

Low-Carbon Building Technology

.....Workshop Introduction

Our associates factory has a group of well-trained production workers and a seasoned management team, which are committed to deliver a highly efficient operation.

We have established a set of general operating regulations, which governs and controls the whole process from the inventory of raw materials to storage, production, quality inspection, products and logistics.

Our annual production capacity of new prefab materials is 2 million square meters . And our annual production capacity of prefabricated houses is 200,000 square meters.

Our outstanding service team can serve our customers timely and efficiently, and solve problems decisively and reasonably.



..... Team

We have a group of experienced engineers and technical personnel at all levels, which can be your partner to handle technical and communication issues effectively and efficiently.

Our company has established its own procurement network, with reputable suppliers, fully capable of the timely completion of all the components related to prefabricated housings.



The light gauge steel structure for residential houses is a new type of environmental friendly and energy-saving construction. The building is made of galvanized steel frame as structural components. It is significantly different from the H-beam steel structure and other general light weight steel structure. Therefore, it is also called ultra-light steel structure system.

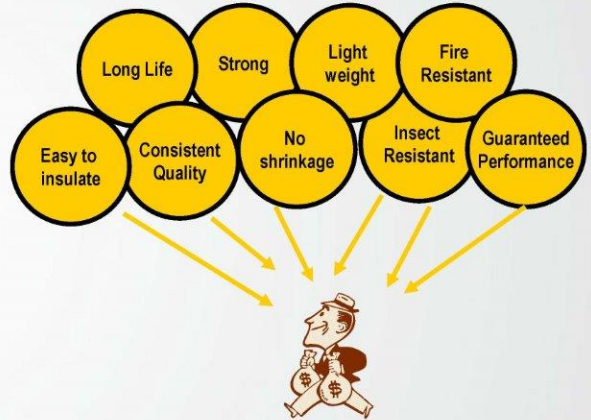
The system was originated in Europe and America, and further explored and developed in China. Now, it has turned out to be the ideal product to improve the living environment in the 21st century. It is beginning to change the traditional residential structures using brick, concrete and wooden materials.

It has truly achieved the objectives of standardized design with CE certification, factory unified production, and mechanized construction. All of these can greatly reduce the labor intensity and shorten construction period.



.....Unique features of the steel frame structure houses

- Suitable for any kinds of climate, with thermal and acoustic insulation.
- Seismic and wind resistance.
- Sustainability and environment protection.
- High load bearing and light weight.
- Improved usable floor area.
- Prominent advantages in construction progress.



Green & Sustainable

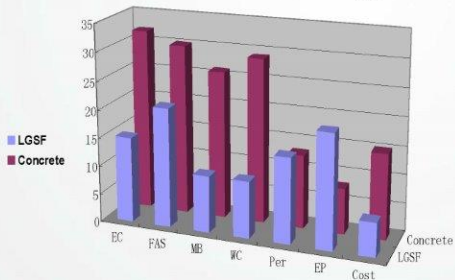
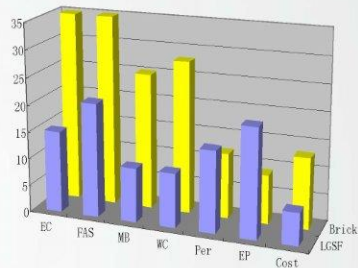
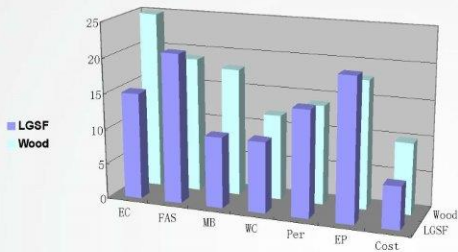
Sustainability and environment protection.

All materials in the steel structure will not cause pollution and damage to the surroundings of the construction site; it can be easily rebuilt and detached.

The main components are: steel, plaster board, particle board, and other environment friendly materials. No contamination will be released and most of components can be recycled.



ANALYSIS-HIGH PERFORMANCE OF LGSF BUILDING



1. EC = Energy Consumption
2. FAS = Floor Area Saving
3. MB = Material Breakage
4. WC = Water Consumption
5. Per = Performance
6. EP = Environmental Protection

Fast Construction

prefabricated houses are produced at factory by unit mode. We finish the whole wall panel, roof, ceiling, basement, bathroom and kitchen at factory so that we can help to reduce the construction period on site by 75%. customers, need only installation, not construction.



Fast Construction

It is easy and flexible to go through the wires and pipes



Fast Construction

Highly Reduced construction cycle and overall construction budget



Easy Transportation

prefabricated houses consider the transportation method when they' re designed. That' s why the size of the houses accordance with the international container standard. And the prefabricated houses can be divided into panels for flat and pack so as to utilize any container space as much as possible.





**EVERYTHING
under THE SUN**

Production Introduction

- **Prefabricated 25 sqm House**
- **Prefabricated House**
- **Prefabricated Modular Building**

Prefabricated 25 sqm House



Prefabricated 25 sqm House-Interior Decoration



Prefabricated 40 sqm House



Prefabricated 25 sqm House



Prefabricated 60 sqm House and 30 sqm House



Prefabricated House-Villa



Prefabricated House-Interior Decoration

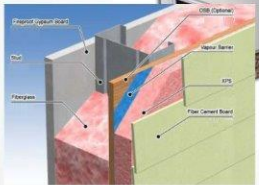
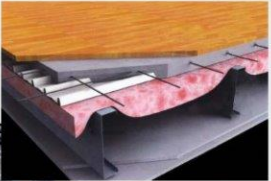
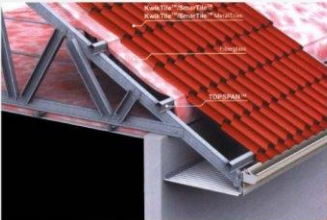


Prefabricated Modular Building-Hotel



Prefabricated Modular Building-Apartment





STANDARD SPECIFICATION FOR TYPICAL HOUSE WITH LIGHT GAUGE STEEL FRAME

Roof

- * 5:12 Roof slope; Roof truss at 24" (609 mm) O.C. connected to wall tracks
- * R30 Fiberglass insulation in the roof cavity
- * 1/2" (12mm) OSB board on top of the truss chord
- * Waterproof attached to OSB board
- * Asphalt shingles roofing (Standard)
- * 1/2" (12mm) Gypsum board for inside ceiling

Exterior Wall

- * 3.5" (89 mm) Wall studs spaced at 16" (406 mm) or 24" (609 mm) O.C. anchored to the foundation
- * R13 Fiberglass Insulation in the wall stud cavity
- * 1/2" (12 mm) OSB Board Covered On the Outside of the Stud Flange
- * Tyvek Vapor Barrier
- * 3/8" (9mm) James Hardi Siding on the Outside surface of the Exterior Wall
- * Paint on the James Hardi siding
- * 1/2" (12mm) Gypsum Board on the Inside Surface
- * Normal Type Exterior Door/Garage
- * Door/Window, Vinyl frame & double glass for all exterior doors and windows

Interior Wall

- * 3.5" (89 mm) Wall studs spaced at 16" (406 mm) or 24" (609 mm) O.C. anchored to the foundation
- * 6" (150 mm) Wall studs spaced at 16" (406 mm) or 24" (609 mm) O.C. in bathrooms for plumbing system
- * 1/2" (12mm) Gypsum board on both Sides of the wall frames
- * Normal interior door, c/w frame and casing

Floor

- * 10" (250 mm) Floor Joists spaced at 16" (406 mm) or 24" (609 mm) O.C
- * 3/4" (18mm) OSB Board on floor joists
- * 1/2" (12mm) Gypsum board for the ceiling
- * Carpet flooring in Bedrooms
- * Tile flooring in Bathrooms and Kitchen
- * MDF Baseboard

Kitchen

- * Laminate Panel Cabinets c/w hinges & laminated panel doors (Standard)
- * Brushed nickel handles & knobs on doors & drawers
- * Granite countertops c/w backsplash
- * Deep double stainless sink c/w chromed goose neck faucet with sprayer

Bathrooms

- * 60" (1524 mm) Bath tub c/w chromed shower faucets
- * Toilet 1.6 Gal. per flush
- * Granite countertop vanity
- * Lavatories c/w chromed faucets
- * Laminate Panel Cabinets c/w hinges & laminated panel doors (Standard)

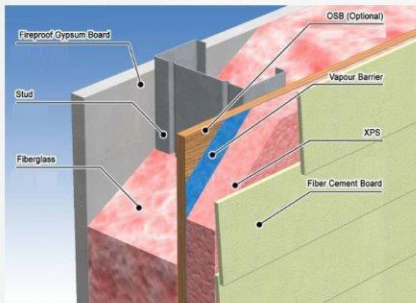
Others

- * Steel stairs included
- * Plumbing, Mechanical and Electrical systems shall be provided by Others

Upgrade Items

- * Hardwood cabinetry
- * Exterior Polystyrene foam insulation boards for extreme hot & cold regions
- * Low-E glazing or Aluminum frame windows
- * Ceramic Or Metal roofing tiles
- * Hardwood flooring
- * Brushed nickel faucets

Excellent sound proof and heat preservation

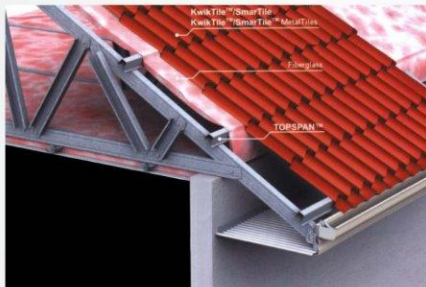


As the wall is filled with fiberglass material, its insulating effect is greatly superior than masonry structure. Coupled with thermal insulated windows, it bears the ideal sound proof effect, and energy saving measures.

R Value Calculation

Wall			
(-) Exterior Wall			
			R Value (m ² -CW)
1	Outside Surface	15mph	0.029
2	Exterior Wall Cladding	None	0
3	Exterior Stacco	None	0
4	James Hardi Board	9mm	0.5
5	Water Resistance Layer	Breathing paper	0.0025
6	OSB Board	18mm	0.10594
7	Hat Channel	Yes	0.022
8	Gypsum Board	12mm	0.07
(二) Interior wall			
9	Gypsum Board	9mm	0.053
10	OSB Board	0mm	0
(三) Thermal insulation			
11	Fiber Glass	50mm24kg/m3	1.39
		0	0
		100mm24kg/m3	2.78
12	XPS Board	25mm	0.9
13	Inside the room	Air	0.12
14	Steel Stud	90mm	0.002
15	Inside the Wall Section	Air gap	0.129
U _i = 1/(∑[1-13]+15)			0.16
U _s = 1/(∑[1-10]+e12+e13+e14)			0.55
R=		23.47	R2-4r- F/Btu

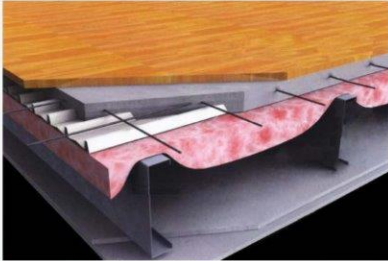
Exterior Close Board and Waterproof Tiles



R Value Calculation

ROOF			
			R Value (m ² -C/W)
1	Outside Surface	15mph	0.029
2	Roof Tiles	Metallic Roof	0.000012
3	Roof Water Proof Layer	Breathing paper	0.0025
4	OSB Board	18mm	0.10584
5	Fiber Glass	50mm14kg/m ³	0.0025
6	XPS Board	25mm	0.9
7	Hat Channel	Yes	0.022
8	Gypsum Board	12mm	0.07
9	Steel Roof Truss	90mm	0.002
10	Air Gap in Slope Roof Space	45° slope Up -18C	2.87
11	Inside the Roof Section	Air Gap	0.11
13	The Space among the Steel Stud	Air	0.06
14	The slope angel	45	1
15	Inside the Wall Section	Air gap	0.129
U _{i1} = 1/(Σ (1-11)+13+14+15))			0.16
U _{s1} = 1/(Σ ((1-4)+(6-14))			0.55
R=			30.08 Ft ² -Hr-F/Btu

Light steel floor



R Value Calculation

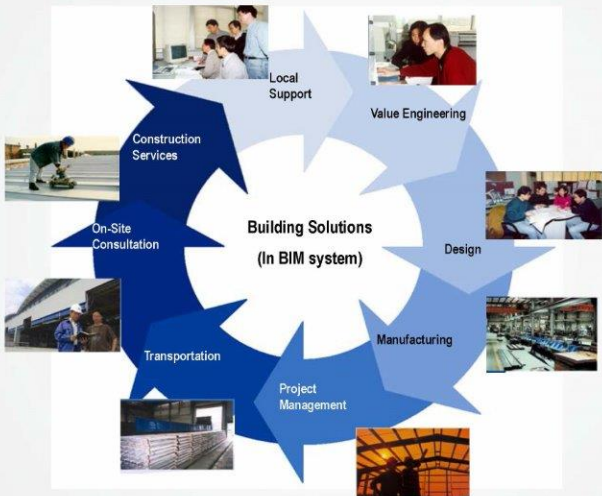
FLOOR			
		R Value (m ² -C/W)	
1	Floor Board	None	0
2	OSB Board	18mm	0.10584
3	Concrete	0mm	0
4	Fiber Glass	0	0.5
		75mm 12kg/m ³	1.74
		0	0
5	XPS Board	0mm	0
6	Hat Channel	None	0
7	Gypsum Board	0mm	0
8	Floor Beam	150mm	0.0033
9	Space Inside the Floor	0.171	
$U_i = 1/(\sum (1-7)+9)$		0.60	
$U_s = 1/(\sum (1-3)+5+6+7+8)$		9.16	
R=		2.55 Ft ² -Hr-F/Btu	

No need for the interior decoration

There is a lot of space in the wall frame and ceiling cavity in the steel frame made houses. Therefore, various pipes and wires with CE certification can be laid inside the wall and ceiling, (such as electricity wire, telephone wire, plumbing piping, and central air conditioning pipes etc.) so that no wires and pipes exposed. It is easier for both the installation process and the future maintenance.



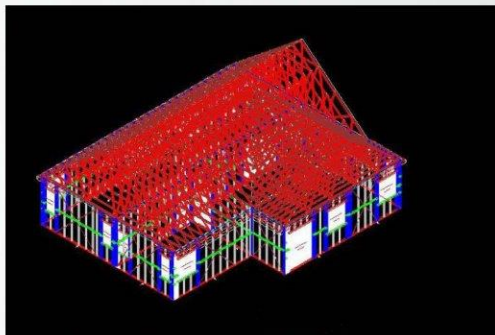
Work Breakdown System(WBS) -- HOW WE SERVE OUR CLIENTS



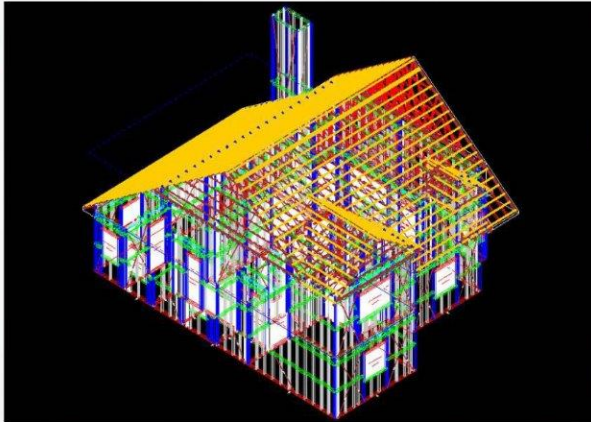
Integrated design and short manufacturing cycle, unified design and production

Through the use of computers and specialized structural analysis software, the modern structural design cycle has significantly been reduced, as design changes and adjustments are easier to make.

On the other hand, the steel frame structure has the characteristics of being factory-prefabricated and on-site installation, so the design and the production can be well integrated through the network of computers and numerical control machines. The factory can manufacture the products with high efficiency and precision as soon as the design is finished, which can greatly reduce the product delivery schedule.



SOFTWARE CALCULATION AND ANALYSIS---PREPARATION FOR MANUFACTURE



Product Introduction--Thailand Villa



Thailand Villa

Area: 90m²

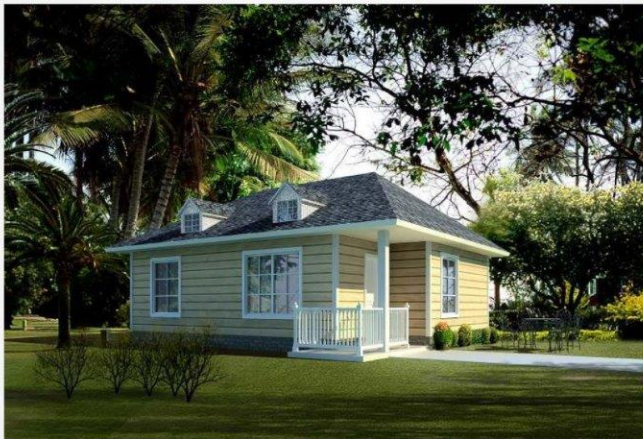


Thailand Villa

Area: 125m²



Product Introduction--Sample House Area: 64m2



Project in progress--Hainan Villa Project



Project in progress--Norway Apartment Project



Project in progress--Spanish Villa Project

