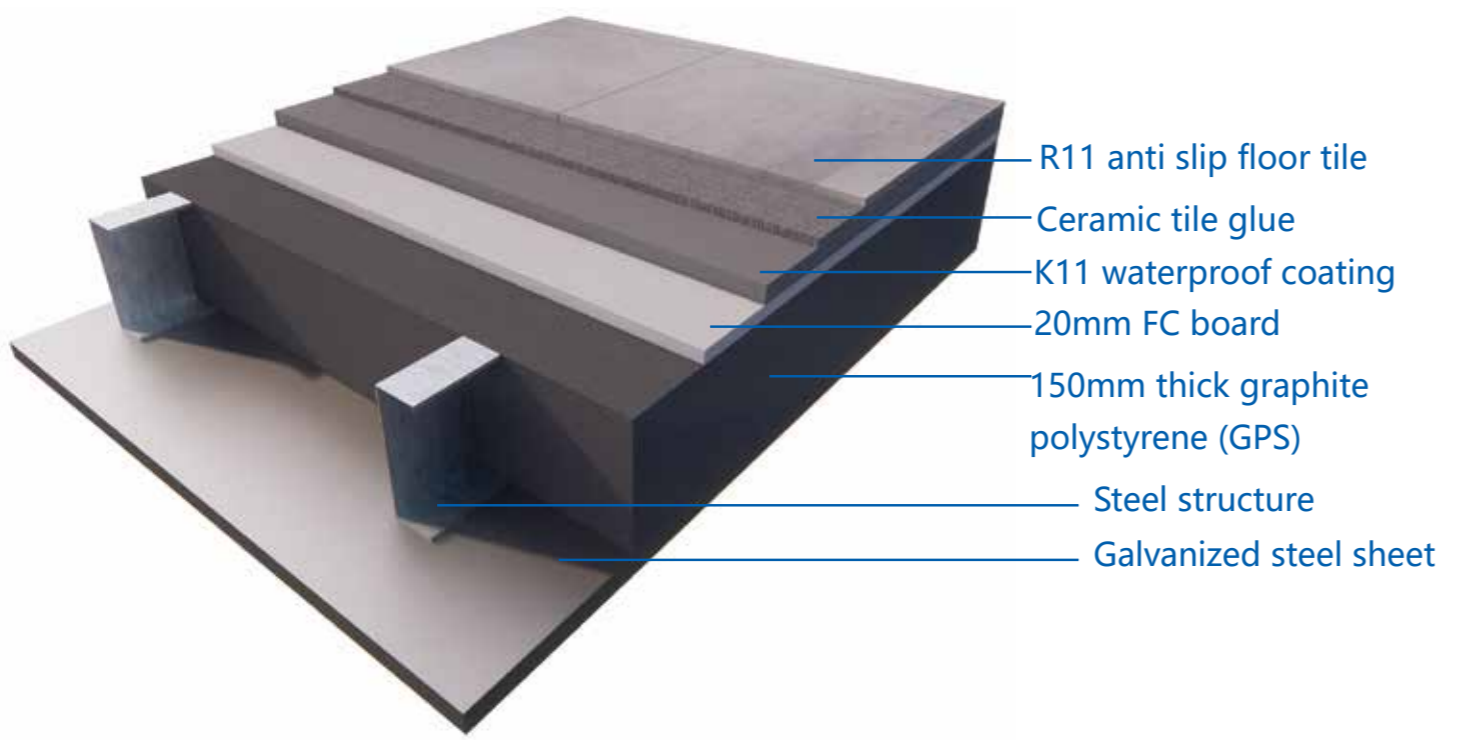
- Super weather resistant color steel plate
- Self adhesive modified asphalt waterproof coiled material
- MGO
- Mpu-a1203 polyurethane adhesive
- 100 * 1.2mm embedded galvanized steel
- 150mm thick graphite polystyrene (GPS)
- 100 * 1.2mm embedded galvanized steel
- Mpu-a1203 polyurethane adhesive
- MGO
- Elastic brushed paint



- Sandwich panel
- Steel structure

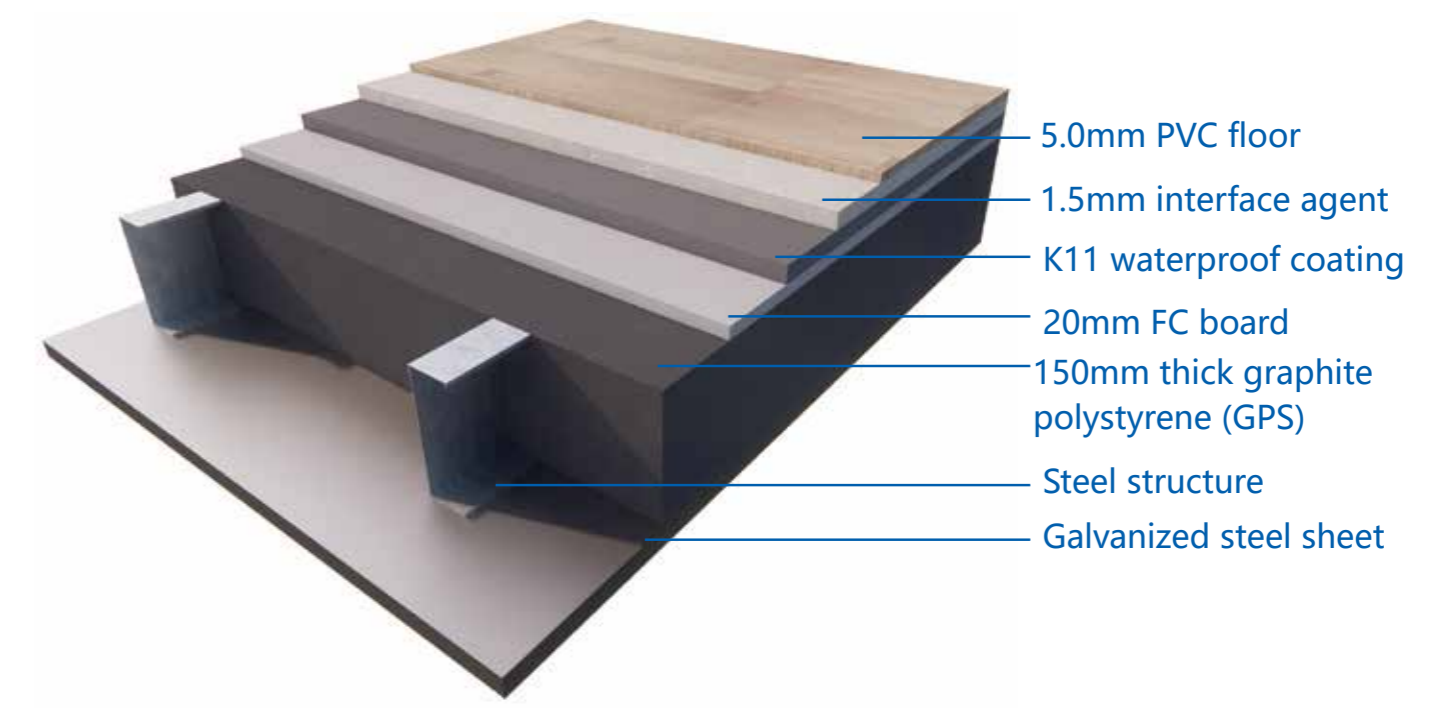
Roof construction drawing I (Super weather resistant color steel plate)

Roof construction drawing II (sandwich panel)



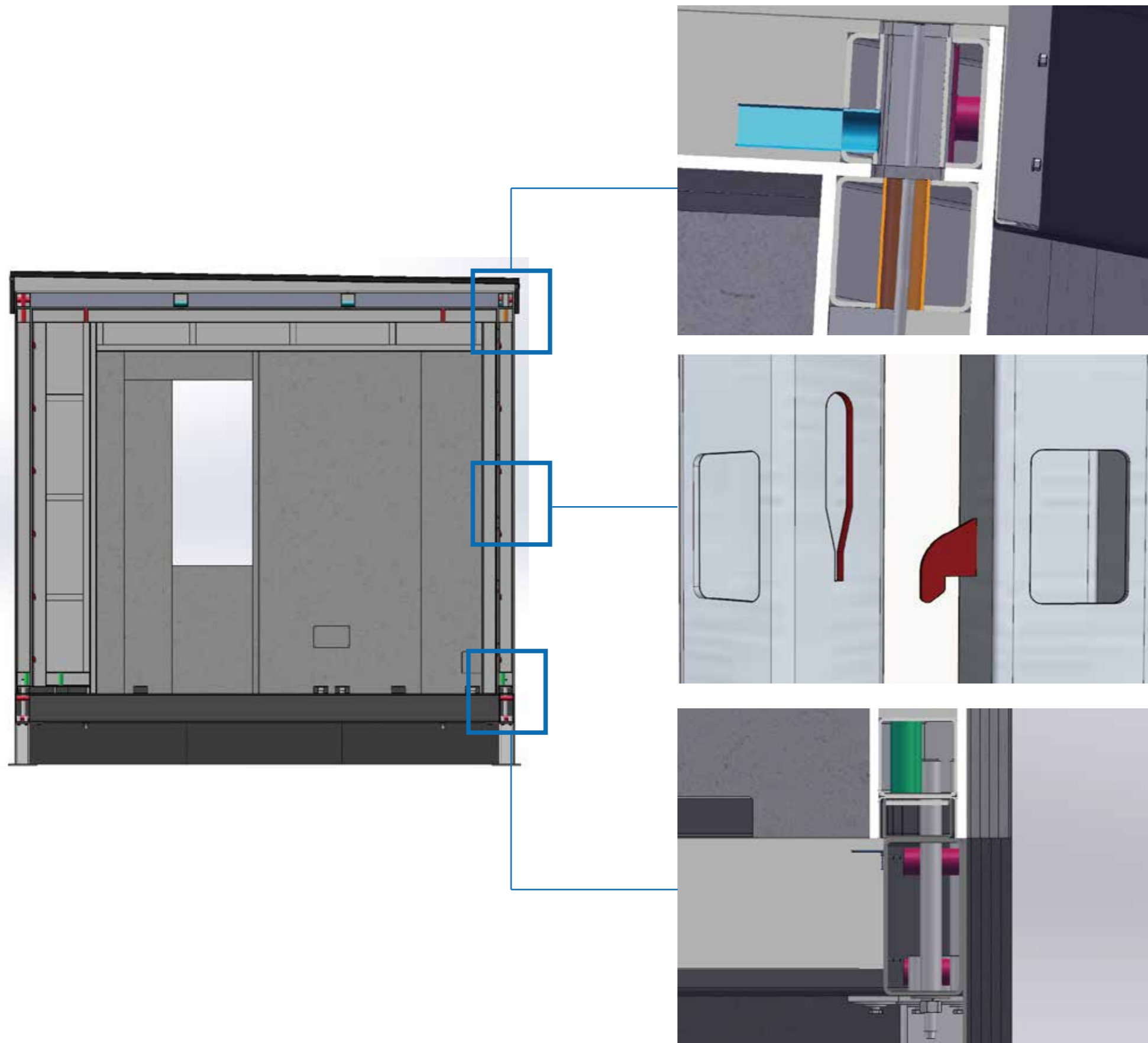
- R11 anti slip floor tile
- Ceramic tile glue
- K11 waterproof coating
- 20mm FC board
- 150mm thick graphite polystyrene (GPS)
- Steel structure
- Galvanized steel sheet

Ground construction drawing I (R11 anti slip floor tile)



- 5.0mm PVC floor
- 1.5mm interface agent
- K11 waterproof coating
- 20mm FC board
- 150mm thick graphite polystyrene (GPS)
- Steel structure
- Galvanized steel sheet

Ground construction drawing II (PVC floor)



Connection between wallboard and roof frame:

1. Screw the screw rod into the wall blind hole nut.
2. Lower the roof so that the screw rod passes through the bolt sleeve in the roof frame.
3. Install nuts at the roof of the screw rod for fixing.

Wall connection:

1. Lower the wall with male buckle vertically and clip it into the wall with female buckle.
2. Glue and seal the wall joints.

Connection between wallboard and bottom frame:

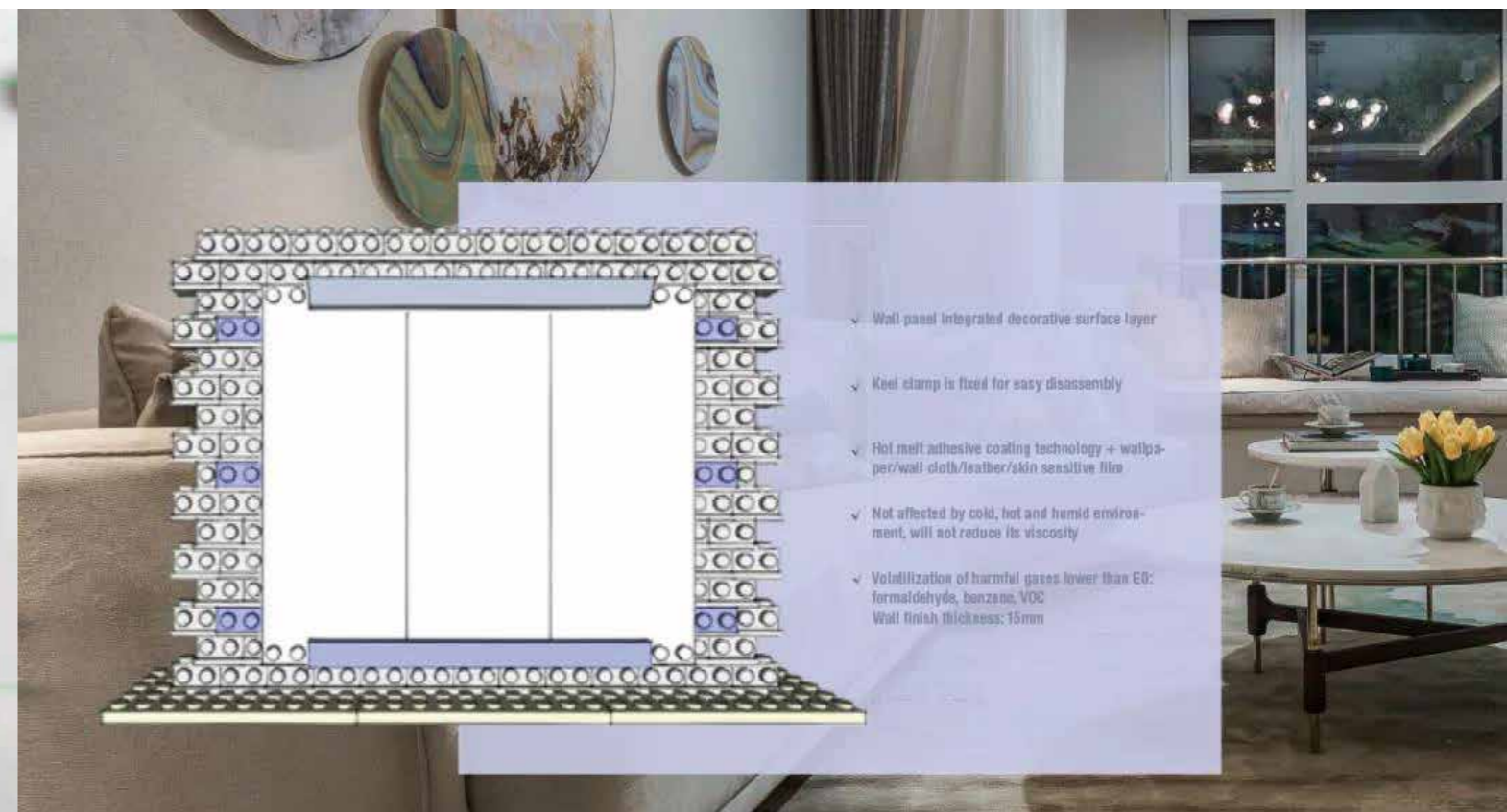
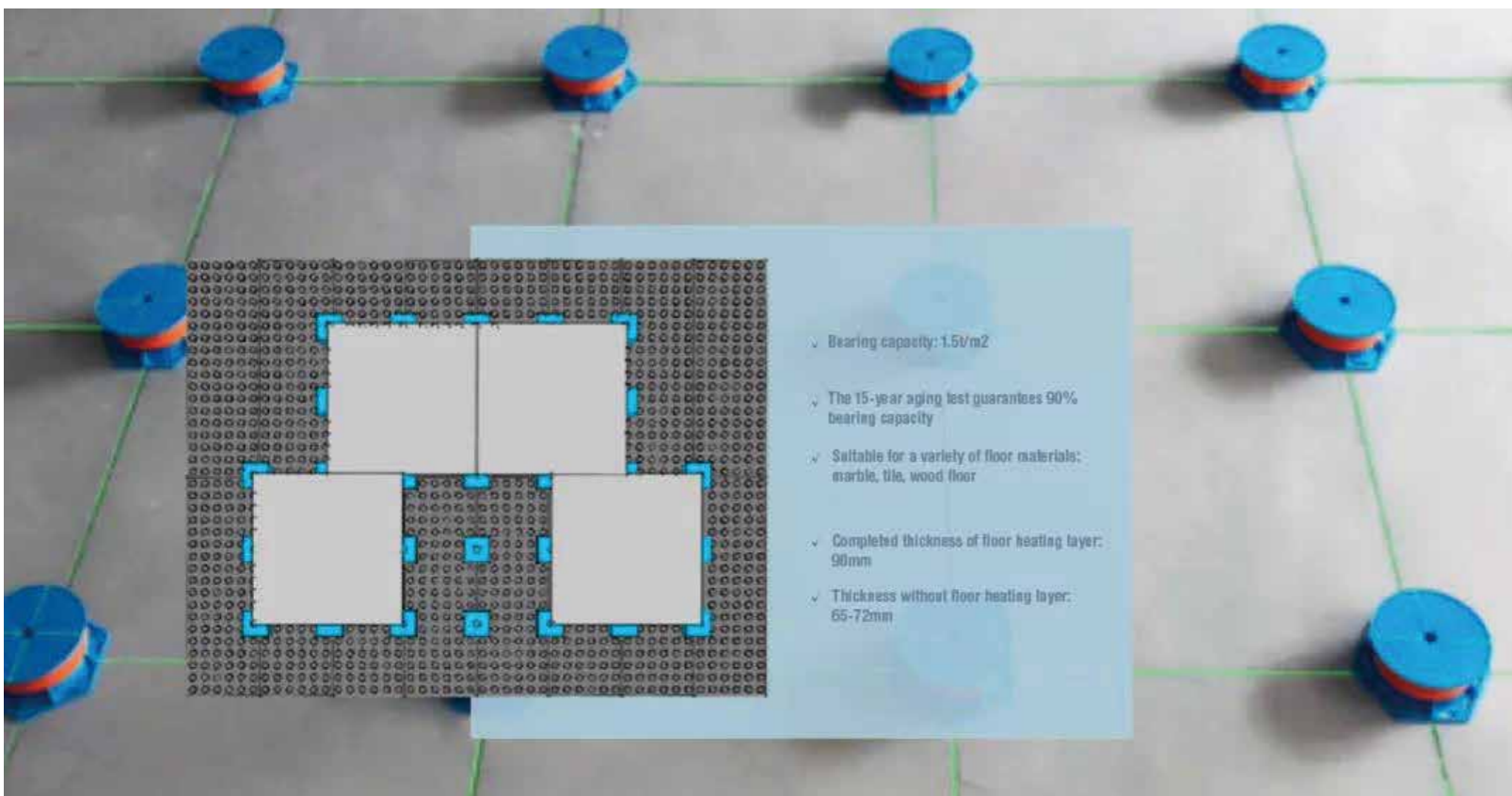
1. Screw the screw rod into the wall blind hole nut.
2. Lower the wall so that the screw rod passes through the bolt sleeve in the bottom frame.
3. Install nuts at the bottom of the screw rod for fixing.

► Assembled interior

"Saving money, trouble and worry" is the wish of everyone who wants to decorate, and it is also one of the advantages of prefabricated decoration. The prefabricated decoration is taking the construction process "standardization, systematization and transparency, so that users can save money, trouble and worry" as the service purpose, and promoting the reform of the industry with scientific and technological innovation, concept innovation and model innovation.

The material cost and labor cost of prefabricated decoration will be lower

Prefabricated decoration is like Lego. The parts and equipment for decoration are prefabricated in the factory in advance and only assembled on site. In addition to the floor, wall panels, kitchen and bathroom and ceiling are basically installed in a similar way. The decoration site completely bid farewell to a large amount of dust and noise. The construction speed and labor cost have also been greatly reduced.

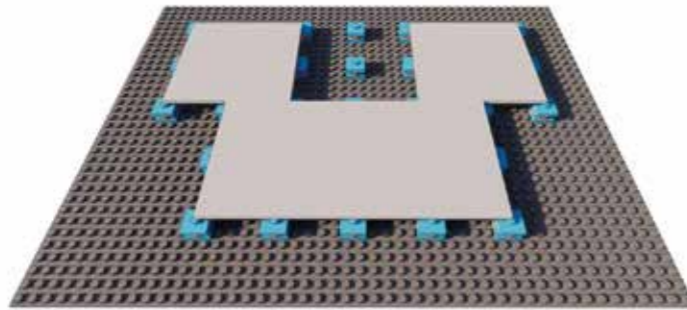


Ours five quick installation systems shorten the acceptance time to half or even 1 / 3 compared with the traditional decoration method. This will undoubtedly greatly advance the operation time and bring considerable benefits to enterprises for profitable residential real estate such as hotels and real estate investment; For self use housing, it greatly shortens the construction period, enables the owner to move to the ideal home as soon as possible, and ensures safety, health and environmental protection.

We innovated, optimized and upgraded the space based on the prefabricated decoration mode:

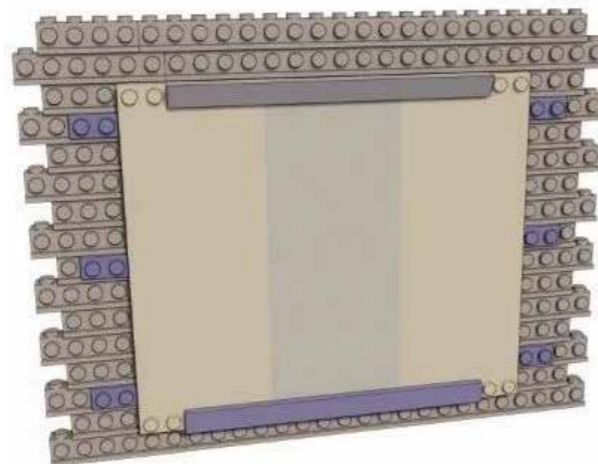
1. Ground quick assembly system

The cushion and fine decoration leveling layer shall be completed at one time, and the pipeline separation shall be met at the same time. Standardized construction, no drying period, cross operation with other processes. Compared with traditional decoration, the construction period is shortened by more than twice.



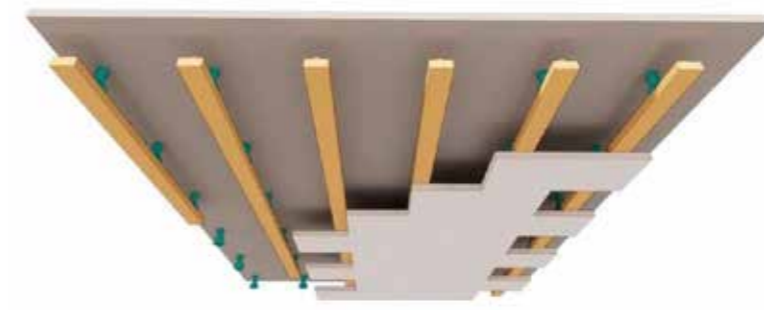
3. Wall quick assembly system

The wall leveling, hardbound leveling and surface course paving shall be completed at one time, and the pipeline separation shall be met to avoid cost waste. Through the installation of modular clips, there is no need for screws and glue paint, that is, there is no construction period problem such as waiting for air drying and releasing formaldehyde. Compared with traditional decoration, the construction period is shortened by nearly three times.



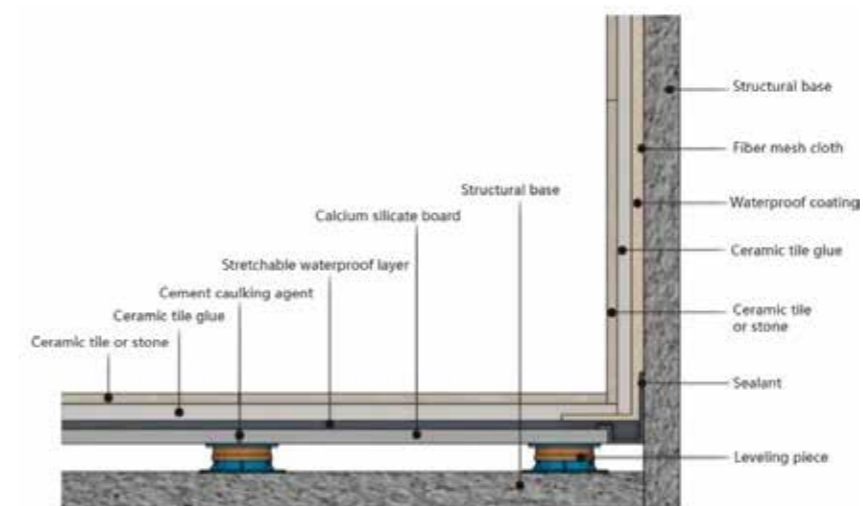
2. Top quick assembly system

More perfect dry method operation forms a controllable standardized process, and solves the problems of gap on the top surface of dry method operation and durability of membrane ceiling.



4. Kitchen and bathroom quick assembly system

Dry construction, hanging and pasting standardized construction, without the use of glue paint, that is, there is no construction period problem such as waiting for air drying and releasing formaldehyde. No need to customize the waterproof chassis.





PART3

MATERIAL CERTIFICATION



MATERIAL CERTIFICATION

APL
 11 Yang Gqing General Manager
 www.Golden Elite Group Pty Ltd
 11/11 Fuchsia Way, Gaven, QLD, 4211
 sales@slipstest.com.au
 www.slipstest.com.au
 1300 754 783

LABORATORY TEST REPORT
P182808

LUXURY VINYL PLANK

Sample description as provided by customer:
 9 mm Thick x 184 mm Wide x 1219 mm

Order No.: VQ

TEST METHOD: AS 150 9219-1 2007 Reaction To Fire Tests For Floorings Part 1 Determination of the Burning Behaviour Using a Radiant Heat Source. As required by the Building Code of Australia (BCA) and National Construction Code 2018 (NCC) specifications C1.10. Sample conforming to specification AS 150 9219-1 2007.

Sample Submitted Date: 26 Apr 2018 Test Date: 26 Apr 2018 Total Thickness: mm

Assembly: LOOSE LAID (Class 3)

Floor covering loose laid over the substrate underlay or adhesive. Class 3 of AS 150 9219 ALLOWS THIS TO REPRESENT AN ADHESIVE ONLY SYSTEM.

Substrate: Non-Combustible - Glass Fibre Reinforced Concrete Board to simulate a Non-Combustible Flooring. The flooring tongue is secured to substrate frame via 288.

The standard requires two trials. Tests be conducted on samples assessed in both length and width directions. Two further samples are then tested to determine direction has the lowest Critical Radiant Flux.

Initial Tests:
 Length Direction Critical Radiant Flux: 10.3 kW/m²
 Width Direction Critical Radiant Flux: 10.3 kW/m²

Specimen	Specimen #1	Specimen #2	Specimen #3	Mean
Critical Radiant Flux (kW/m ²)	10.3	10.3	10.3	10.3
Smoke Development Rate (Density)	100	111	107	108

The values quoted herein are as required by BCA and NCC Specification C1.10 For Normal Properties (P182808). The Critical Radiant Flux quoted is the value at Flame Out/Extinguishment (BCA General Provisions A1.1).

Mean Critical Radiant Flux 10.3 kW/m²
Mean Smoke Development Rate 124 %/min

Observation: The samples shrunk away from the heat source, ignited and burnt a very short distance.

AS 150 9219-1 Clause 3.1.1 (Case 1) The test results relate to the behaviour of the first specimen of a product under the particular conditions of the test, they are not intended to be the sole evidence for assessing the potential fire hazard of the product to use. All information required for compliance with the BCA and NCC is given on this test report page.

Page 1 of 2 (04-11/2018/2017)

M. B. Webb
 Technical Manager
 DATE: 26 Apr 2018
 Performance 9 Approval
 Accreditation No. 15393
 Accredited for compliance with ISO/IEC 17025.

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 Web: www.aplaustralia.com.au
 ASD 09 458 349 319

APL

LABORATORY TEST REPORT
P182808

The information provided on this page of the test report is for the Sponsors Use Only and will meet the requirements of the standard. This page is Not Required and has No Validity under Specification C1.10 Fire Hazard Properties (Floors) of the BCA and NCC 2015. The laboratory does not allow the use of this page of the report without the use of page 1.

Page 2 of 2

TIME FOR EACH SPECIMEN TO REACH EACH MARKER IN SECONDS

Specimen	50	60	110	160	210	260	310	360	410	460	510	560	610	660	710	760	810	860
1	156	157	220	/														
2	196	197	236	392	/													
3	173	174	220	374	/													

TESTS

Specimen	BURNING CHARACTERISTICS		SMOKE PRODUCTION	
	Burn Length (mm) at Flame Out/Extinguishment	Time To Burn Out (s)	Maximum Light Attenuation (%)	Smoke Development Rate (%/min)
Initial Test: Width	140	898	34	122
Specimen Tests: Length				
1	150	847	34	108
2	160	899	37	131
3	170	815	33	132
Mean	160	854	35	124

TESTING OFFICER SIGNATURE
 M. B. Webb
 Technical Manager
 DATE: 26 Apr 2018
 Performance 9 Approval
 Accreditation No. 15393
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2004 04 09 2495 26 Apr 2018

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 ASD 09 458 349 319

Sliptest Australia Pty Ltd
 NATA Accreditation No: 15374
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 sales@slipstest.com.au
 www.slipstest.com.au
 1300 754 783

Golden Elite Group - Golden Elite LVT 5mm WET Sliptest Report 22 Mar 2017

Slip Resistance Classification of New Pedestrian Surfaces - AS4586:2013 Appendix A

Date Tested: 22 Mar 2017
 Test Report Number: B0220317-3
 Client Name & Address: Golden Elite Group - 4 Parkview Dr Archerfield Qld 4108
 Location of Test: 4 Parkview Drive Archerfield
 Surface / Product Tested: Golden Elite LVT 5mm Plank SAMPLES
 Wet Pendulum Test carried out using: Slider 96 (4S) Rubber slider
 Record ambient temperature (°C): 27
 Flood / Unflood Test: No - Tested in the Direction of least Anticipated Slip Resistance
 Testing Officer: Blair Ording - Murvo Portable Skid Tester #0604 - 19.01.16

Testing Officer Signature: *[Signature]*

Accredited for Compliance with ISO/IEC 17025. The information presented herein and on the Sliptest Report is copyright and is protected by copyright law, any reproduction of this information and test report except in full is prohibited.

Test Results:

Grade	Swing 1	Swing 2	Swing 3	Swing 4	Swing 5	Swing 6	Mean BPN of last 3 swings	Image of Surface
Plank #1 - Left	< 1.5	50	50	50	50	50	50	
Plank #1 - Centre	< 1.5	50	50	50	50	50	50	
Plank #1 - Right	< 1.5	46	45	45	45	45	45	
Plank #2 - Diagonal	< 1.5	45	45	45	45	45	45	
Plank #2 - Centre	< 1.5	45	45	45	45	45	45	

Mean BPN Slip Resistance Value (SRV)
 Using Slider 96 (4S) you have achieved a BPN of P4 = 45 - 54

Golden Elite Group - Golden Elite LVT 5mm WET Sliptest Report
 Submitted by: Murray Ording @ 13:57:40 22 Mar 2017
 Submission ID: 84160
 Environment friendly, paperless solution by www.fortinet.com

CONFIDENTIAL Page 1

SGS

Test Report No. 8DHL190814344H Date: Aug 26, 2019 Page 1 of 3

CHANGXING JINGWANG SHIMBOO PRODUCTS CO., LTD
 HUIKUAN TOWNSHIP, CHANGXING COUNTY, HUIZHOU CITY, ZHEJIANG PROVINCE, CHINA

The following sample(s) was/were submitted and identified on behalf of the client as:
 Sample Description: HSGD-VINYL PLANK
 SGS Ref No.: 303M190819540328
 Sample Receiving Date: Aug 14, 2019
 Test Performing Date: Aug 14, 2019 to Aug 29, 2019

Test Result Summary

No.	Test Item	Test(s) Requested(Method)	Result(s)	Comments
1	Wet Pendulum Test	AS 4586:2013 Annex 1-2017 Slip resistance classification of new pedestrian surface materials - Appendix A - 10m (Penetration Test Method)	Plank #1 - Left	Please refer to the following pages

For further details, please refer to the following page(s).

Signed for and on behalf of:
 Shimboo Products Co., Ltd.
 Victor Zhao
 Approved signatory

SGS
 15 Rue des Saussaies, 75008 Paris, France
 Telephone: +33 (0)1 47 38 60 00
 Fax: +33 (0)1 47 38 60 01
 Email: sgs@sgs.com
 Website: www.sgs.com

CERTIFICATE OF CONFORMITY

ApprovalMark International

ApprovalMark International hereby grants
CIXI RUNZHOU PIPE INDUSTRY CO., LTD
 No 9 Lane 7 Xingtang Road, Yactang Village, Xingpu Town, Cixi City 315322, Zhejiang, CHINA

WaterMark Certificate of Conformity - WMCS 2016
 Evaluation for:
AS/NZS 2492:2007 - Cross-linked polyethylene (PE-X) pipes for pressure applications

The WaterMark International hereby certifies that the products described in this certificate conform to the requirements of the standard AS/NZS 2492:2007. This certification is subject to the terms and conditions of the WaterMark International Certification Scheme. The WaterMark International reserves the right to conduct audits and to suspend or withdraw this certification if necessary.

Model No.	Material	Brand Name	Product Description	Expiry Date
207-2	PE-Xc	Runzhou	1/2" x 1/2" Black Class Bc 1000m	27 April 2022
274-3	PE-Xc	Runzhou	1/2" x 3/4" Black Class Bc 1000m	27 April 2022
327-4	PE-Xc	Runzhou	1/2" x 1" Black Class Bc 1000m	27 April 2022

Certificate No: WM 74903
 Issued: 22nd April 2019
 Expires: 29th March 2024
 John PRASAD
 Director
 ApprovalMark International Pty Ltd
 30/31 Macfarlane Road, Ascot Park QLD, Australia
www.approvalmark.com.au

Originally Certified: 29th March 2019
 Current Certification: 22nd April 2019

ApprovalMark Certification

WaterMark

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Product Schedule

CIXI RUNZHOU PIPE INDUSTRY CO., LTD
 No 9 Lane 7 Xingtang Road, Yactang Village, Xingpu Town, Cixi City 315322, Zhejiang, China

WaterMark Certificate of Conformity - WMCS 2016
 Evaluation for:
AS/NZS 2492:2007 - Cross-linked polyethylene (PE-X) pipes for pressure applications

The WaterMark International hereby certifies that the products described in this certificate conform to the requirements of the standard AS/NZS 2492:2007. This certification is subject to the terms and conditions of the WaterMark International Certification Scheme. The WaterMark International reserves the right to conduct audits and to suspend or withdraw this certification if necessary.

Certificate No: WM 74903
 Issued: 22nd April 2019
 Expires: 29th March 2024
 John PRASAD
 Director
 ApprovalMark International Pty Ltd
 30/31 Macfarlane Road, Ascot Park QLD, Australia
www.approvalmark.com.au

Originally Certified: 29th March 2019
 Current Certification: 22nd April 2019

ApprovalMark Certification

WaterMark

Page 1 of 3

CERTIFICATE OF CONFORMITY

SAI Global hereby grants
Cixi Runzhou Pipe Industry Co., Ltd
 No 9 Lane 7 Xingtang Road, Yactang Village, Xingpu Town, Cixi City 315322, Zhejiang, China

WaterMark Certificate of Conformity - Level 1
 Evaluation for:
AS/NZS 2537:2011 - Mechanical joint fittings for use with crosslinked polyethylene (PE-X) for pressure applications - Plastics piping systems for hot and cold water installations - Crosslinked polyethylene (PE-X) - Fittings (ISO 15875-3:2003, MOC)

The WaterMark International hereby certifies that the products described in this certificate conform to the requirements of the standard AS/NZS 2537:2011. This certification is subject to the terms and conditions of the WaterMark International Certification Scheme. The WaterMark International reserves the right to conduct audits and to suspend or withdraw this certification if necessary.

Certificate No: WMA25218
 Issued: 30 September 2018
 Expires: 8 June 2021
 Originaly Certified: 8 June 2011
 Current Certification: 30 September 2018

Paul Johnson
 Global Policy and Certification Manager

WaterMark

JAS-ANZ

SAI GLOBAL

Page 1 of 1

Intertek

AUTHORIZATION TO MARK

This authorizes the application of the Certification Mark(s) shown below to the products described in the Product(s) Covered section below in accordance with the conditions set forth in the Certification Agreement and Listing Report(s). This authorization also applies to the WaterMark Label necessary identified on the companion page of the Listing Report. This document is the property of Intertek. Testing facilities are not transferrable. The Certification Mark(s) may be applied only at the location of the Party Authorized to Apply Mark.

Applicant: Jiangsu Lianqun New Material Co., Ltd
 8 Building No 100 Guyang East Road
 Danyu District, Zhenjiang, Zhejiang 212143, China
 Contact: Mr. Wang Yang
 Phone: 15205181000
 Email: wangyang1971@foxmail.com

Party Authorized to Apply Mark: Jiangsu Lianqun New Material Co., Ltd
 Evaluation Center: Intertek (Shanghai)

Certified/Client Number: 2013128

Authorized By: *[Signature]*
 Date: 30 September 2018
 Intertek Testing Services (US, Inc.)
 9000 N. Alhambra Ave., Suite 401
 Alhambra, CA 91802-4510
 Phone: 610-261-1414 Fax: 610-261-1415

This document supersedes all previous Authorizations to Mark for the noted Report Number.

Testing Standard(s): ASTM E84 (2015a)
 Product: Jiangsu Lianqun - Magnesium Oxide Board (MOC) (21221212 - US06)
 ASTM for Report: 1902.002004-01-1, 1902.002004-01-2
 ASTM Issue Date: 2009/22/15

Page 1 of 1

Listing Section(s): BUILDING MATERIALS WITH SURFACE BURNING CHARACTERISTICS

CSI Code: 07 44 53 Glass-Fiber-Reinforced Cementitious Panels

Description:
 The product is named as "Magnesium Oxide Board" with a model number of "LQ2412-12MM". It is a flat board with a nominal size of 4-ft. wide by 8-ft. long by 12 mm thick.

FIRE PERFORMANCE

Test Method	Characteristics	Result
ASTM E84-150 (UL 723, UBC 8-1, NFPA 255)	Surface burning characteristics	<ul style="list-style-type: none"> Flame Spread Index = 0 Smoke Developed Index = 0

Party(s) Authorized by Manufacturer To Apply Mark:
 Jiangsu Lianqun New Material Co., Ltd
 B Building No 100 Guyang East Road
 Danyu District Zhenjiang, Zhejiang, 212143, China
 Mr. Wang Yang / Wang Yan
 15205181000
 wangyang@lianqun.com / chinabina@lianqun.com

Party(s) Authorized by Other Parties To Apply Mark:
 None

Page 1 of 1

CERTIFICATE OF CONFORMITY

ApprovalMark International

ApprovalMark International hereby grants
CIXI RUNZHOU PIPE INDUSTRY CO., LTD
 No 9 Lane 7 Xingtang Road, Yactang Village, Xingpu Town, Cixi City 315322, Zhejiang, CHINA

WaterMark Certificate of Conformity - WMCS 2016
 Evaluation for:
AS/NZS 2492:2007 - Cross-linked polyethylene (PE-X) pipes for pressure applications

The WaterMark International hereby certifies that the products described in this certificate conform to the requirements of the standard AS/NZS 2492:2007. This certification is subject to the terms and conditions of the WaterMark International Certification Scheme. The WaterMark International reserves the right to conduct audits and to suspend or withdraw this certification if necessary.

Certificate No: WM 74903
 Issued: 22nd April 2019
 Expires: 29th March 2024
 John PRASAD
 Director
 ApprovalMark International Pty Ltd
 30/31 Macfarlane Road, Ascot Park QLD, Australia
www.approvalmark.com.au

Originally Certified: 29th March 2019
 Current Certification: 22nd April 2019

ApprovalMark Certification

WaterMark

Page 1 of 3

MATERIAL CERTIFICATION

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WaterMark

License Holder: **Kaiping Cheston Sanitary Ware Co., LTD.**

Name: **Kaiping Cheston Sanitary Ware Co., LTD.**

Address: **No. E3-1, 3# Industrial Zone, Shukou Town, Kaiping, Guangdong, China**

License No: **WMK25706**

Issued: **13 Jun 2021**

Expires: **14 Mar 2024**

Originally Certified: **15 Mar 2013**

Current Certification: **17 Jun 2021**

Standard: **AS/NZS 3718:2005**

Model Identification: **130317**

Model Name: **Full-cock Kitchen Faucet**

Brand Name: **Cheston**

Product Description: **Full-cock Kitchen Faucet**

Product Type: **Kitchen Faucet**

Application Type: **Kitchen Sink**

Nominal Size: **DN15**

Water Shut Off Design: **Water ceramic cartridge K-1041 HMT cartridge (151F)**

Inlet Designation: **G1/2**

Outlet Designation: **Free**

Nominal Flow Rate: **5.7**

Flow Control Type: **40 1255 010**

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SAI Global Home Search Advanced Search Client Zone Help

WaterMark

License Holder: **Kaiping Cheston Sanitary Ware Co., LTD.**

Name: **Kaiping Cheston Sanitary Ware Co., LTD.**

Address: **No. E3-1, 3# Industrial Zone, Shukou Town, Kaiping, Guangdong, China**

License No: **WMK25706**

Issued: **18 Jun 2021**

Expires: **14 Mar 2024**

Originally Certified: **15 Mar 2013**

Current Certification: **17 Jun 2021**

Standard: **AS/NZS 3718:2005**

Model Identification: **110153-B**

Model Name: **Basin Faucet**

Brand Name: **Cheston**

Product Description: **Basin Faucet**

Product Type: **Basin Faucet**

Application Type: **Basin**

Nominal Size: **DN15**

Water Shut Off Design: **Water ceramic cartridge**

Inlet Designation: **G1/2**

Outlet Designation: **Free**

Nominal Flow Rate: **3.2**

Flow Control Type: **40.2055.000, WM9A21177**

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SAI Global Home Search Advanced Search Client Zone Help

WaterMark

License Holder: **Kaiping Cheston Sanitary Ware Co., LTD.**

Name: **Kaiping Cheston Sanitary Ware Co., LTD.**

Address: **No. E3-1, 3# Industrial Zone, Shukou Town, Kaiping, Guangdong, China**

License No: **WMK25706**

Issued: **18 Jun 2021**

Expires: **14 Mar 2024**

Originally Certified: **15 Mar 2013**

Current Certification: **17 Jun 2021**

Standard: **AS/NZS 3718:2005**

Model Identification: **110153-B**

Model Name: **Basin Faucet**

Brand Name: **Cheston**

Product Description: **Basin Faucet**

Product Type: **Basin Faucet**

Application Type: **Basin**

Nominal Size: **DN15**

Water Shut Off Design: **Water ceramic cartridge**

Inlet Designation: **G1/2**

Outlet Designation: **Free**

Nominal Flow Rate: **3.2**

Flow Control Type: **40.2055.000, WM9A21177**

CERTIFICATE OF CONFORMITY

SAI Global hereby grants:

Taizhou Tengyun Sanitary Ware Co., Ltd

Esige Industry Zone, Sanjia Street, Jiangping District, Taizhou City, Zhejiang China

Watermark Certificate of Conformity

Evaluated to:

AS 1599:2001 - Copper and copper alloy waste fittings

The WaterMark Licensee's right to use or arrange the use of the WATERMARK as shown below only in respect of the goods described and detailed on the product schedule identified on www.sai-global.com which are produced by the Licensee or on behalf of the Licensee and which comply with the appropriate Standard referred to above as been known to time awarded. The License is granted subject to the rules governing the use of the WATERMARK and the Terms and Conditions for certification. The Licensee consents to comply with all the Rules and Terms and Conditions.

This Certificate is issued to a JAS-ANZ accredited certification body. The Scheme Owner, Administering Body and Accreditation Body do not in any way warrant, guarantee or represent that the product the subject of the Certificate conforms to the appropriate Standard referred to above as been known to time awarded. The Scheme Owner disclaims to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product, referred to in this Certificate.

Certificate No: **WMK26223**

Issued: **2 June 2020** Originally Certified: **20 April 2017**

Expires: **19 April 2025** Current Certification: **2 June 2020**

WaterMark **ABCB**

SAI GLOBAL

IAPMO R&T OCEANA

1740 Dandenong Road, Carnegie, Victoria 3168, AUSTRALIA

WaterMark **JAS-ANZ** **ABCB**

CERTIFICATE OF CONFORMITY

IAPMO R&T Oceana hereby grants to:

Chao'an Huapeng Porcelain Co., Ltd.

Banbao Hill Development Zone, Guixiang, Guangdong 515647 China

Evaluated to:

AS1172.1:2014 (amdt 1)
Sanitary plumbing products Part 1: Water closet pans

AS1172.2:2014 (amdt 1)
Sanitary plumbing products Part 2: Flushing devices and cistern inlet and outlet valves

Manufacturer:

Chao'an Huapeng Porcelain Co., Ltd.

License No: **WM-022127** First Certified: **16 June 2010**

Certification Date: **16 June 2020** Expiry Date: **15 June 2025**

WaterMark **JAS-ANZ** **ABCB**

IAPMO R&T OCEANA

1740 Dandenong Road, Carnegie, Victoria 3168, AUSTRALIA

WaterMark **JAS-ANZ** **ABCB**

CERTIFICATE OF CONFORMITY

IAPMO R&T Oceana hereby grants to:

Shunde Lantian (Foshan) Industrial Co., Ltd.

Magang Industry Zone, Ronggui Jiedoben Shunde District Foshan City, Guangdong China

Evaluated to:

WMTS040:2016
Waste pipe connection outlets and gratings, separate or integral

Manufacturer:

Shunde Lantian (Foshan) Industrial Co., Ltd.

License No: **WM-022767** First Certified: **30 October 2017**

Certification Date: **30 October 2020** Expiry Date: **29 October 2025**

WaterMark **JAS-ANZ** **ABCB**

STANDARDSMARK LICENCE

SAI Global hereby grants:

Foshan GangHuaSheng Tempered Glass Co., Ltd

No 4 Road Pinglu, Guisheng, Nanhai, Foshan, Guangdong China

StandardsMark Licence

Manufactured to:

AS/NZS 2206:1996 - Safety glazing materials in buildings

The StandardsMark Licensee's right to use or arrange the use of the STANDARDSMARK as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee and which comply with the appropriate Standard referred to above as been known to time awarded. The License is granted subject to the rules governing the use of the STANDARDSMARK and the Terms and Conditions for certification and licence. The Licensee consents to comply with all the Rules and Terms and Conditions.

License No: **SMK41058**

Issued: **14 May 2020** Originally Certified: **13 May 2007**

Expires: **12 May 2025** Current Certification: **13 May 2020**

JAS-ANZ **SAI GLOBAL**

SCHEDULE TO STANDARDSMARK LICENCE

SAI Global hereby grants:

Foshan GangHuaSheng Tempered Glass Co., Ltd

No 4 Road Pinglu, Guisheng, Nanhai, Foshan, Guangdong China

StandardsMark Licence

Manufactured to:

AS/NZS 2206:1996 - Safety glazing materials in buildings

Manufacturer of the goods to which the STANDARDSMARK may be used:

Designation	Type of Glass	Glass Thickness Range (mm)	Colour	Grade	Process / Lamination	Maximum Sizing - Unstressed Size	Maximum Sizing - Stressed Size	Notes
Exempt	Tempered	6-19	Clear	A	Process 1	2000mm x 2500mm	2000mm x 2500mm	1-10kg
Not Exempt	Tempered	6-19	Clear	A	Process 1	2400mm x 2400mm	2400mm x 2400mm	0-10kg

License No: **SMK41058** Issued Date: **14 May 2020**

SAI GLOBAL

CERTIFICATE OF CONFORMITY

SAI Global hereby grants:

Foshan MN Bathroom & Plumbing Co., Ltd.

Building 6, Block B, East Area of Chaoxi Central Industry, Foshan Chaoxi Sheng Zone, Guangdong China

Watermark Certificate of Conformity - Level 1

Evaluated to:

AS/NZS 3718:2005 - Water Supply - Tap ware

The WaterMark Licensee's right to use or arrange the use of the WATERMARK as shown below only in respect of the goods described and detailed on the product schedule identified on www.sai-global.com which are produced by the Licensee or on behalf of the Licensee and which comply with the appropriate Standard referred to above as been known to time awarded. The License is granted subject to the rules governing the use of the WATERMARK and the Terms and Conditions for certification. The Licensee consents to comply with all the Rules and Terms and Conditions.

Certificate No: **WMK25013**

Issued: **23 November 2018** Originally Certified: **12 August 2011**

Expires: **11 August 2021** Current Certification: **23 November 2018**

WaterMark **JAS-ANZ** **ABCB**



PART4

TECHNOLOGY SMART HOME SYSTEM



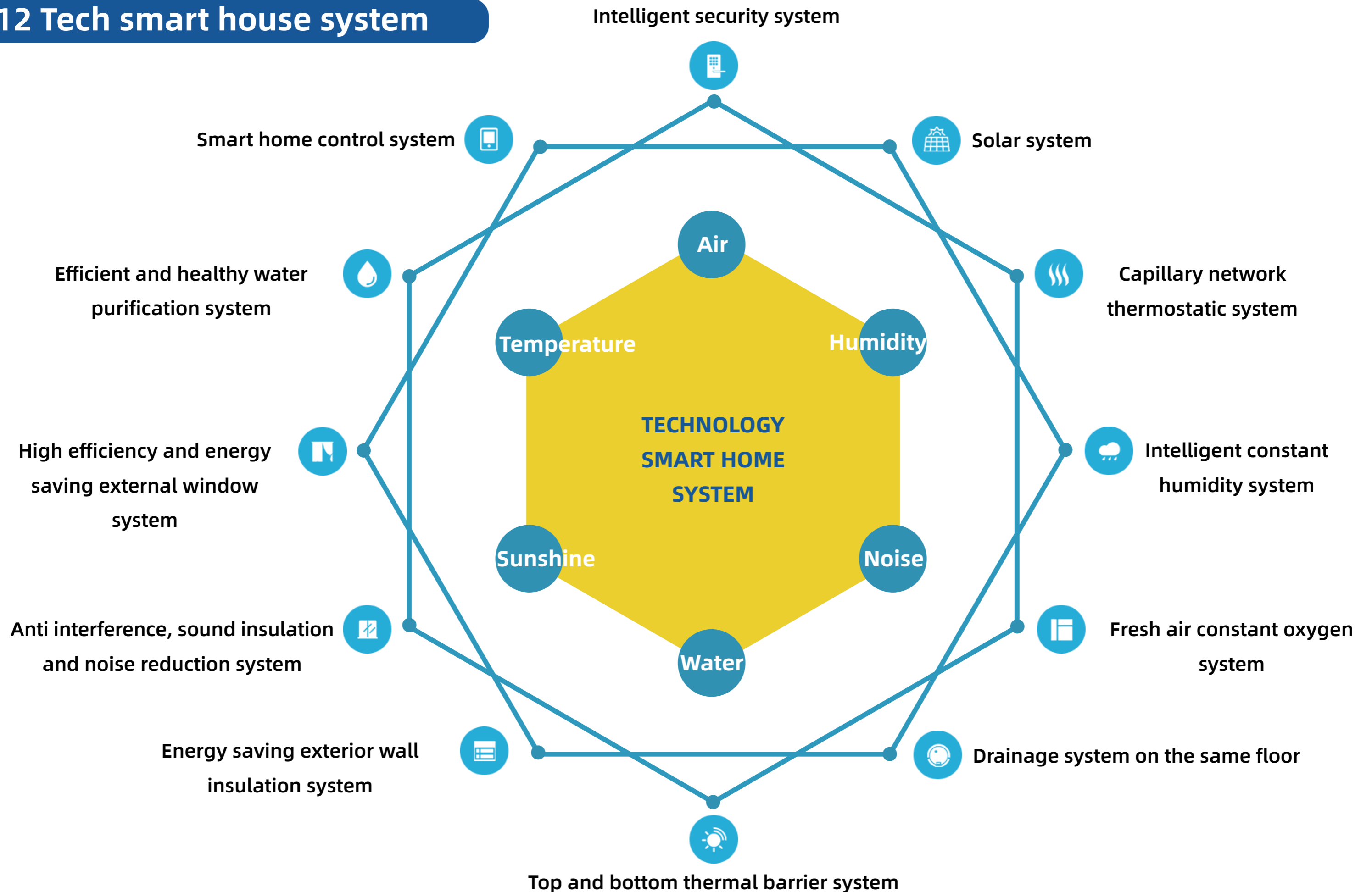
TECHNOLOGY SMART HOME SYSTEM

With the urban development and residential iteration, We comply with the development trend of the times, perfectly combines intelligent technology with the concept of prefabricated architecture, and actively creates a standard system "technology smart house system" leading the industry.

Starting from the six basic life elements of "temperature, humidity, air, sunshine, noise and water", We integrate the 12 core technology intelligent housing systems, provides a comprehensive and efficient solution for technical housing, comprehensively improves the living quality of human settlements, leads the overturning development of technology housing, and brings technology housing to a new realm.



12 Tech smart house system



12 Tech smart house system



Smart home control system



Intelligent technical home AI system + energy operation and maintenance cloud intelligent control are used to realize the combination of multiple life scenes such as lighting control, curtain control, information appliances, temperature and humidity collection, ambient temperature monitoring and security monitoring, and networked comprehensive intelligent control and management.

Intelligent security system



There is visual intercom at the door, and there is no blind spot monitoring outside the door;
The door lock can be reminded by face, fingerprint, password, temporary password, card swiping, door opening screen and mobile phone;
Indoor intelligent security, gas leakage alarm and call system, infrared curtain anti intrusion system;
Intelligent camera dynamically captures and uploads to the cloud.



12 Tech smart house system

High efficiency and energy saving external window system



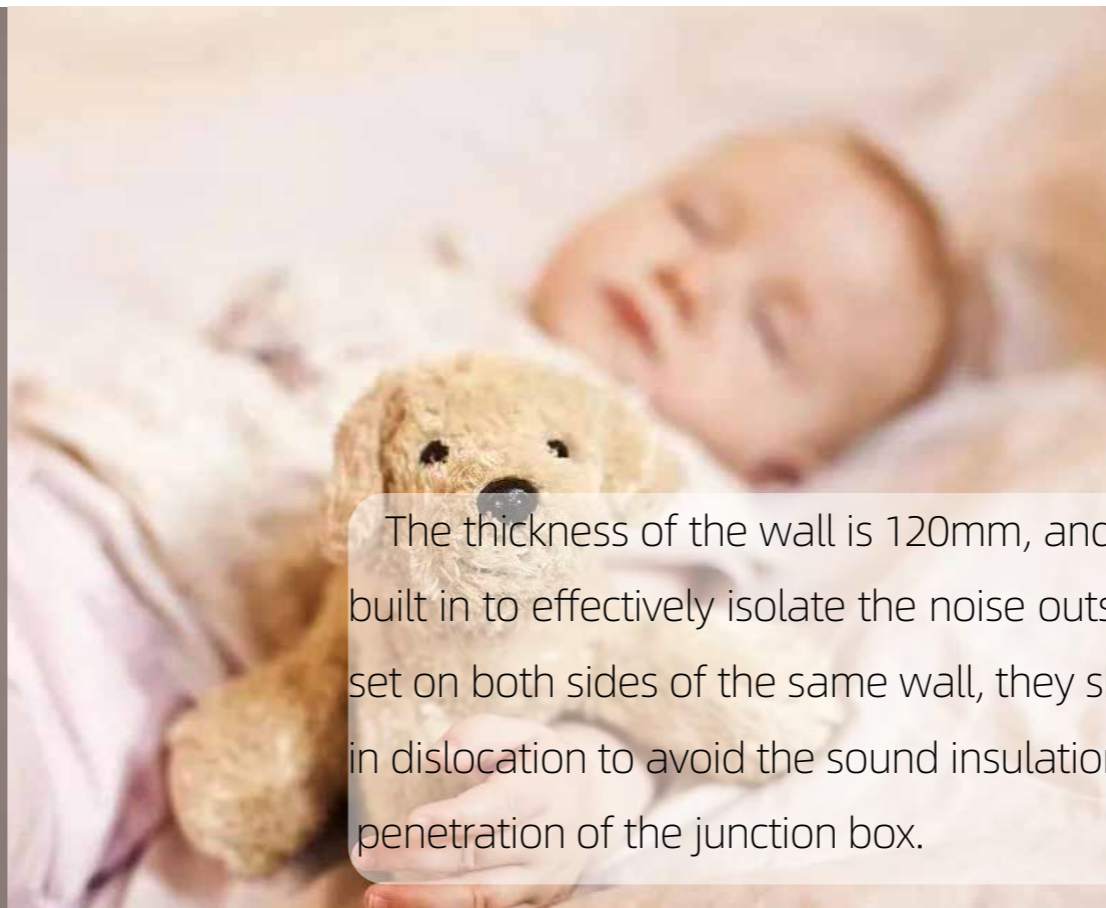
The outer window adopts double-layer hollow Low-E glass to reduce heat conduction and strictly control the performance of water tightness, air tightness, heat insulation and sound insulation. Double layer hollow Low-E glass can effectively prevent ultraviolet, infrared and other invisible light, retain the visible light part, effectively block the radiant heat in summer, and play a good heat insulation and energy-saving effect.



Anti interference, sound insulation and noise reduction system



The thickness of the wall is 120mm, and the graphite polystyrene foam is built in to effectively isolate the noise outside the room. When the sockets are set on both sides of the same wall, they shall be set on both sides of the wall in dislocation to avoid the sound insulation weakness caused by the opposite penetration of the junction box.



12 Tech smart house system



Efficient and healthy water purification system



The reverse flush filter is equipped on the front side of the household water supply, and the direct drinking water equipment is installed at the kitchen end.

Energy saving exterior wall insulation system



Energy saving external window thermal insulation system and external wall thermal insulation system complement each other, which can reduce building energy consumption and save energy.

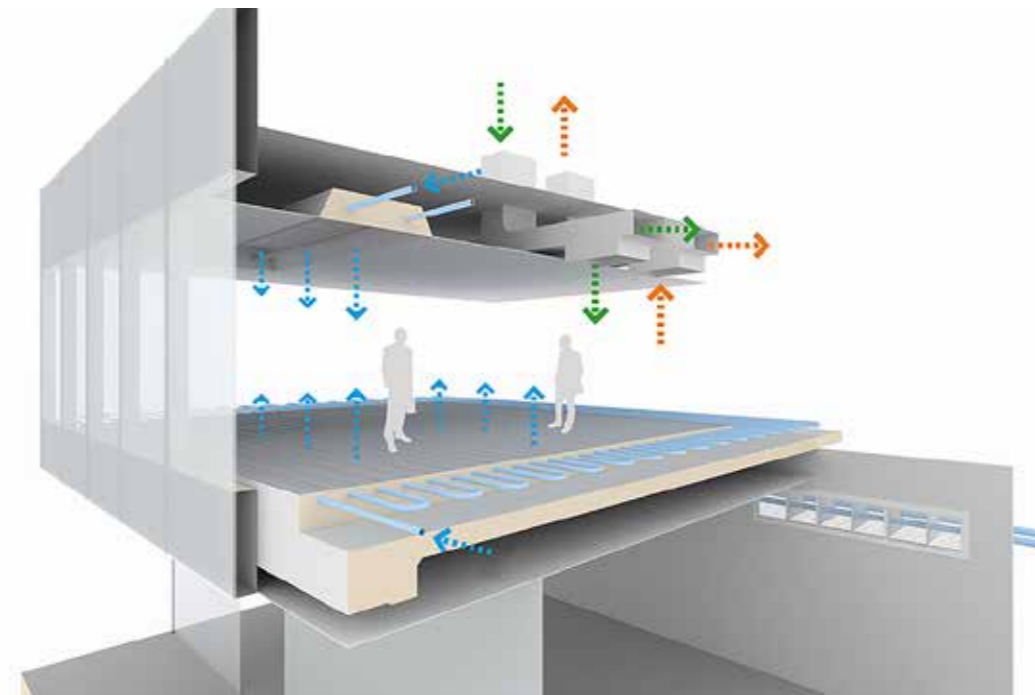
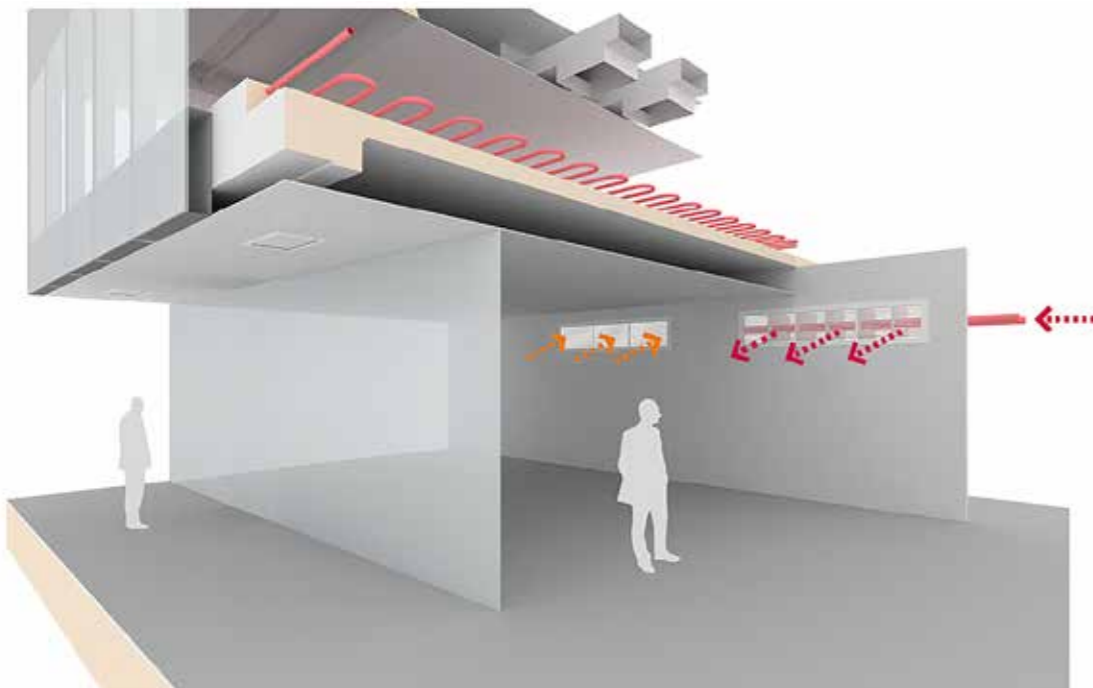


12 Tech smart house system

Drainage system on the same floor



Reduce the disturbance of falling water noise, increase the bathroom, the practical area, and clean without dead corner.



Top and bottom thermal barrier system



It can effectively avoid the problems of rapid loss of cold and heat energy in winter and summer, cold on the first floor and hot on the top floor of traditional buildings.

12 Tech smart house system



Fresh air constant oxygen system



The outdoor fresh air after heat and humidity treatment is directly sent to the lower part of the activity area through the ground air supply outlet of each room, and the colder fresh air diffuses along the ground to form a thinner air layer. Under the action of internal heating of indoor personnel and equipment, upconvection is formed to discharge the indoor hot and turbid polluted air from the exhaust outlet at the top of the room. Compared with the traditional fresh air system (upper supply and lower return), the lower supply and upper return have no dead angle.

Intelligent constant humidity system



In summer, the double cold source combined fresh air unit is used to intelligently start the direct expansion dehumidification unit to ensure that the moisture content of fresh air is $\leq 8\text{g} / \text{kg}$, so as to control the indoor humidity not greater than 70%; In winter, the water pressure of softened water is increased by high-pressure plunger pump and atomized by professional nozzle, resulting in 5 billion droplets per second. The diameter of droplets is only 3-10 μm , so as to complete air humidification efficiently, and the indoor relative humidity is not less than 30%.

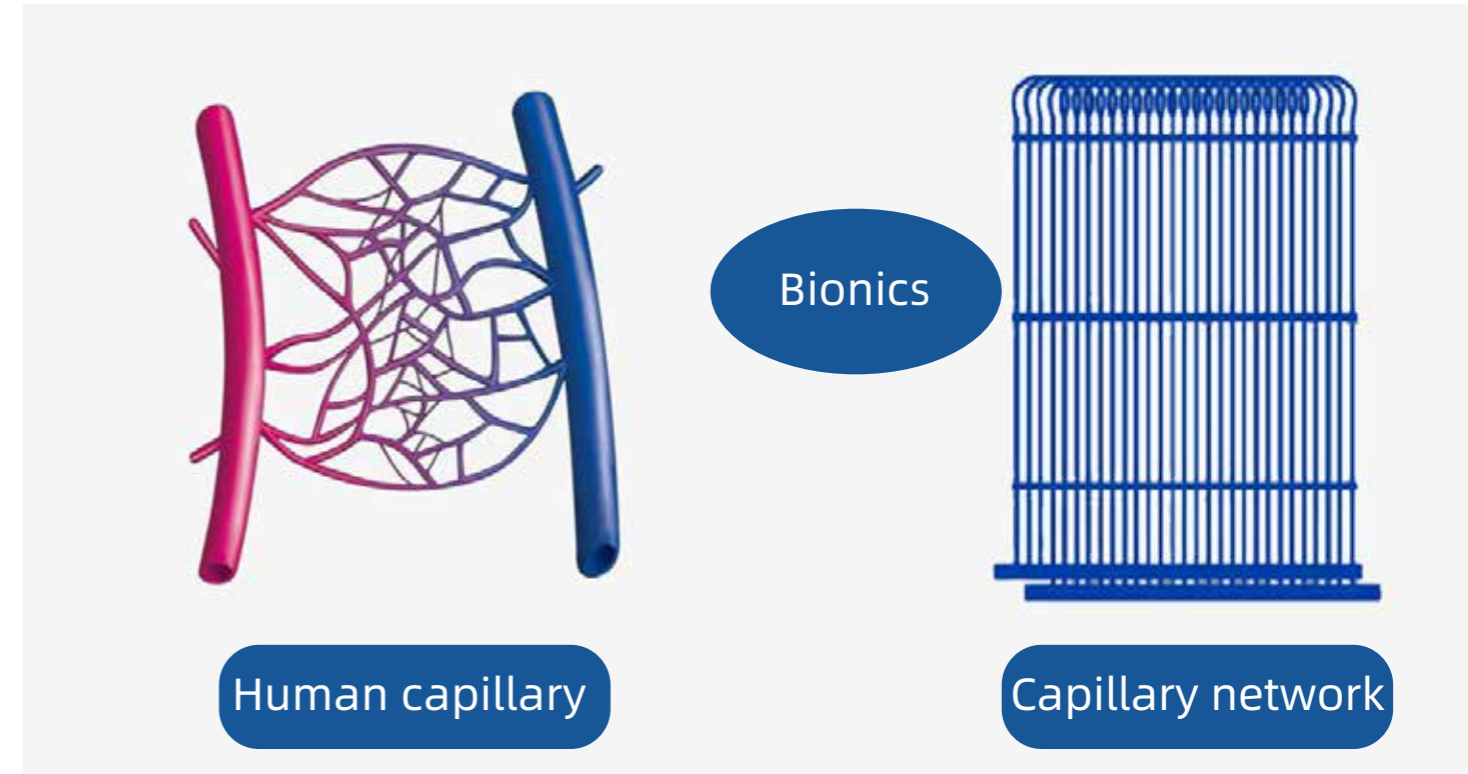


12 Tech smart house system

Capillary network thermostatic system



Based on the principle of bionics, the leaf veins of plants and blood vessels of human body are simulated. The imported PPR pipes are laid on the indoor ceiling and local side walls to exchange heat with the indoor through surface radiation. In winter, the indoor temperature is about 20-22 °C, which is warm but not hot; In summer, the indoor temperature is about 24-26 °C, which is cool but not cold. The whole system has no noise, no blowing feeling, uniform temperature, high efficiency, energy saving, high comfort and maintenance free cleaning.



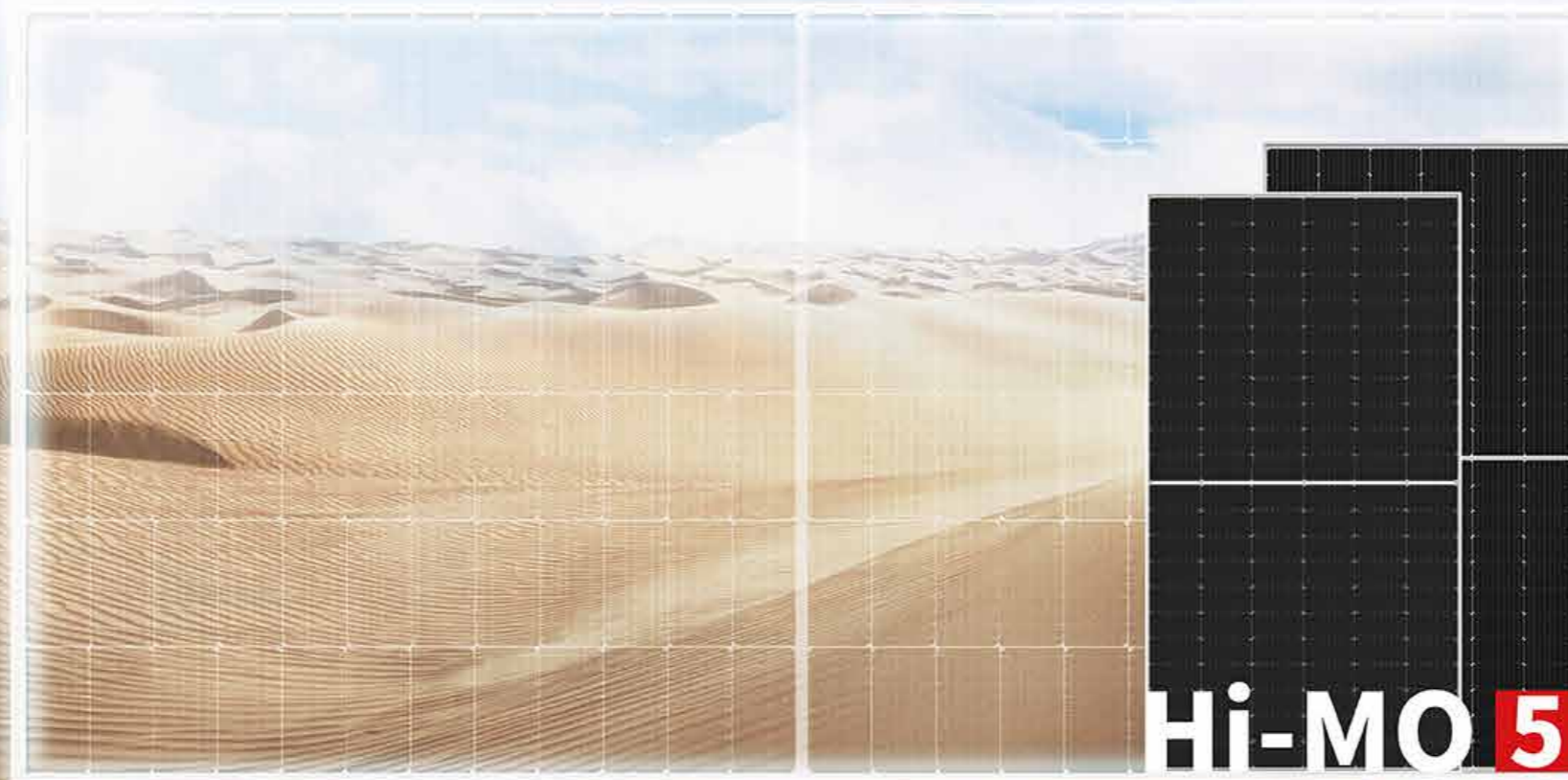
Solar system



Hi-Mo 5 high-efficiency photovoltaic module is adopted. Tested by ISFH (German Hamelin Solar Energy Research Institute), the conversion efficiency is 21.3%, the power is 545w, and the product warranty is 12 years. High waterproof, high wind resistance, no hidden crack, intelligent welding technology increases component power and efficiency and improves component load resistance. The double glass package with higher reliability is selected to ensure that the 30-year power attenuation of the module is not higher than 15%.



12 Tech smart house system



545 W
Module power



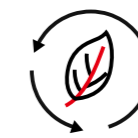
21.3 %
Module efficiency



12 yr(s)
Product Warranty

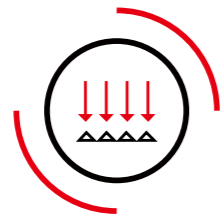


30 yr(s)
Power warranty

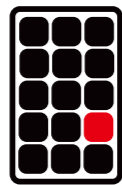


12 Tech smart house system

High efficiency photovoltaic modules are widely used all over the world. From alpine grassland to desert wasteland, from pond vegetable border to household houses, ultra-high-value photovoltaic module products continue to benefit customers and local economy with their advantages of "higher power, lower attenuation and more reliability".



The crack free intelligent welding technology increases the power and efficiency of components and improves the load resistance of components.

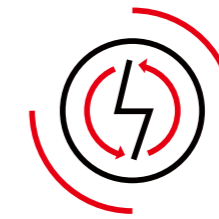
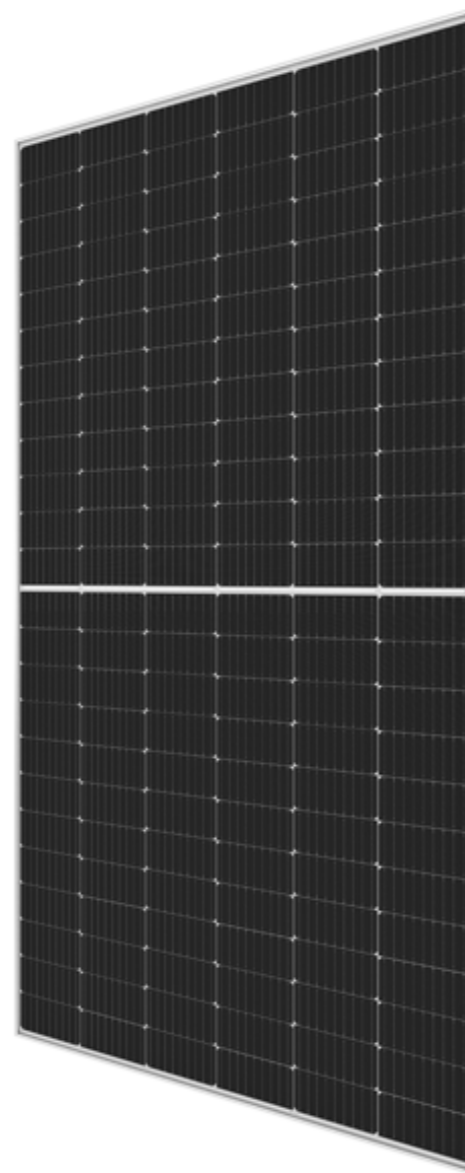


M10 silicon panel with double glass frame design ensures the component load, which is suitable for the component weight handled by two people, and fully considers the arm spread during manual handling.

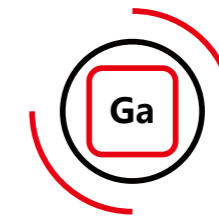


Mainstream mature packaging scheme to realize high reliability and low cost transportation.

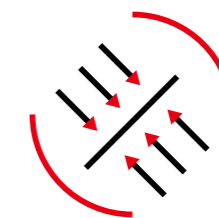
Core advantages



The working current of the module is about 13a, which is perfectly suitable for the mainstream series inverter.



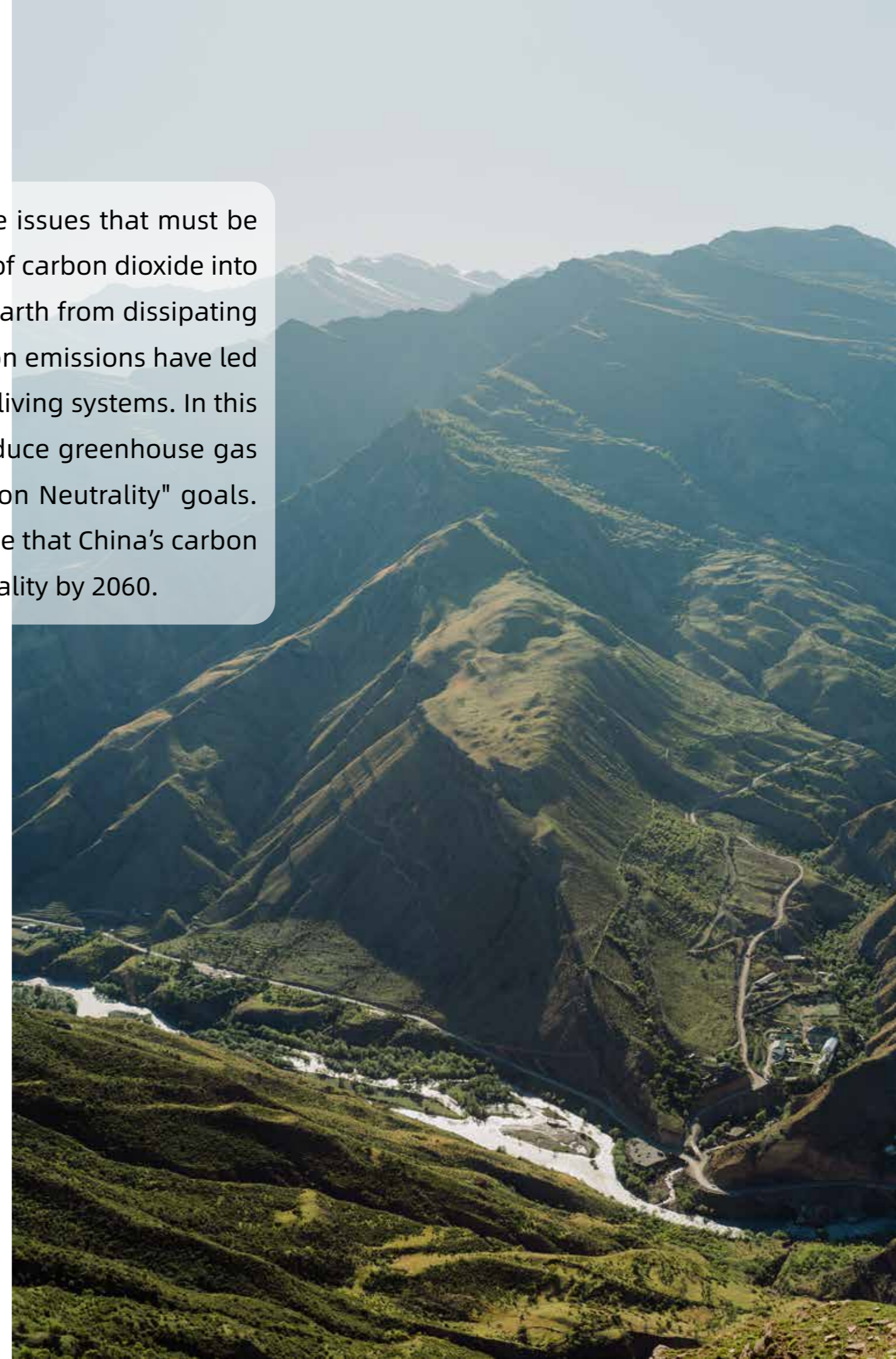
Gallium doped technology overcomes the light attenuation of the module and ensures the long-term power generation stability of the module.



Superimposed components generate power at the back, with higher comprehensive power generation capacity and power generation gain verified by customers and third parties.

Carbon Peak & Carbon Neutrality

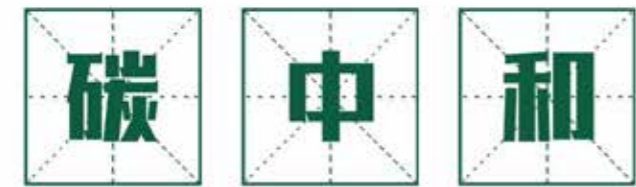
Reducing carbon dioxide emissions and achieving "Carbon Neutrality" are issues that must be resolved globally. In the past 200 years, humans have emitted trillions of tons of carbon dioxide into the atmosphere, just like putting a "padded jacket" on earth, preventing the earth from dissipating heat, and the temperature continues to rise. Many scientists believe that carbon emissions have led to global warming and increased extreme weather events, posing a threat to living systems. In this context, countries around the world have adopted a global agreement to reduce greenhouse gas emissions, and China has therefore proposed the "Carbon Peak" and "Carbon Neutrality" goals. In September 2020, China announced at the United Nations Climate Conference that China's carbon dioxide emissions will reach a peak in 2030 and strive to achieve carbon neutrality by 2060.



Carbon Peak & Carbon Neutrality

Carbon Peak

"Carbon peak" means that the total carbon dioxide emissions reach the historical peak at a certain point in time. This time point is not a specific point in time, but a plateau period during which the total carbon emissions will still fluctuate, but the overall trend is becoming flat, and then the total carbon emissions will gradually decline steadily.



通过植树造林、节能减排等形式，抵消自身产生的二氧化碳或温室气体排放量，实现正负抵消，达到相对“零排放”。



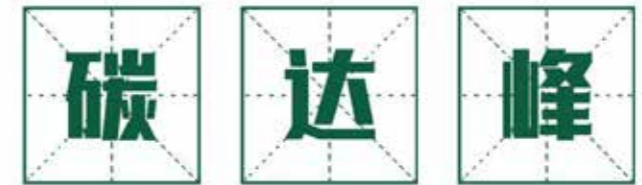
排放 = 吸收



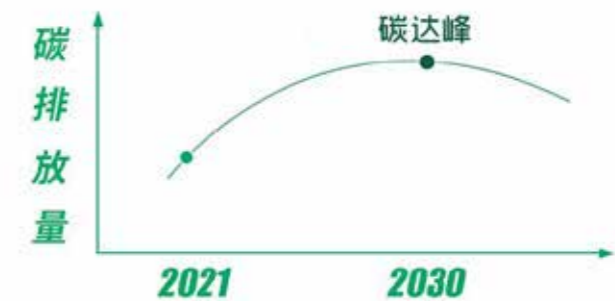
Carbon Neutrality

"Carbon Neutrality" refers to the total amount of carbon dioxide emissions produced directly or indirectly by enterprises, groups or individuals within a certain period of time. This part of carbon emissions is offset by carbon dioxide removal methods such as tree planting, afforestation, energy saving and emission reduction, industrial adjustment, etc., To achieve the goal of "net zero emissions".

碳达峰与碳中和



某一个时刻，二氧化碳排放量达到历史最高值，之后逐步回落。



Impact on various industries

According to statistics from the World Resources Institute, Carbon emissions mainly come from power, construction, industrial production, transportation, agriculture and other fields.

Construction Field

The largest source of carbon emissions is indirect carbon emissions from building electricity and heat.

Electricity Field

At present, the power supply system is still dominated by thermal power generation, which leading to high carbon emissions in the power supply industry.

Transportation Field

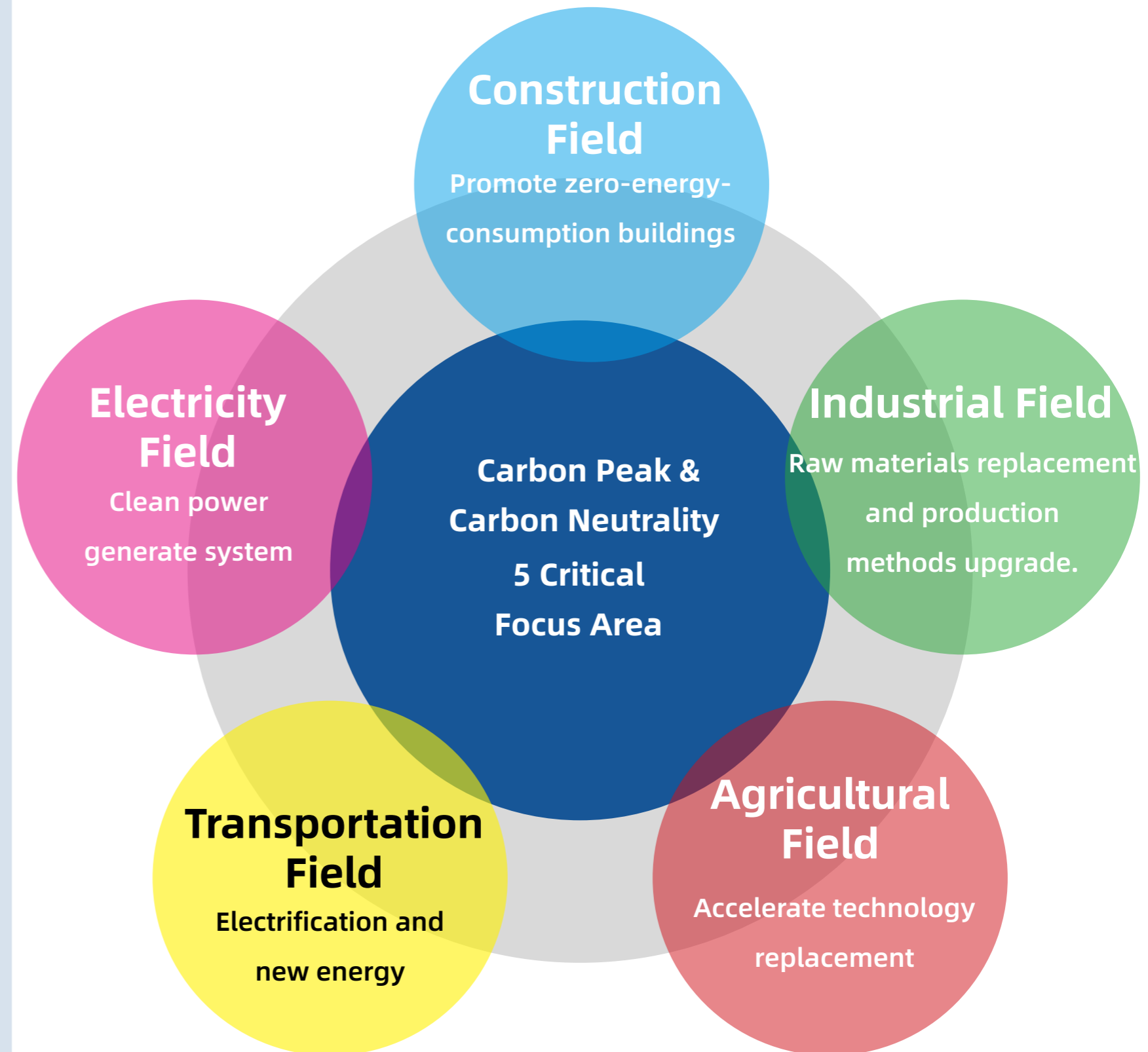
With the rapid development of the transportation industry, carbon emissions in transportation sector continue to rise.

Agricultural Field

Carbon emissions in agriculture mainly come from the food system, including the production process and post-agricultural systems, including processing and distribution.

Industrial Field

Nearly half of the carbon emissions in the industrial sector come from the production of cement, steel, synthetic ammonia, and chemical industries.



Advantages of prefabricated buildings

Prefabricated buildings are highly energy-efficient and can reduce carbon emissions by more than 40% throughout their entire life cycle. They are an important technological path to achieve "carbon peak" and "carbon neutrality" in the construction industry, and will receive continuous support from government policies. Compared with traditional buildings, the carbon emission advantages of prefabricated buildings are mainly reflected in the building materials, production process and construction process. The use of large-scale intensive production in prefabricated buildings can save consumables, reduce energy consumption and construction waste to a certain extent; Using mechanized installation methods in the building construction process, can reduce air, noise, waste material and water discharge and other pollution. Also reduce carbon emissions during the entire building life cycle.

Energy saving effect of prefabricated buildings

Energy saving category of prefabricated buildings	Amount of savings
Reduce construction waste discharge	70%
Save wood	60%
Save cement mortar	55%
Reduce water consumption	25%
Reduce on-site dust and noise pollution	Greatly reduce



TECHNOLOGY SMART HOME SYSTEM

During the entire life cycle of a building, building operations are also an important source of carbon emissions. The new materials used in our new prefabricated quick assembly panel system has stronger heat preservation and anti-corrosion performance using new generation materials, which reduces power consumption and maintenance losses, and thus brings a greater reduction in life cycle costs. We also integrate 12 core technology smart home systems to improve the quality of human life while reducing carbon emissions during the entire building life cycle.



THANKS!

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