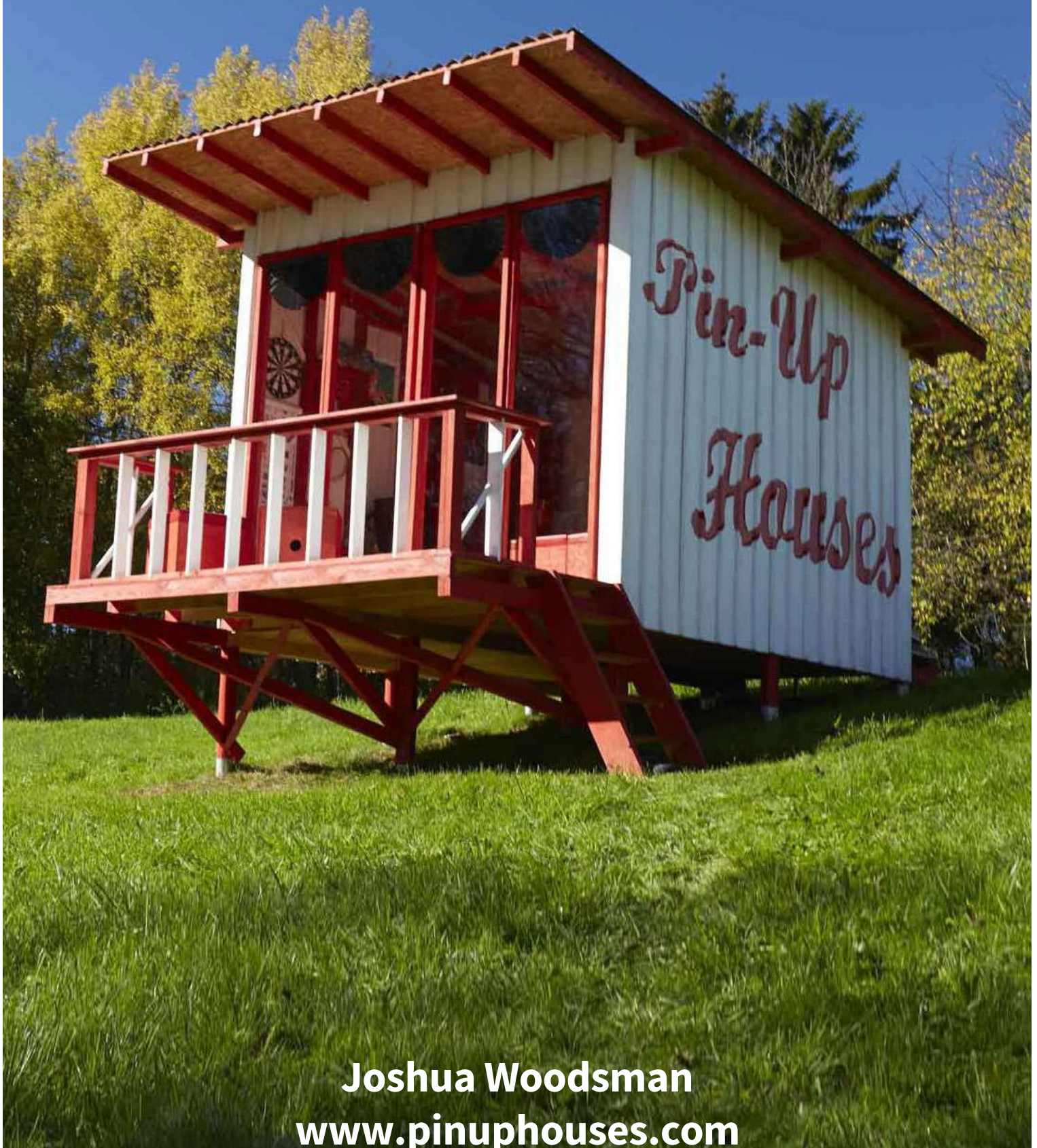


CONSTRUCTION GUIDE

FREE SAMPLE PLANS

of one of our design



Joshua Woodsman

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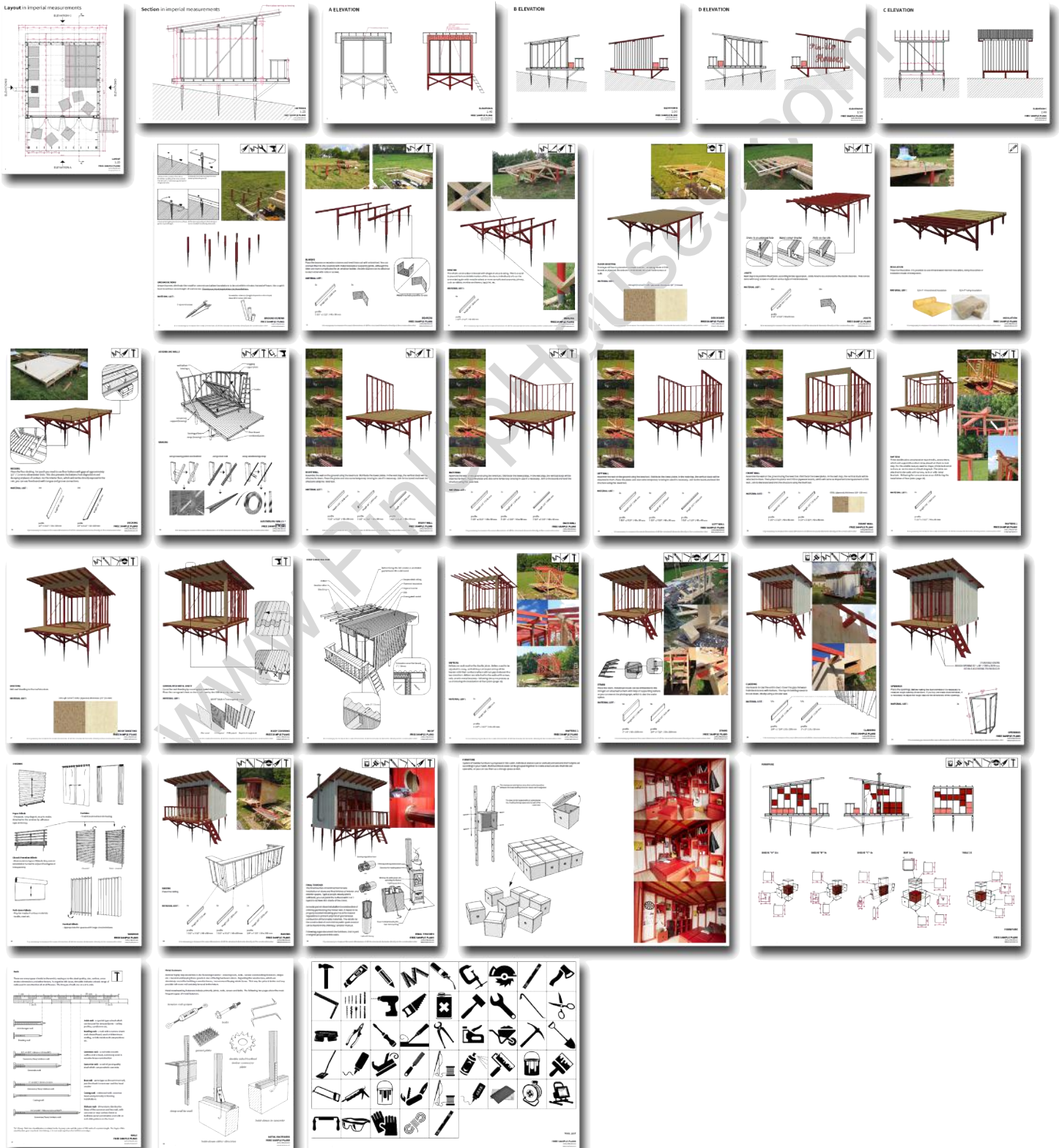
Please Note

This electronic document is protected by the identifier against unauthorized dissemination on the Internet.

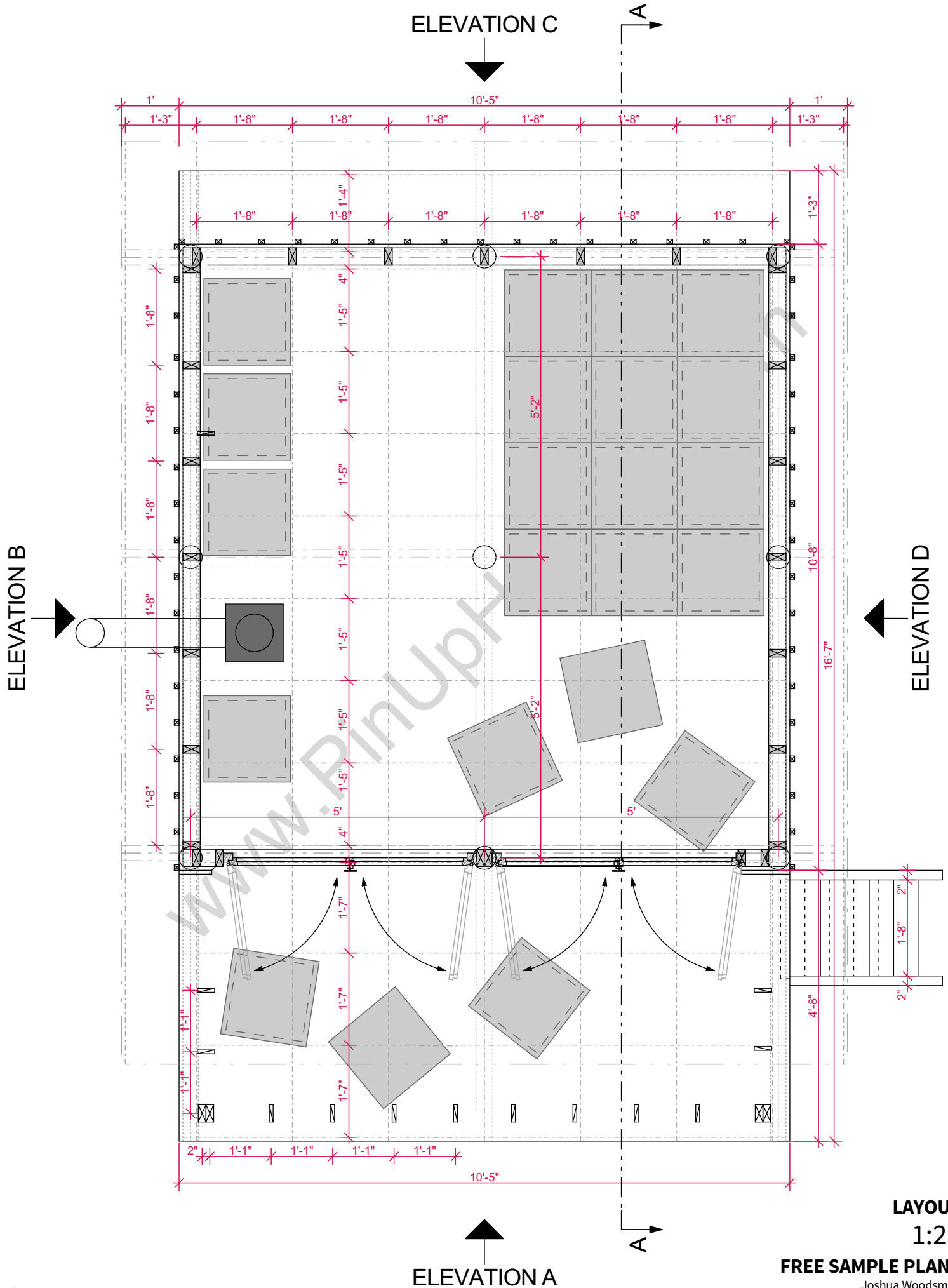
Before building any structure make sure you check with your local authorities. In many places building permits are not needed for small building like tiny houses or sheds, however the rules vary depending on location, so it is important to research your local restrictions before building. Also please note that these plans were not prepared or checked by a licensed engineer and/or architect and building following these plans is at your own risk.

CONTENT

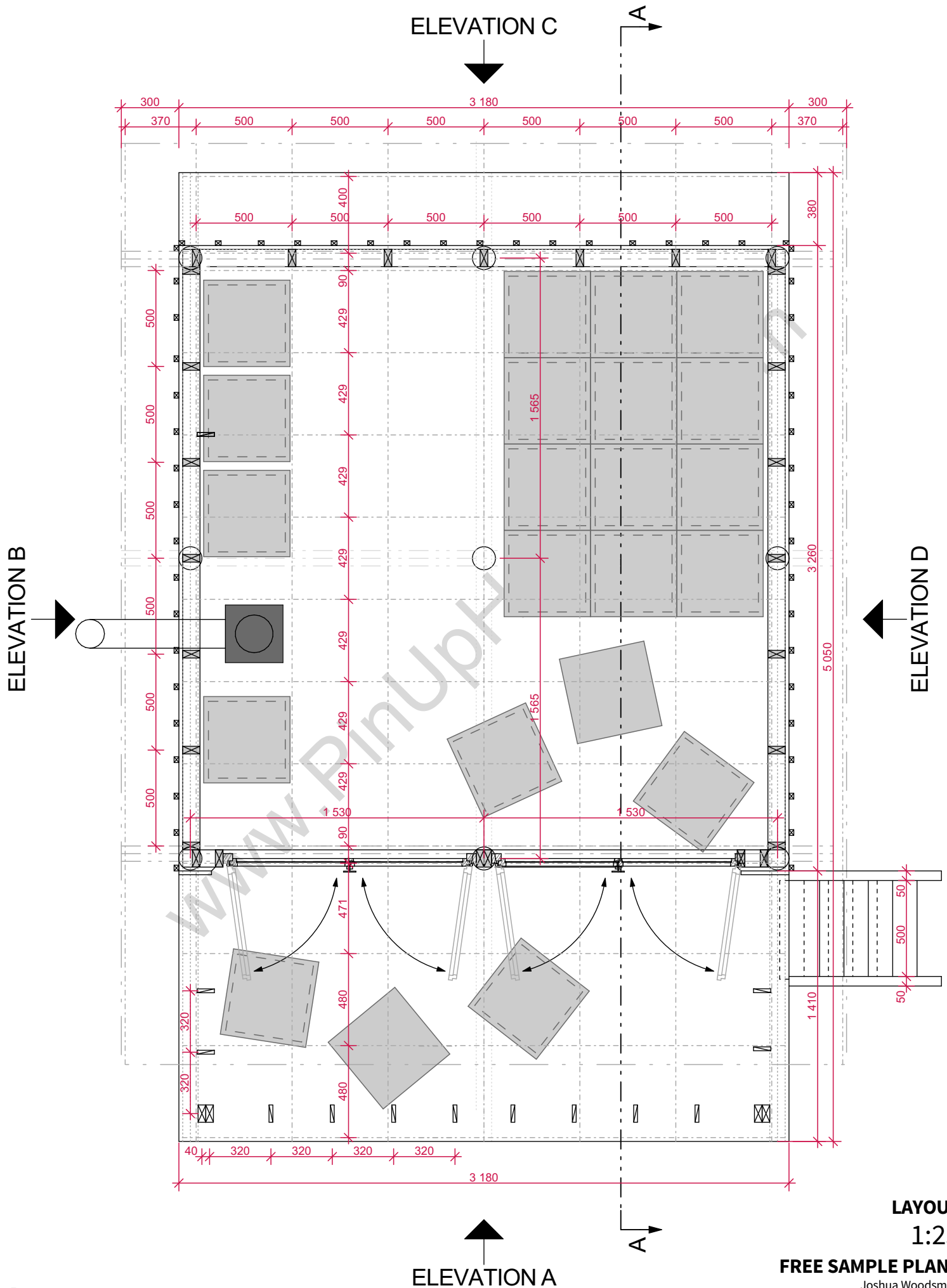
Content	3
Layout	4-5
Section	6-7
Elevations	8-11
Construction progress	12-34
Furniture	35-36
Nails, metal fasteners	38
Tool list	39



Layout in imperial measurements

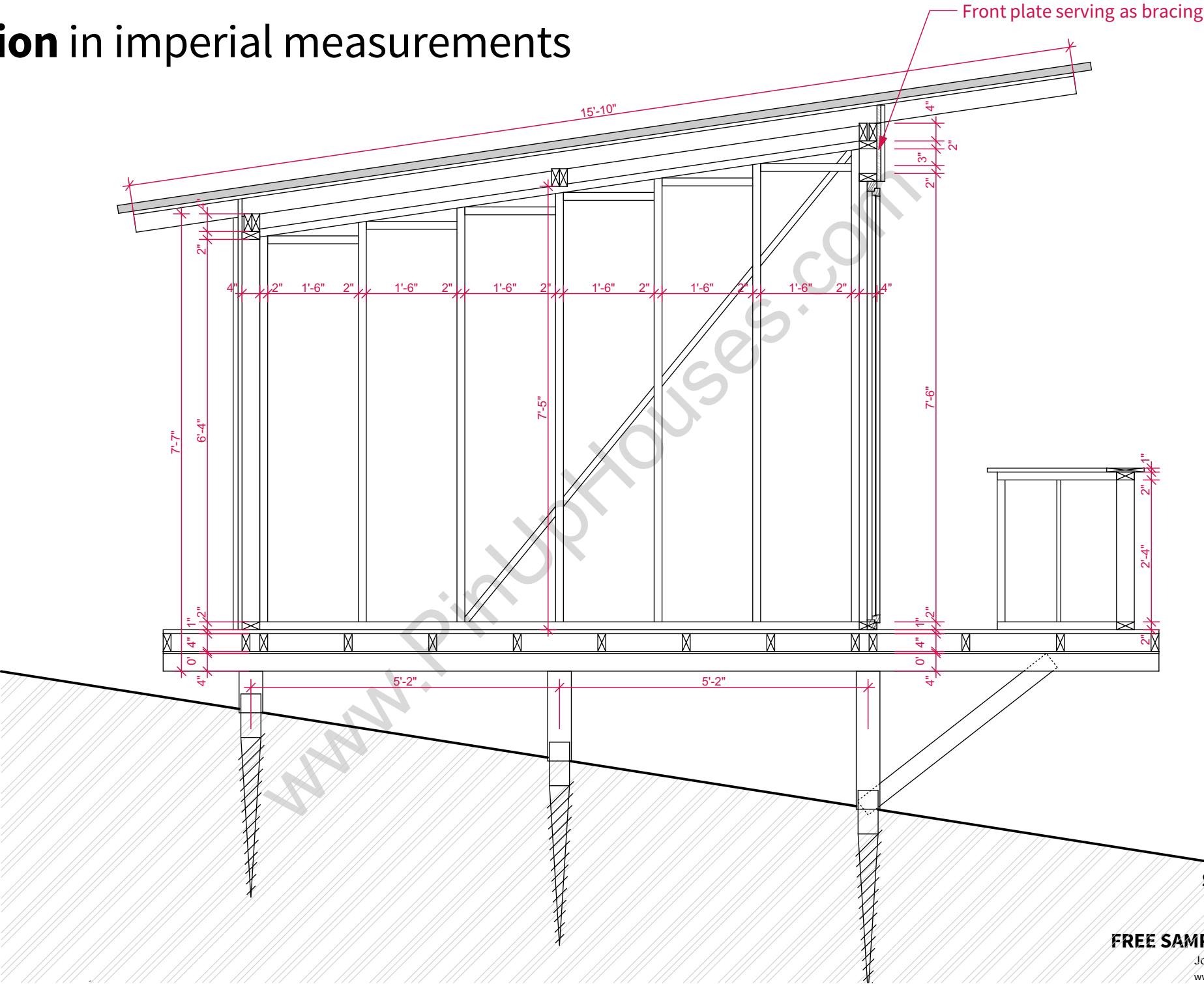


Layout in metric measurements





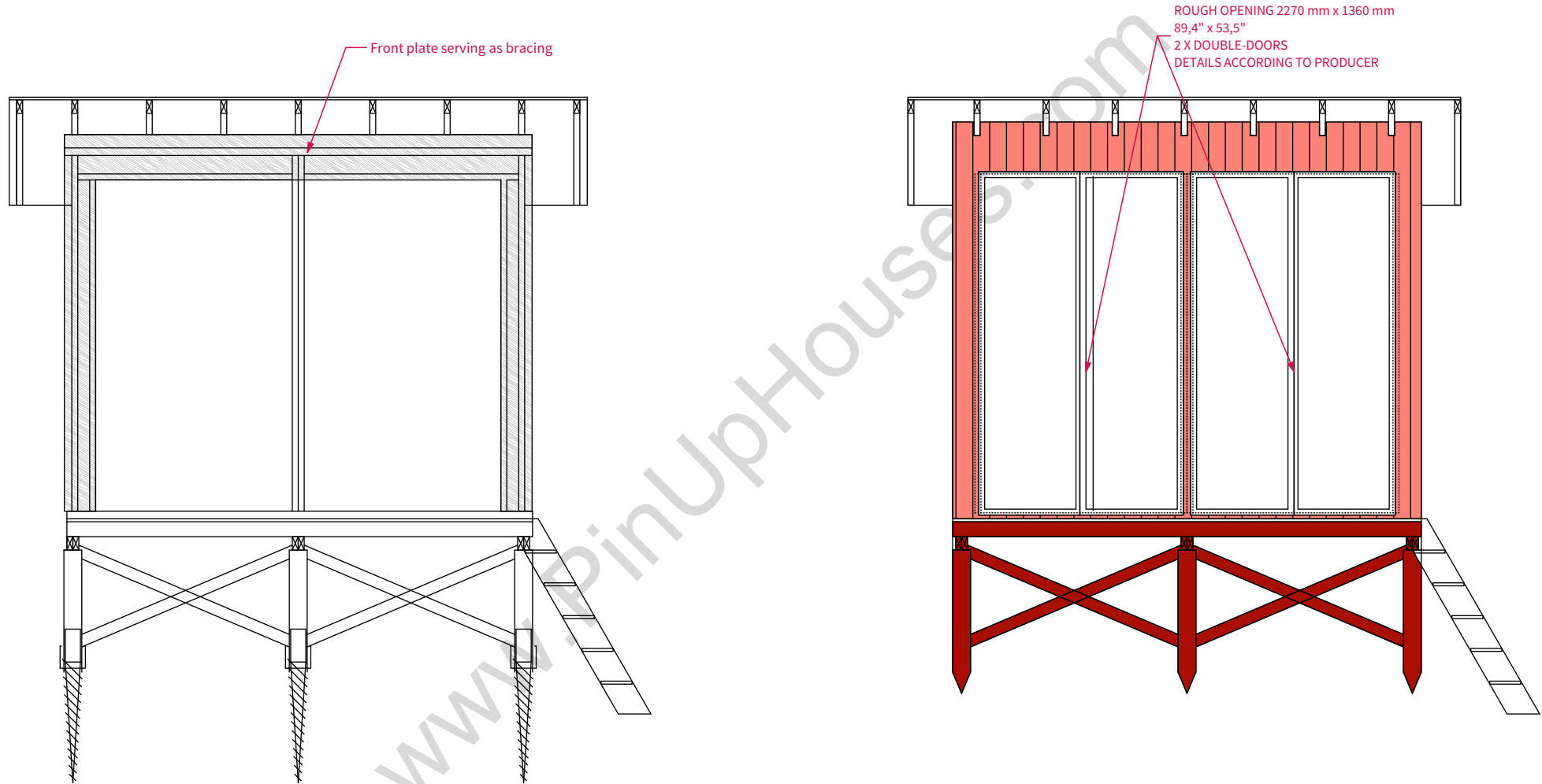
Section in imperial measurements



SECTION A
1:25

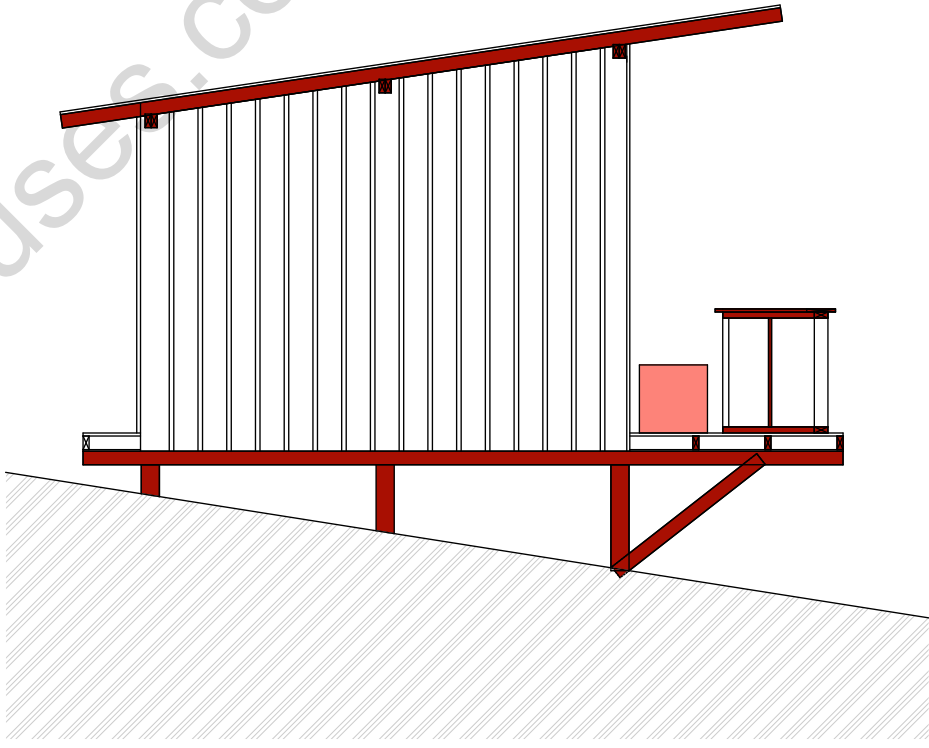
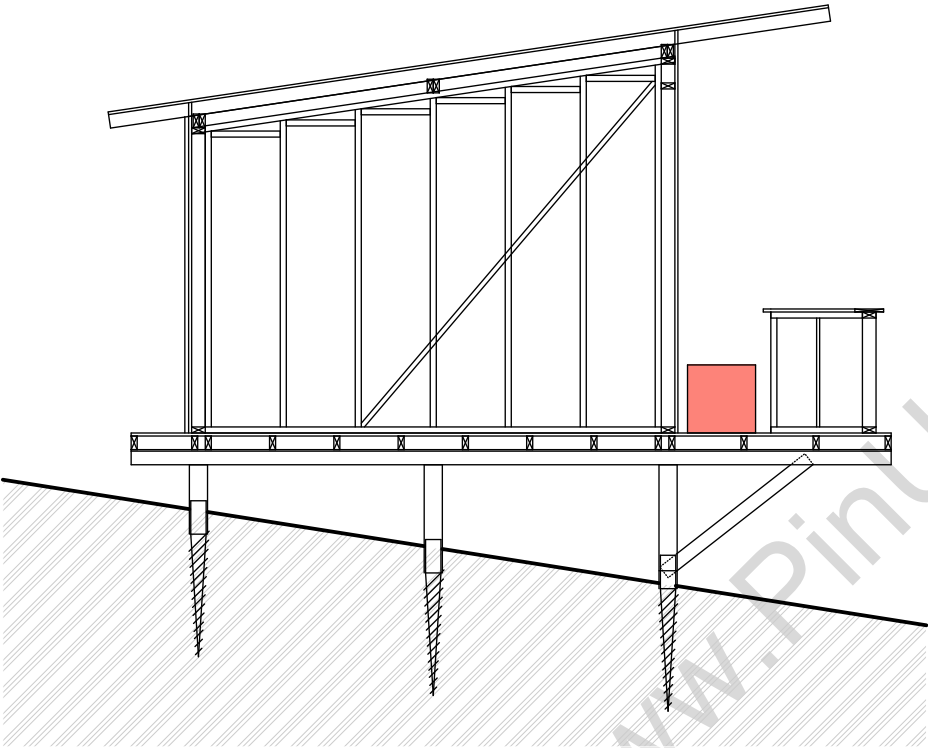
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A ELEVATION



ELEVATION A
1:40
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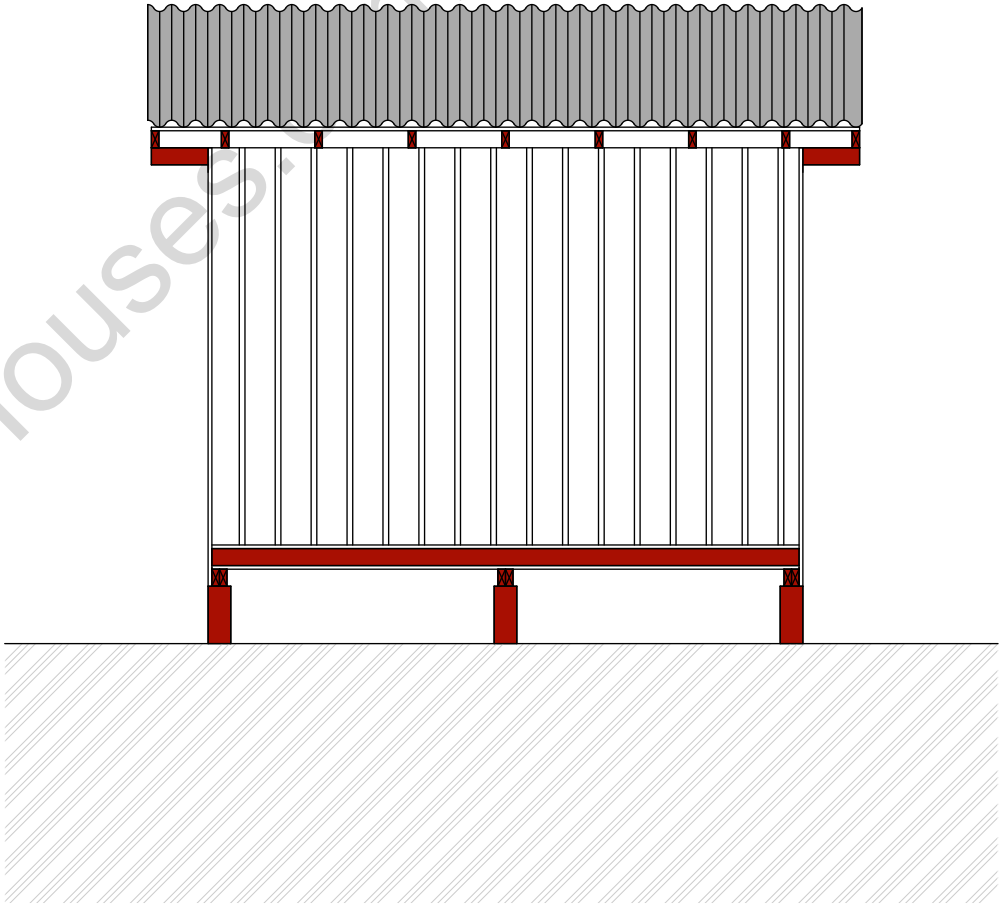
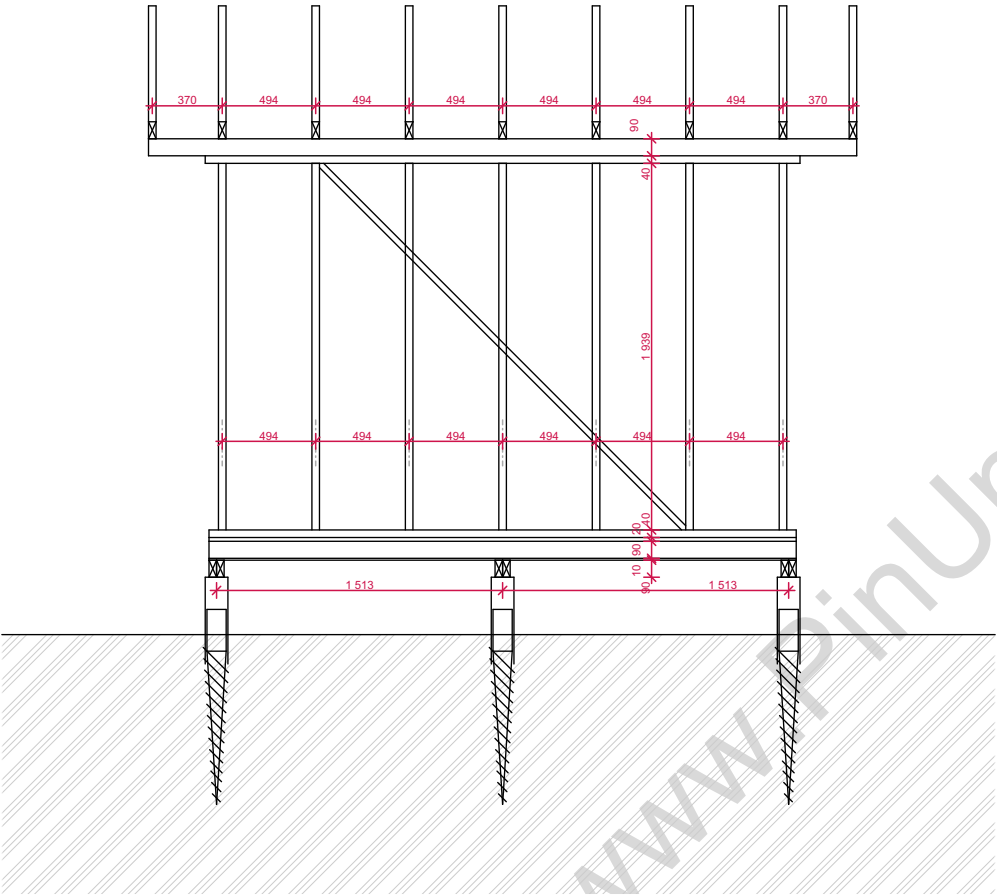
B ELEVATION



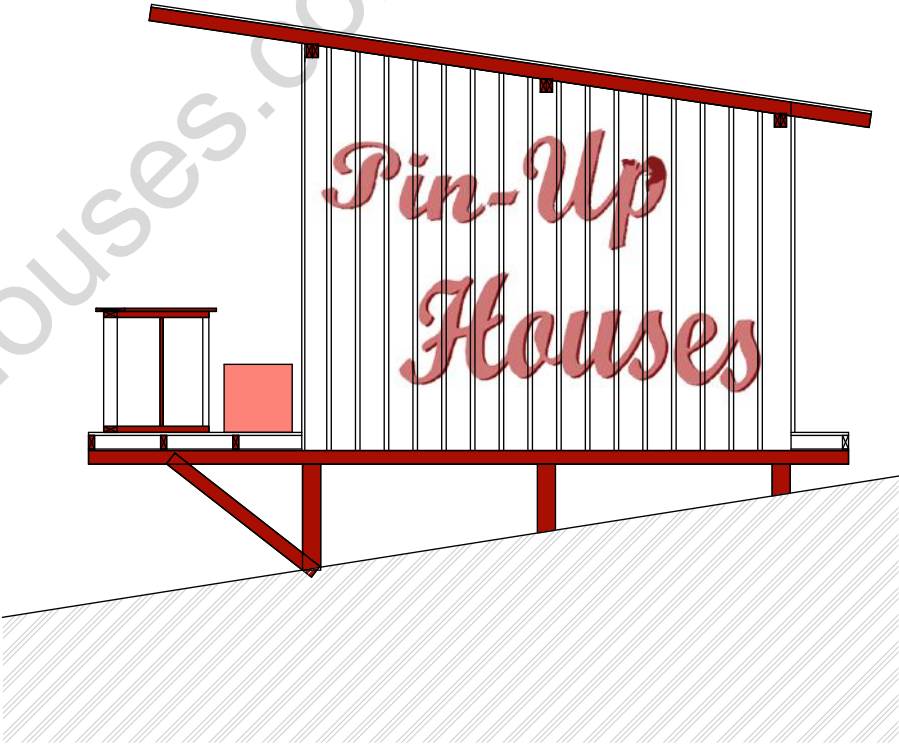
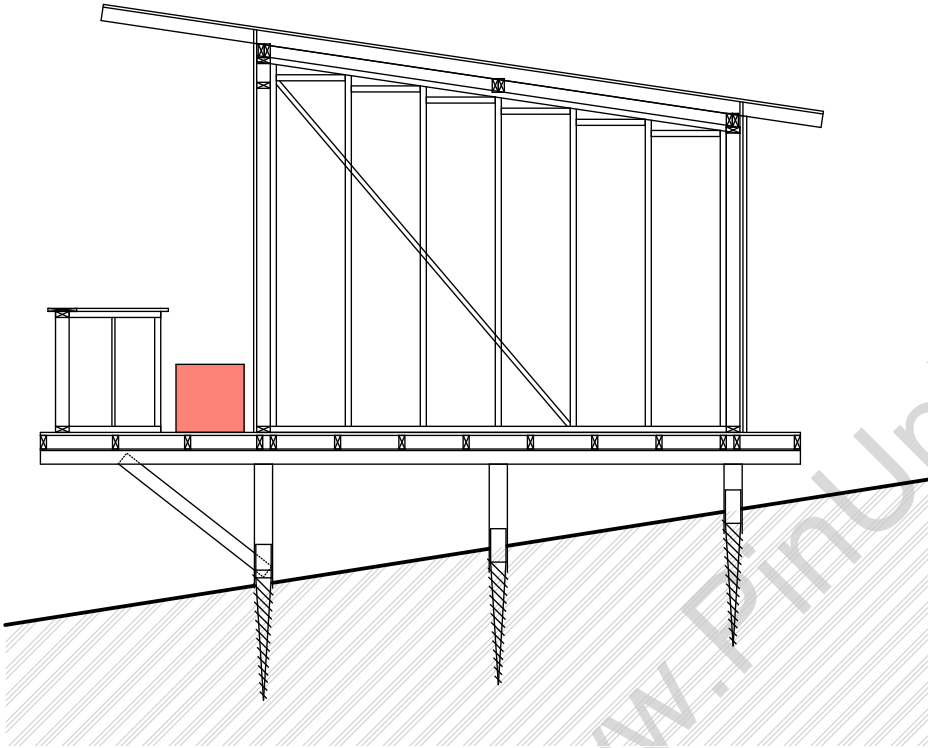
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ELEVATION B
1:50
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C ELEVATION



D ELEVATION



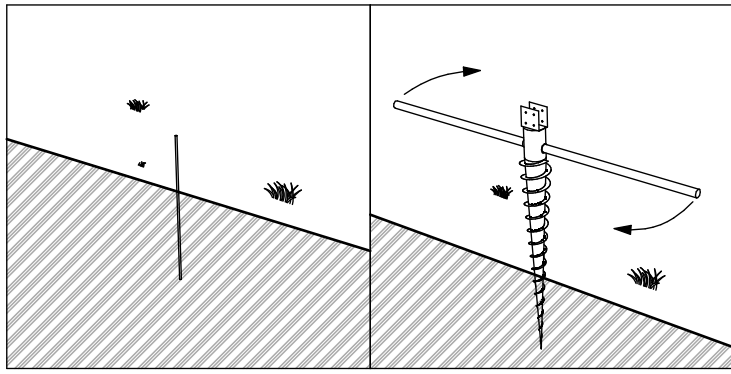
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ELEVATION D

1:50

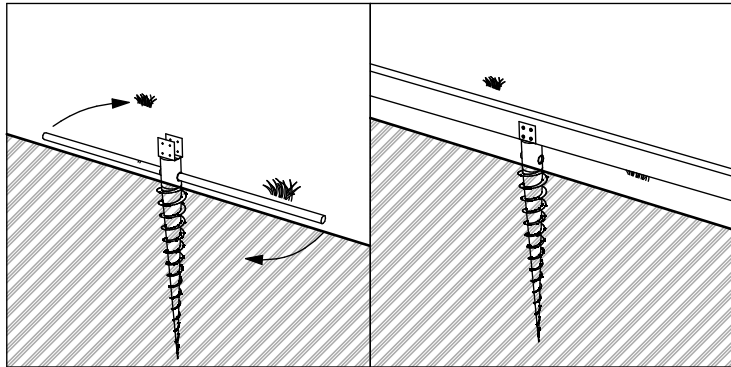
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a) Stake out the position of the future foundation carefully. Drive in the rod and then remove it, it will leave a guide hole for the ground screw.

b) Hammer the screw in partly; then start screwing it into the ground.



c) Keep screwing the ground screw until you get the required height.

d) The above-ground parts of the structure can be installed immediately afterwards.

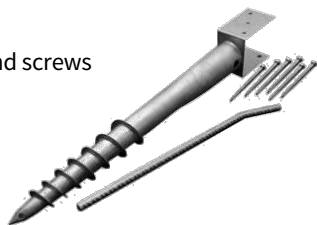


GROUND SCREWS

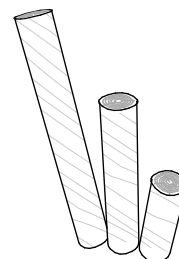
Ground screws eliminate the need for concrete and allow foundations to be set within minutes instead of hours. Use a spirit level to achieve same height of each screw. Check your local regulations for foundations.

MATERIAL LIST :

9 x ground screws

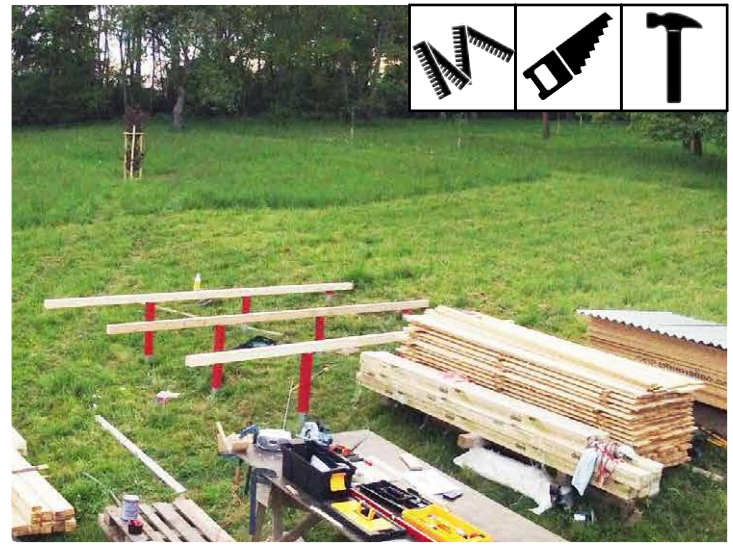


9x wooden columns (length depends on the slope) about Ø 8 inches (200 mm)



**GROUND SCREWS
FREE SAMPLE PLANS**

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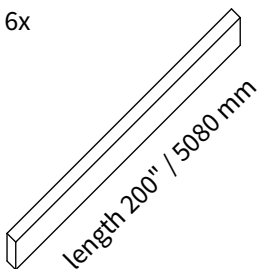


BEARERS

Place the bearers on wooden columns and level them out with a level tool. You can connect them to the columns with metal brackets or carpentry joints, although the latter are more complicated for an amateur builder. Double bearers can be attached to each other with nails or screws.

MATERIAL LIST :

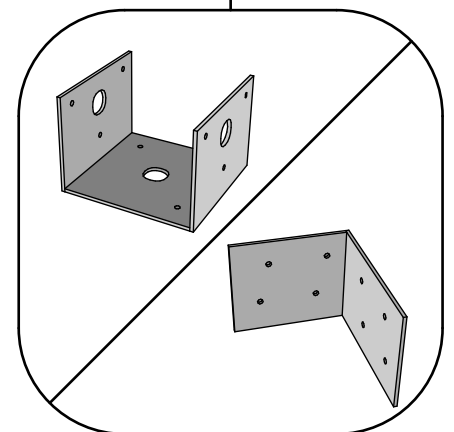
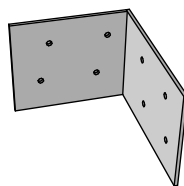
6x



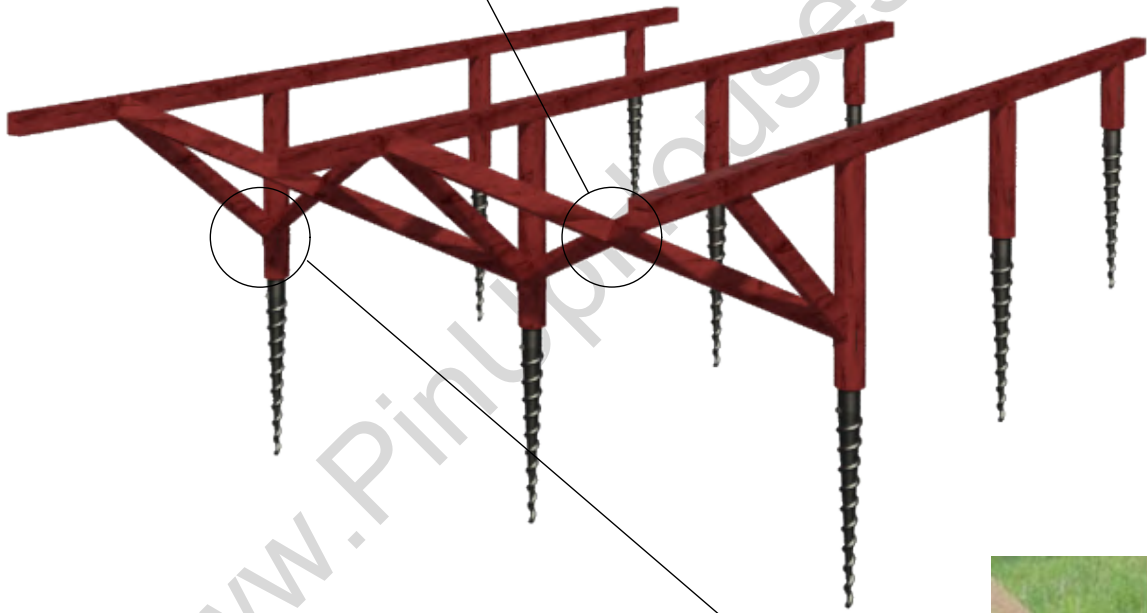
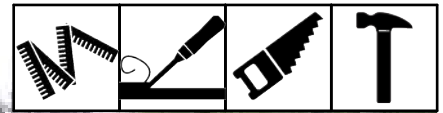
profile

1 1/2" x 3 1/2" / 40 x 90 mm

9x



Metal brackets possible to use

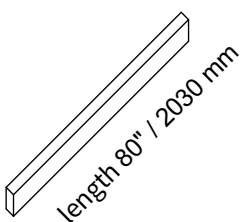


BRACING

The whole construction is braced with diagonal cross bracing. That is crucial to prevent horizontal deformation of the structure. Individual parts can be connected again with metal brackets or more complicated carpentry joinery, such as rabbet, mortise and tenon, lap joint, etc.

MATERIAL LIST :

4x



profile
1 1/2" x 3 1/2" / 40 x 90 mm



BRACING
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FLOOR SHEETING

First layer of floor is placed on multiple bearers - sheeting made of OSB boards or plywood. Boards are connected to the joists with screws or nails.

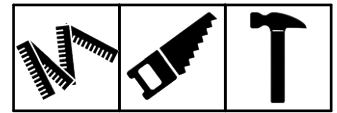
MATERIAL LIST :

160 sq ft (14,9 m²) OSB / plywood; thickness 3/8" (10 mm)

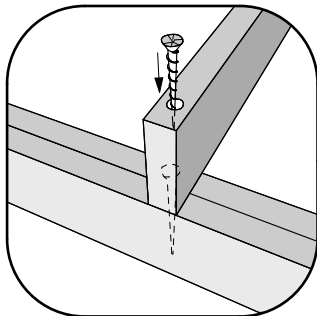


OSB BOARD
FREE SAMPLE PLANS

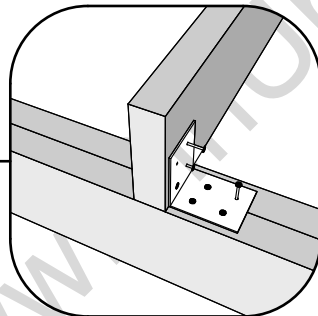
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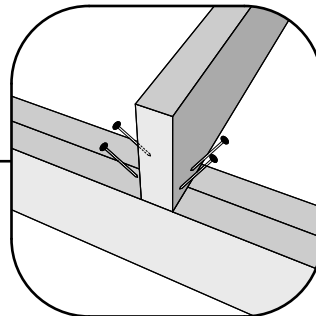
Screw in an enlarged hole



Metal corner bracket



Nails on the side

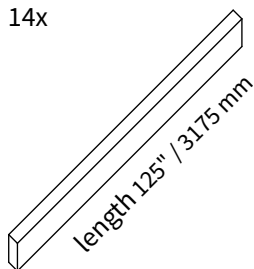


JOISTS

Next step is to position floor joists according to the layout plan. Joists have to be anchored to the double bearers. That can be done with long screws or nails or various type of metal brackets.

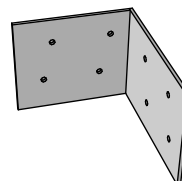
MATERIAL LIST :

14x



profile
1 1/2" x 3 1/2" / 40 x 90 mm

28x



JOISTS

FREE SAMPLE PLANS

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GA T

BUILDING DEFECTS

A building is a complex structure and its construction involves many different materials and techniques. It is important to understand the common defects that can occur in buildings and how to prevent them. This section discusses the most common building defects and provides practical advice on how to identify and repair them.

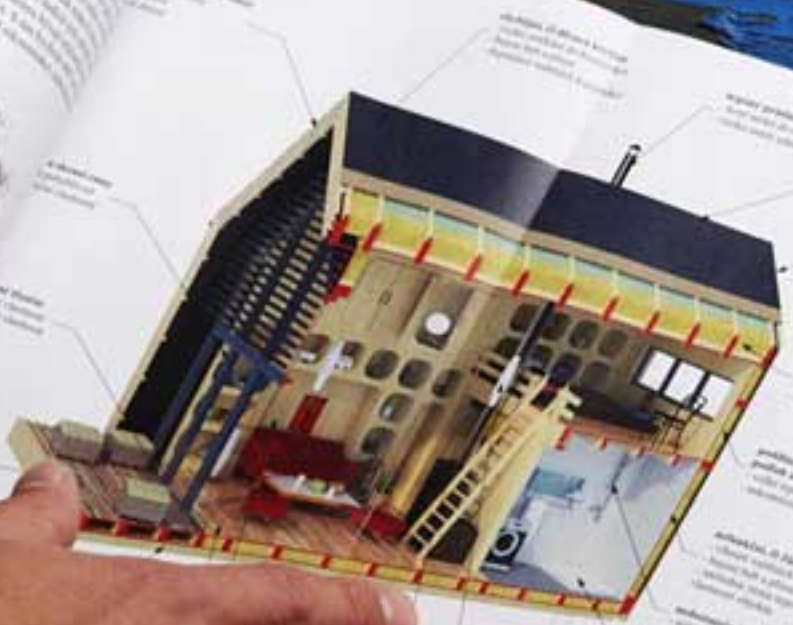
One of the most common defects is water damage. This can occur due to leaks in the roof, pipes, or walls. Water damage can lead to mold, rot, and structural damage. To prevent water damage, it is important to inspect the roof and pipes regularly and to repair any leaks immediately.

Another common defect is structural damage. This can occur due to poor construction, overloading, or natural disasters. Structural damage can be dangerous and can lead to the collapse of a building. To prevent structural damage, it is important to hire a qualified professional to inspect the building and to follow all building codes and regulations.

Other common defects include poor ventilation, inadequate insulation, and pest infestations. These defects can affect the health and comfort of the occupants and can lead to expensive repairs. To prevent these defects, it is important to maintain the building properly and to address any issues as soon as they are identified.



defects



Ważnym elementem konstrukcji jest dach, który musi być odpowiednio zabezpieczony przed wodą i wiatrem. Należy regularnie sprawdzać stan dachu i w razie potrzeby dokonywać napraw.

Wnętrze domu powinno być odpowiednio wentylowane, aby zapobieczyć powstawaniu pleśni i grzyba. Należy regularnie sprawdzać stan wentylacji i w razie potrzeby dokonywać napraw.

Podłoga powinna być odpowiednio zabezpieczona przed wilgocią i uszkodzeniami mechanicznymi. Należy regularnie sprawdzać stan podłogi i w razie potrzeby dokonywać napraw.

Ważnym elementem konstrukcji jest również fundament, który musi być odpowiednio zabezpieczony przed wilgocią i uszkodzeniami mechanicznymi. Należy regularnie sprawdzać stan fundamentu i w razie potrzeby dokonywać napraw.

Ważnym elementem konstrukcji jest również ściany, które muszą być odpowiednio zabezpieczone przed wilgocią i uszkodzeniami mechanicznymi. Należy regularnie sprawdzać stan ścian i w razie potrzeby dokonywać napraw.

Ważnym elementem konstrukcji jest również drzwi i okna, które muszą być odpowiednio zabezpieczone przed wyciekami powietrza i uszkodzeniami mechanicznymi. Należy regularnie sprawdzać stan drzwi i okien i w razie potrzeby dokonywać napraw.



INSULATION

Place the insulation. It is possible to use mineral wool thermal insulation, hemp insulation or insulation made of sheep wool.

MATERIAL LIST :

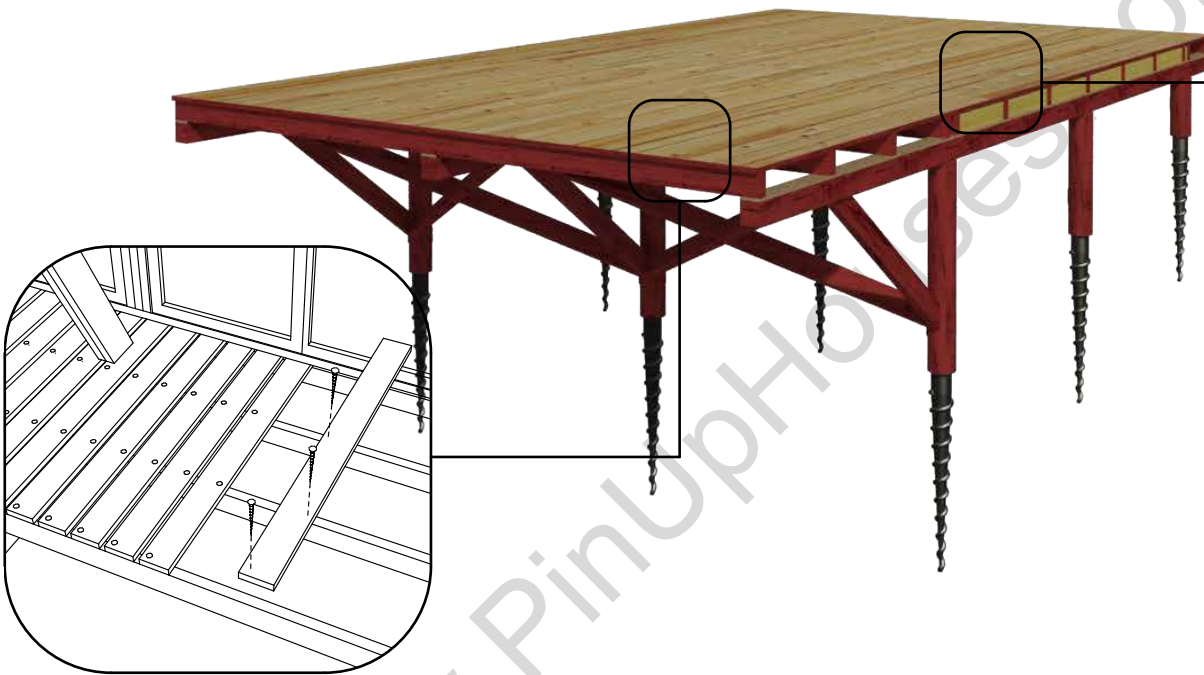
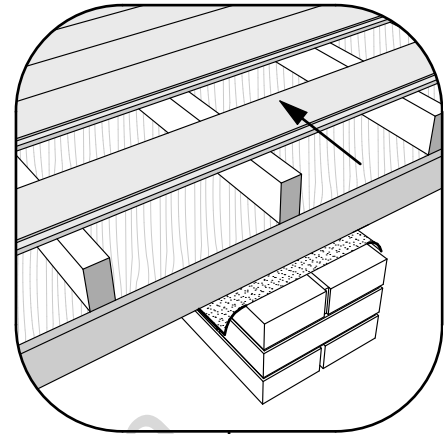
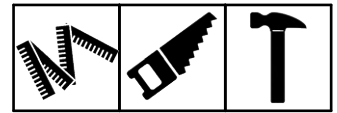
0,3 m³ mineral wool insulation

0,3 m³ hemp insulation



INSULATION
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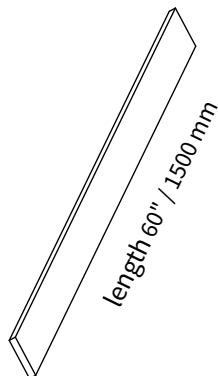


DECKING

Place the floor decking. For porch you need to use floor battens with gaps of approximately 1/2" / 12 mm to allow water drain. This also prevents the battens from degradation and decaying at places of contact. For the interior floor, which will not be directly exposed to the rain, you can use floorboards with tongue and groove connections.

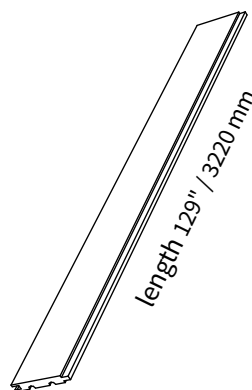
MATERIAL LIST :

30X



profile
3/4" x 4-1/2" / 20 x 120 mm

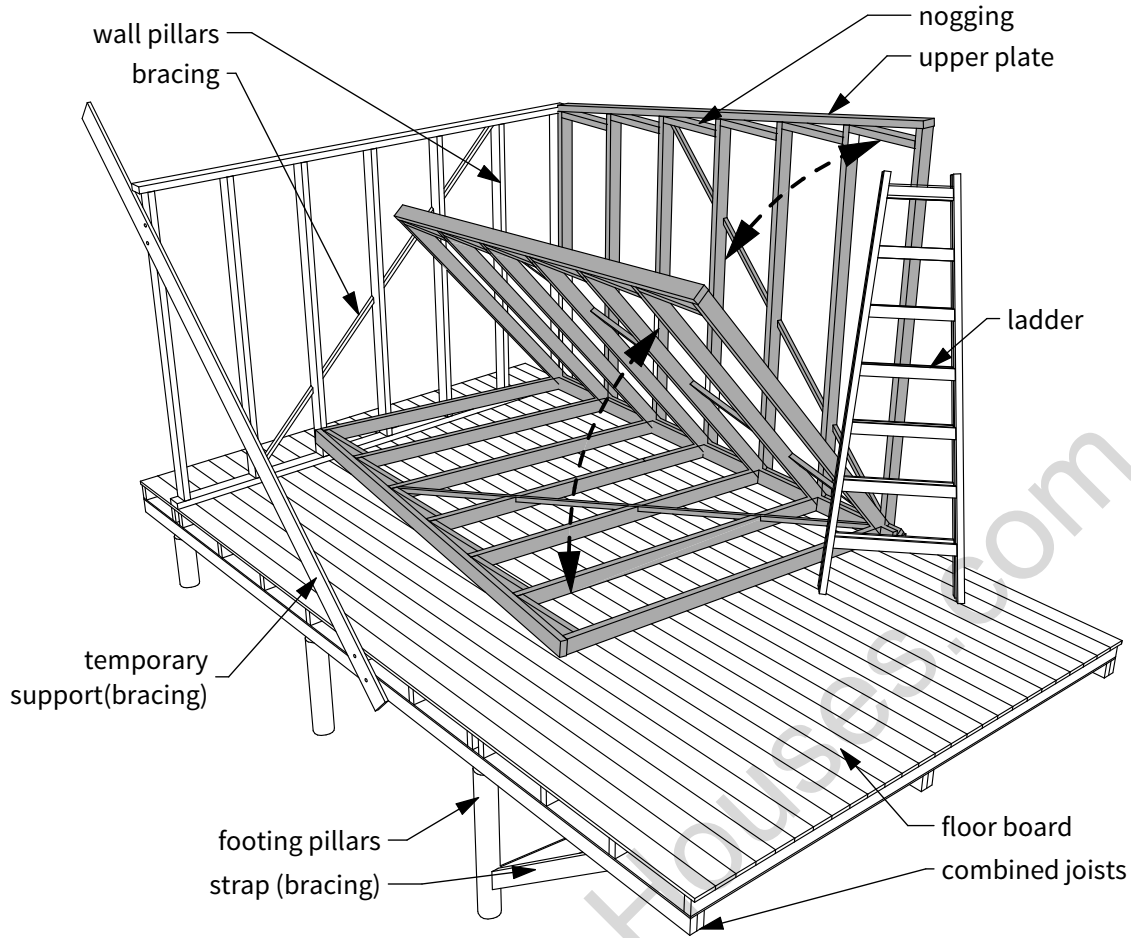
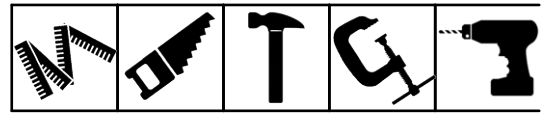
30X



profile
3/4" x 4-1/2" / 20 x 120 mm

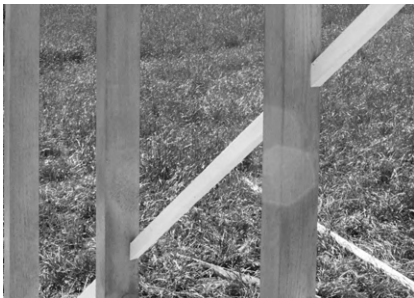
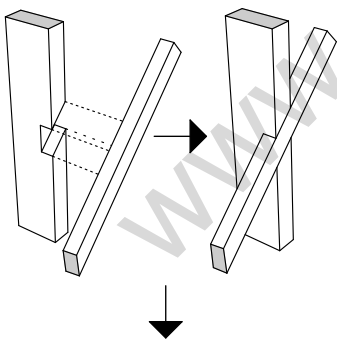
**DECKING
FREE SAMPLE PLANS**

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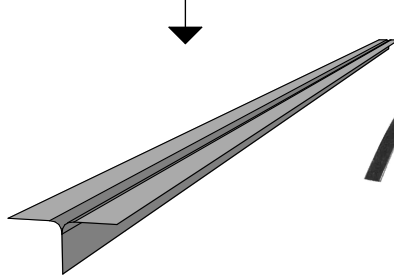
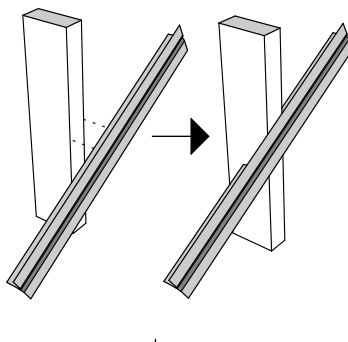


BRACING

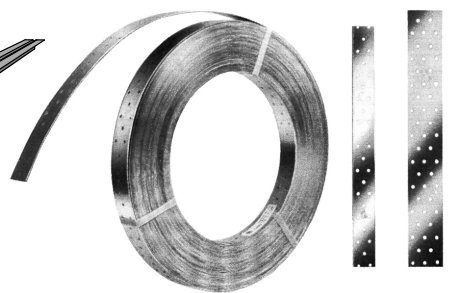
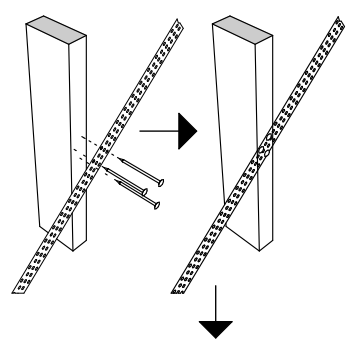
using housing joints and battens

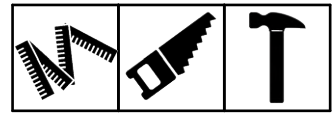


using steel rods



using windbracing strap

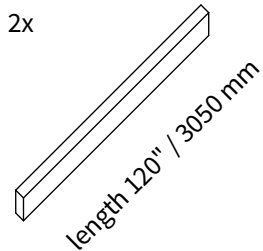




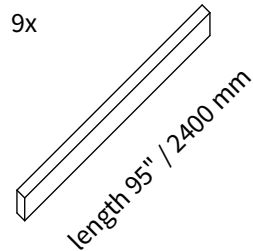
RIGHT WALL

Assemble the wall on the ground using the level tool. Distribute the lower plates. In the next step, the vertical studs will be attached to them. Place the plates and also some temporary bracing in case it's necessary. Join to the board and level the structure using the level tool.

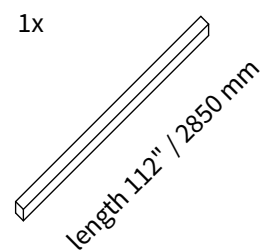
MATERIAL LIST :



profile
1 1/2" x 3 1/2" / 40 x 90 mm



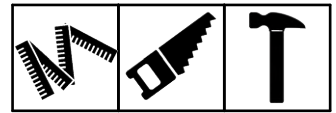
profile
1 1/2" x 3 1/2" / 40 x 90 mm



profile
1 1/2" x 1 1/2" / 40 x 40 mm

**RIGHT WALL
FREE SAMPLE PLANS**

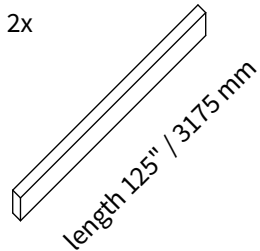
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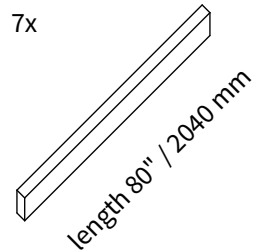
BACK WALL

Assemble the wall on the ground using the level tool. Distribute the lower plates. In the next step, the vertical studs will be attached to them. Place the plates and also some temporary bracing in case it's necessary. Join to the board and level the structure using the level tool.

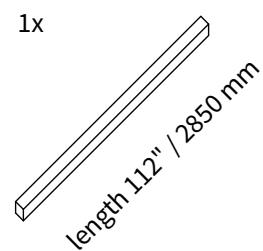
MATERIAL LIST :



profile
1 1/2" x 3 1/2" / 40 x 90 mm



profile
1 1/2" x 3 1/2" / 40 x 90 mm

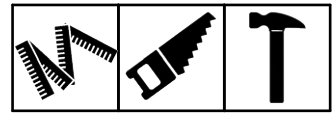


profile
1 1/2" x 1 1/2" / 40 x 40 mm

BACK WALL

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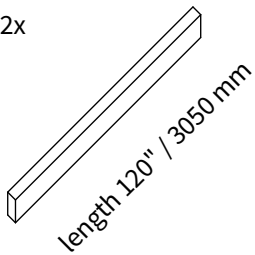


LEFT WALL

Assemble the wall on the ground using the level tool. Distribute the lower plates. In the next step, the vertical studs will be attached to them. Place the plates and also some temporary bracing in case it's necessary. Join to the board and level the structure using the level tool.

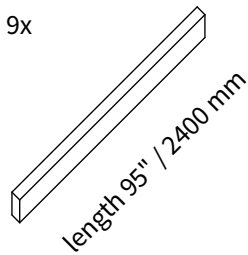
MATERIAL LIST :

2x



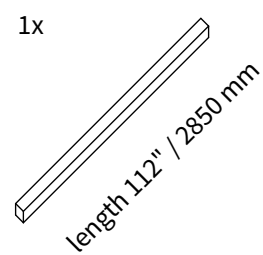
profile
1 1/2" x 3 1/2" / 40 x 90 mm

9x



profile
1 1/2" x 3 1/2" / 40 x 90 mm

1x

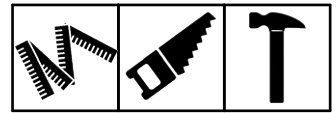


profile
1 1/2" x 1 1/2" / 40 x 40 mm

LEFT WALL

FREE SAMPLE PLANS

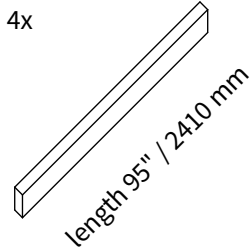
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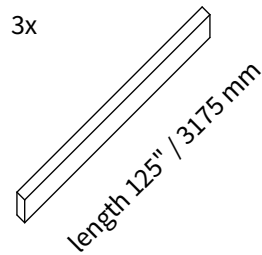
FRONT WALL

Assemble the wall on the ground using the level tool. Distribute the lower plates. In the next step, the vertical studs will be attached to them. Then place the plates and OSB or plywood boards, which will serve as important bracing element of this wall. Join to the board and level the structure using the level tool.

MATERIAL LIST :



profile
1 1/2" x 3 1/2" / 40 x 90 mm



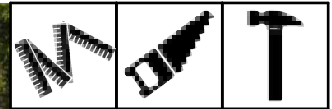
profile
1 1/2" x 3 1/2" / 40 x 90 mm

OSB / plywood; thickness 3/8" (10 mm)



**FRONT WALL
FREE SAMPLE PLANS**

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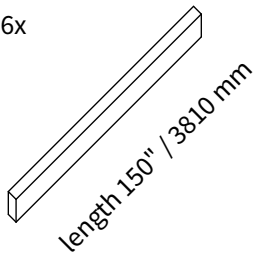


RAFTERS

Three double joists are placed on top of walls, across them, which will support the rafters to be placed on them in next step. For the middle one you need to shape a little horizontal surface, as can be seen on the photograph. The joists are attached to the walls with screws, nails or with metal brackets - following the same process as we did during the installation of floor joists (page 18).

MATERIAL LIST :

6x



profile

1 1/2" x 3 1/2" / 40 x 90 mm

RAFTERS 1 FREE SAMPLE PLANS

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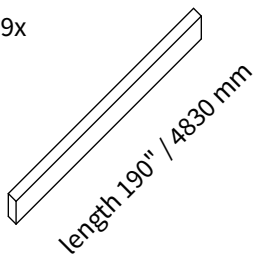


RAFTERS

Rafters are anchored to the double joists. Rafters need to be adjusted in a way, so that they can be put on top of the bearers with their contact surface without gaps between the two members. Rafters are attached to the walls with screws, nails or with metal brackets - following the same process as we did during the installation of floor joists (page 18).

MATERIAL LIST :

9x

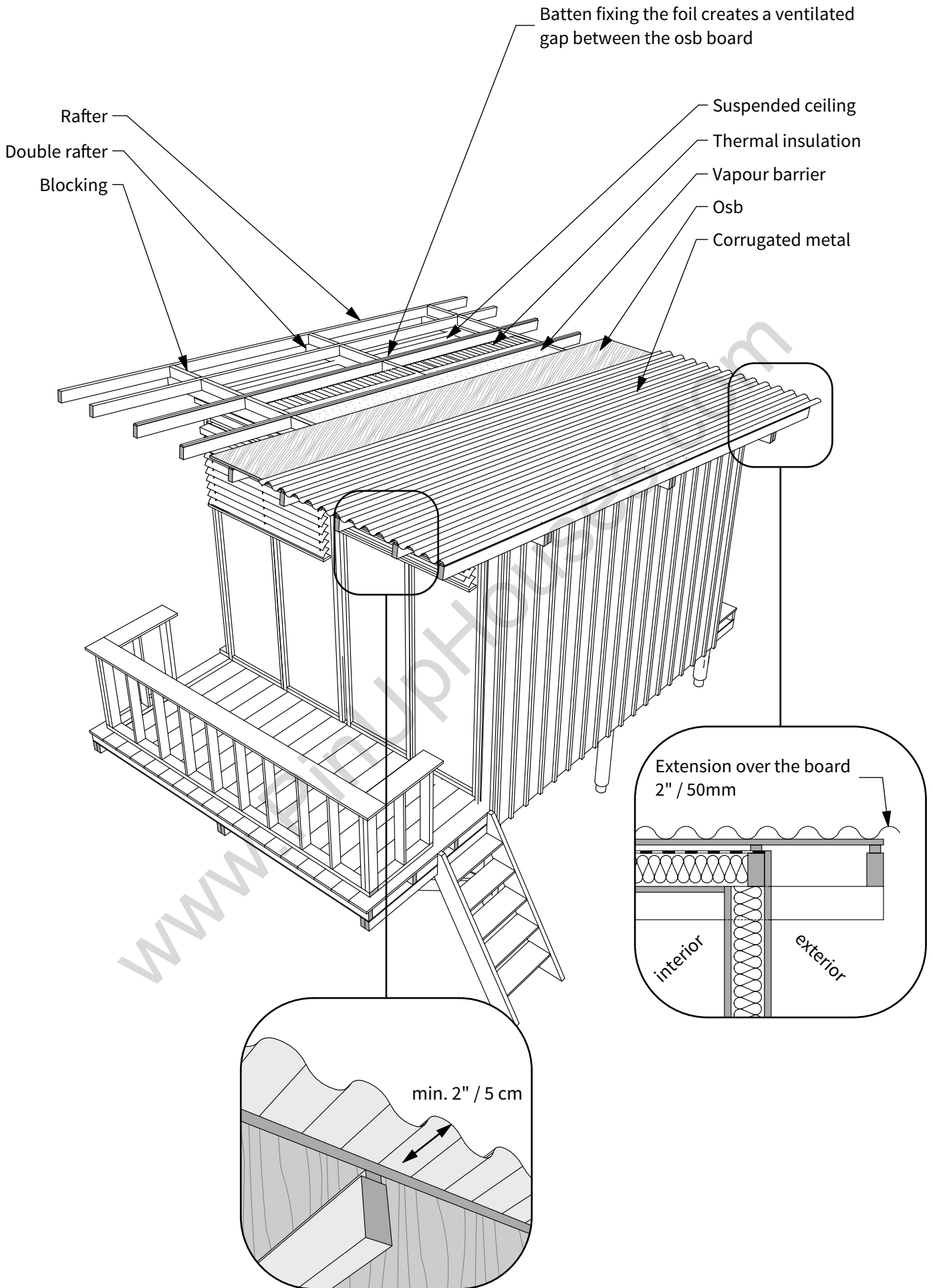


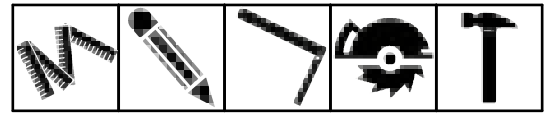
profile
1 1/2" x 3 1/2" / 40 x 90 mm

**RAFTERS 2
FREE SAMPLE PLANS**

Joshua Woodsman
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ROOF CONSTRUCTION





SHEETING

Nail roof sheathing to the roof structure.

MATERIAL LIST :

200 sq ft (19 m²) OSB / plywood; thickness 3/8" (10 mm)



ROOF SHEETING
FREE SAMPLE PLANS

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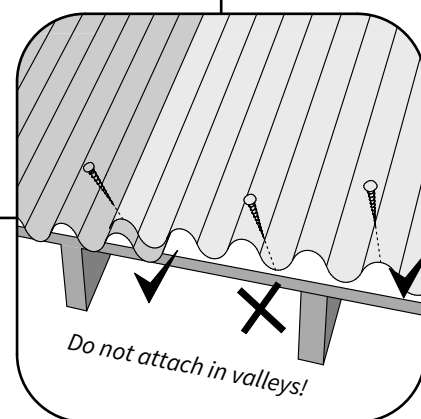
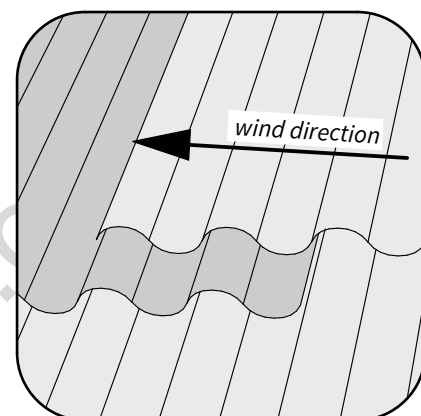
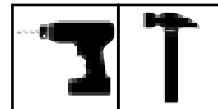
 Pin-Up
Houses
plans

by Joshua Woodson
www.pinuphouses.com



**HOW TO BUILD
A TINY HOUSE**

step by step DIY guide to small house construction

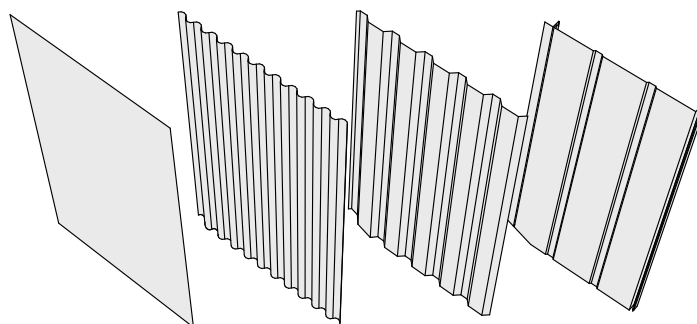


CORRUGATED METAL SHEET

Cover the roof sheathing by a corrugated metal sheet.
Place the corrugated sheet so that it will overlap the OSB board by two inches.

MATERIAL LIST :

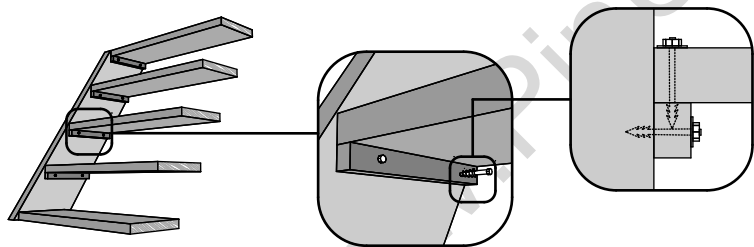
200 ft² (18,6 m²) corrugated metal



Flat metal Corrugated PBR-panels Snap-lock roof panels

ROOF COVERING FREE SAMPLE PLANS

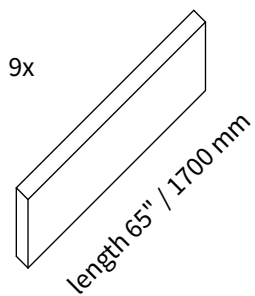
Joshua Woodsman
www.pinuphouses.com



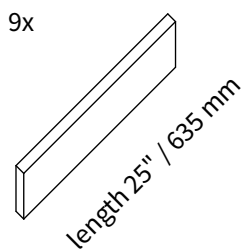
STAIRS

Place the stairs. Individual treads can be embedded to the stringers or attached to them with help of supporting battens as you can see on the photograph, which is also the easier option.

MATERIAL LIST :



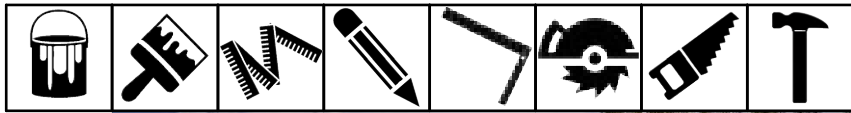
profile
2" x 8" / 50 x 200 mm



profile
3/4" x 7 1/2" / 20 x 200 mm

**STAIRS
FREE SAMPLE PLANS**

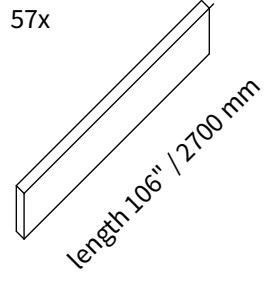
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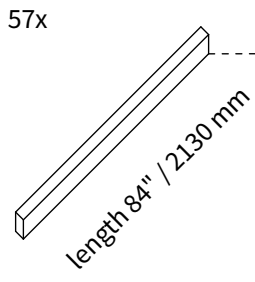
CLADDING

Use boards to clad the entire shed. Cover the gaps between individual boards with battens. The top of cladding needs to be cut down, ideally using a circular saw.

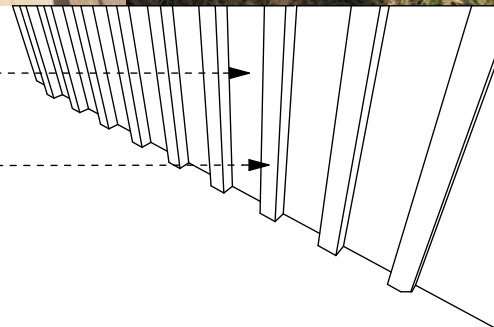
MATERIAL LIST :



profile
3/4" x 7 1/4" / 20 x 190 mm



profile
1" x 2" / 25 x 50 mm



CLADDING
FREE SAMPLE PLANS

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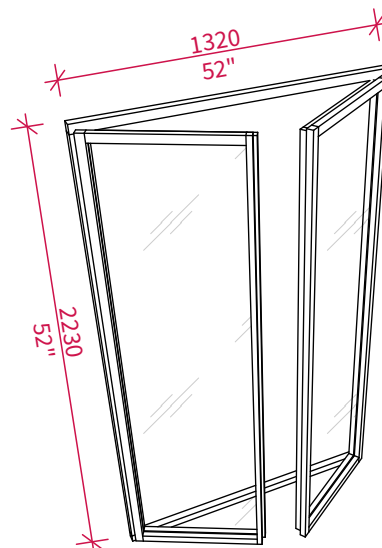
2 X DOUBLE-DOORS
 ROUGH OPENING 52" x 88" / 1320 x 2230 mm
 DETAILS ACCORDING TO PRODUCER

OPENINGS

Place the openings. Before making the doors/windows it is necessary to measure rough opening dimensions. If you buy pre-made doors/windows, it is necessary to adjust the rough sizes to the dimensions of the openings.

MATERIAL LIST :

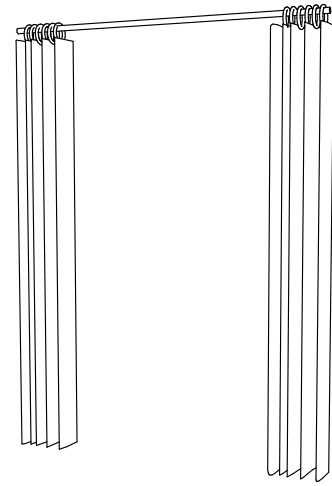
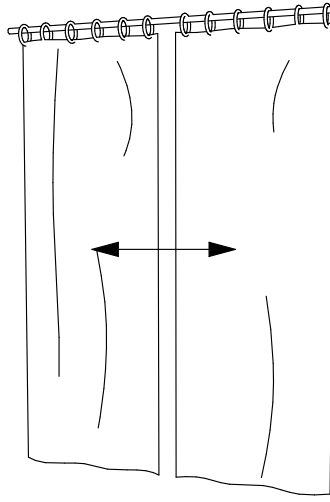
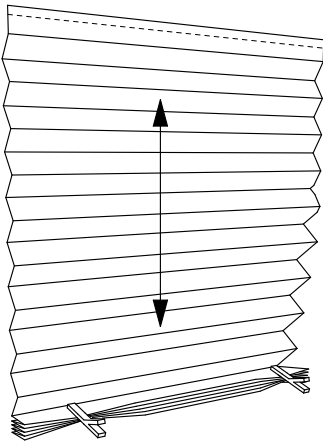
2x



OPENINGS
FREE SAMPLE PLANS

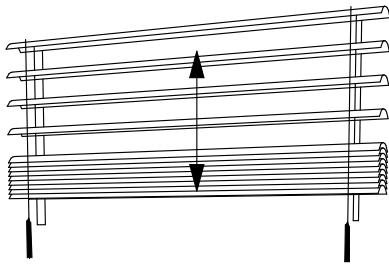
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SHADING



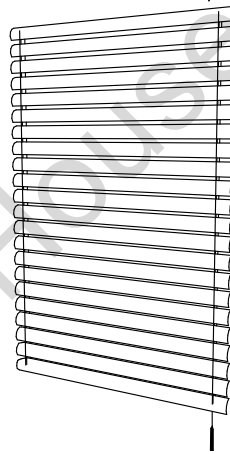
Paper blinds

- Cheapest, very elegant, easy to make.
Attached to the window by adhesive tape at the top.

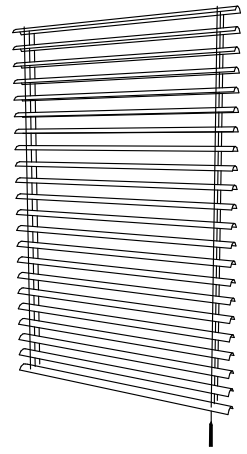


Curtains

- Traditional method of shading



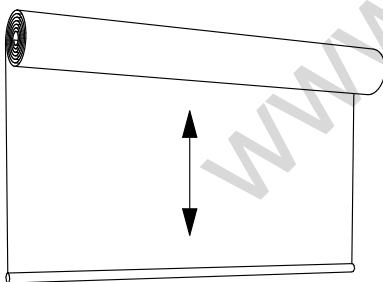
Covered



Semi-covered

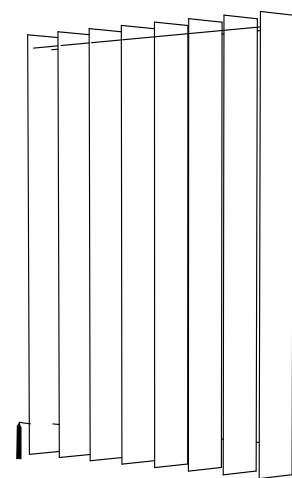
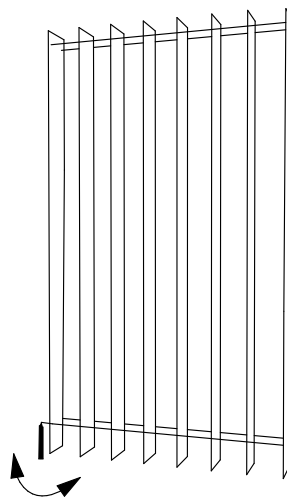
Classic Venetian blinds

- Most common type of blinds; they can be extended or turned to adjust the degree of transparency



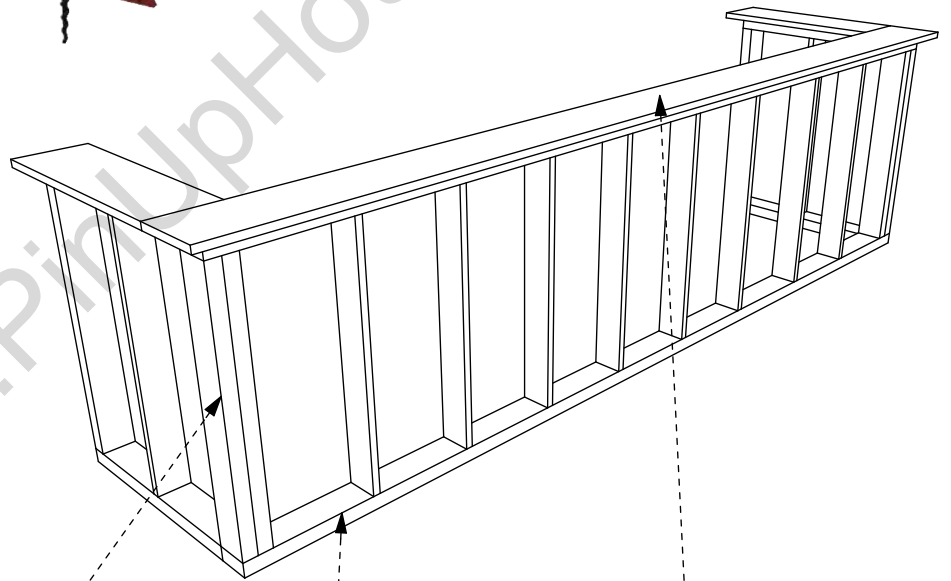
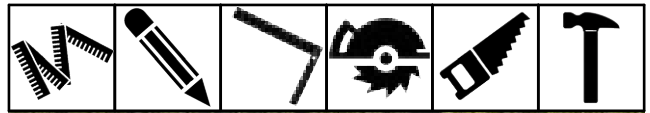
Roll-down blinds

- May be made of various materials
- textile, reed etc.



Vertical blinds

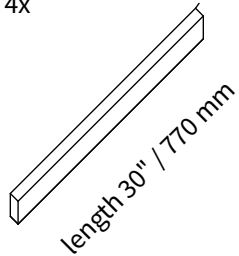
- Appropriate for spaces with large-sized windows



RAILING
Place the railing.

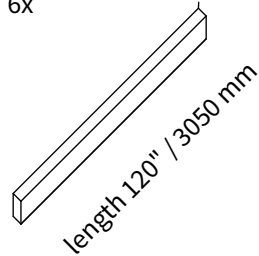
MATERIAL LIST :

4x



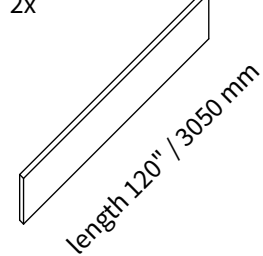
profile
1 1/2" x 3 1/2" / 40 x 90 mm

6x



profile
1 1/2" x 3 1/2" / 40 x 90 mm

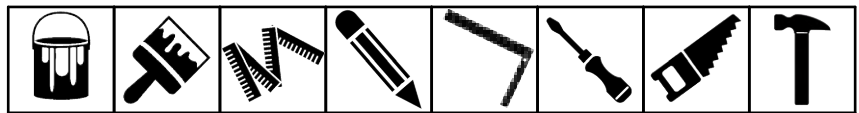
2x



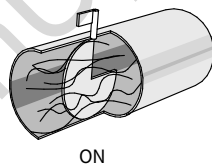
profile
3/4" x 7 1/2" / 20 x 200 mm

RAILING
FREE SAMPLE PLANS

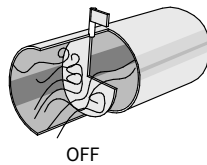
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Burning regulation lever



ON



OFF

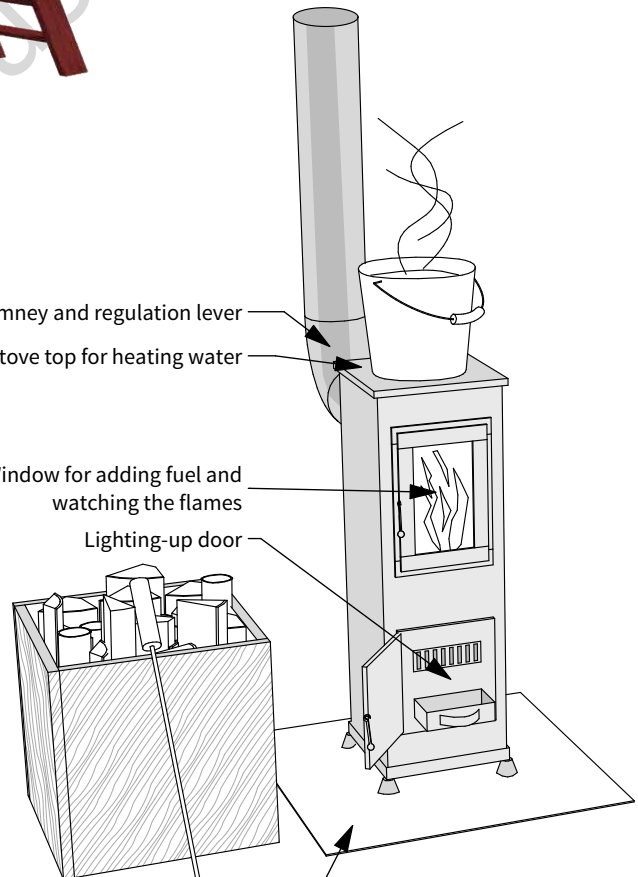
Chimney and regulation lever

Stove top for heating water

Window for adding fuel and watching the flames

Lighting-up door

Cover metal protecting the floor from burning

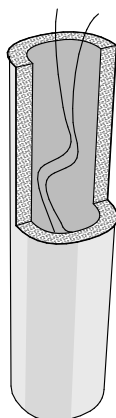


FINAL TOUCHES

The final touches of construction include installation of stove and final finishes of interior and exterior spaces. Typical acrylic wood paint is sufficient; you can paint the surfaces with 2 or 3 layers to achieve rich shade of the colors.

A crucial part of stove installation is construction of chimney permeating the timber wall. It needs to be properly isolated following your local fire hazard regulations to prevent any risk of spontaneous combustion of flammable materials. The details for the construction of roof chimney with spark arrestor can be found in the chimney / arrestor manual.

Following pages document the furniture, that is part of original proposal of this cabin.



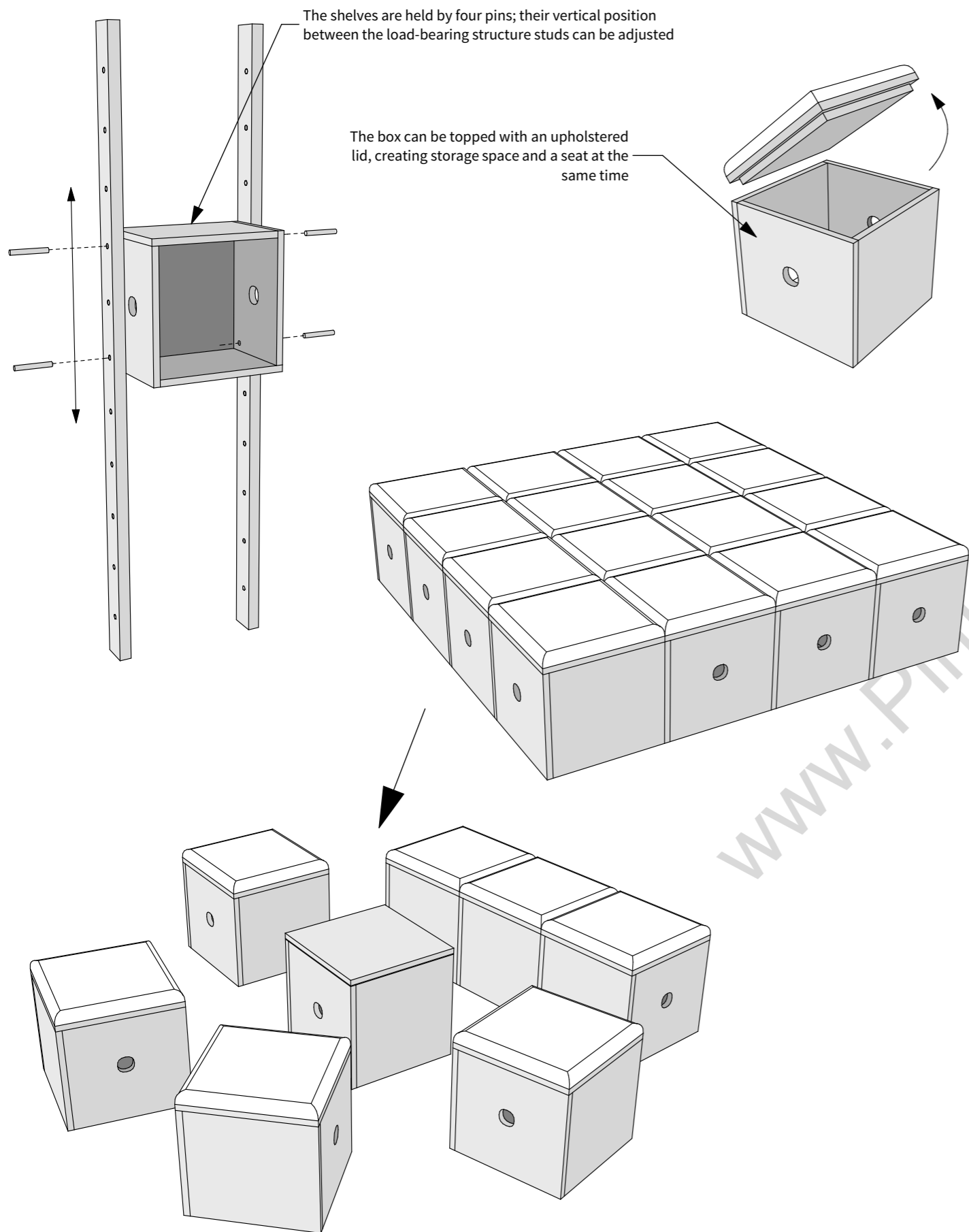
Triple wall chimney

FINAL TOUCHES
FREE SAMPLE PLANS

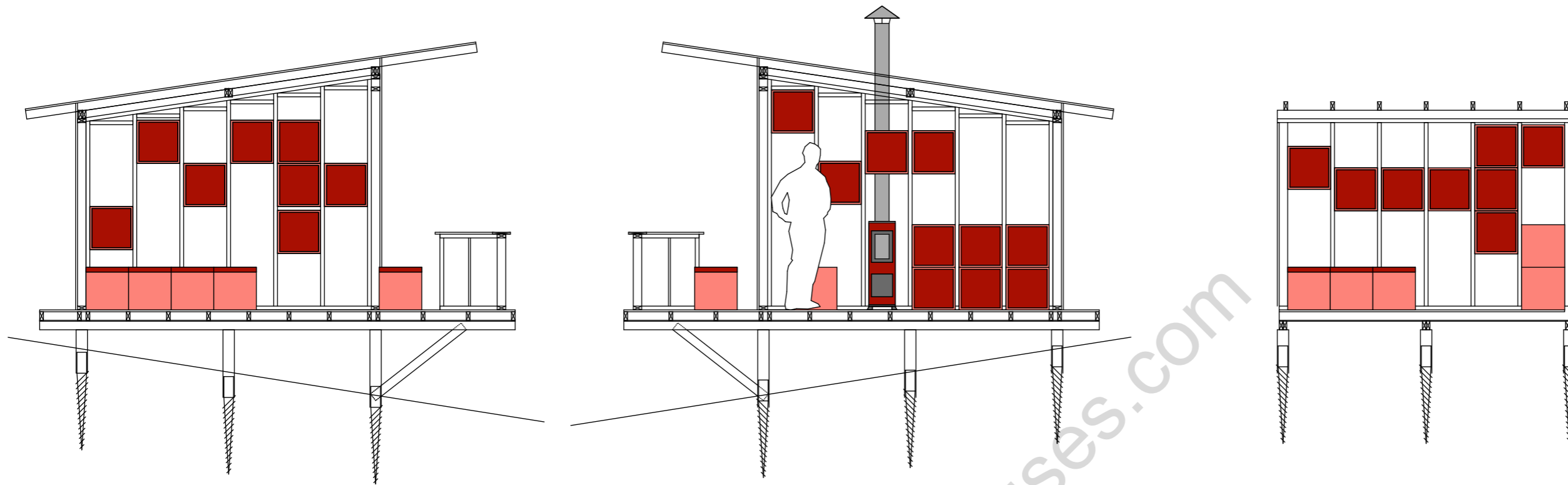
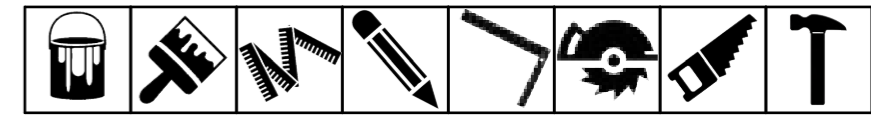
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FURNITURE

System of flexible furniture is proposed in this cabin. Individual shelves can be vertically moved and their heights set according to your needs. Multifunctional seats can be grouped together to create a bed and also their lids are openable, so you can use them as a storage space as well.



FURNITURE



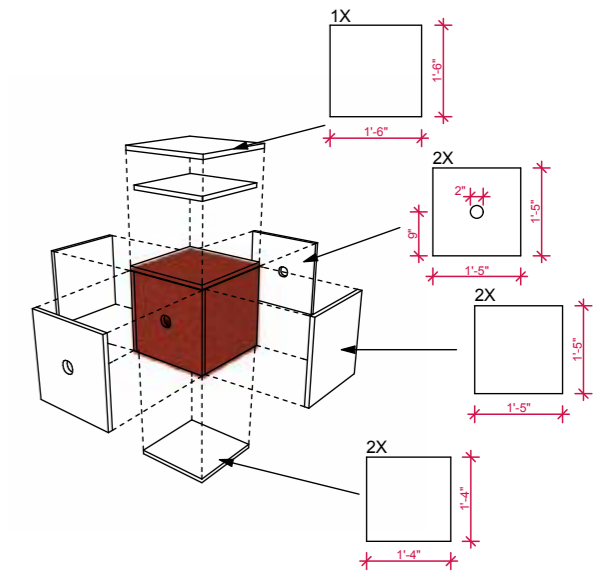
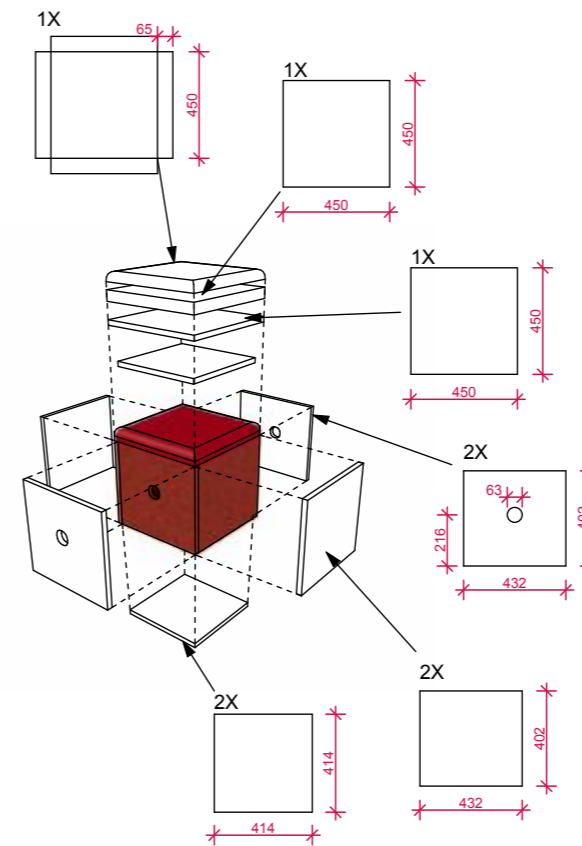
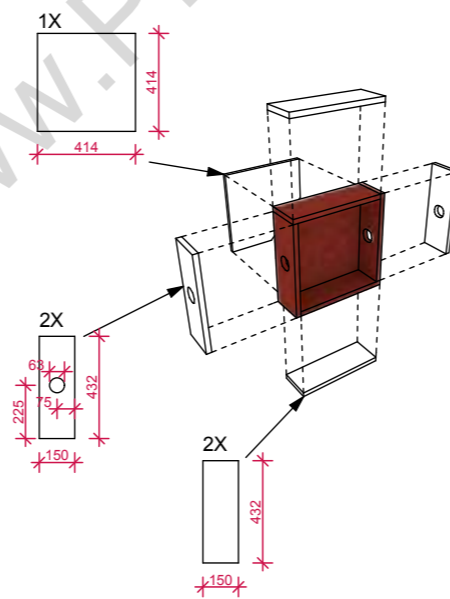
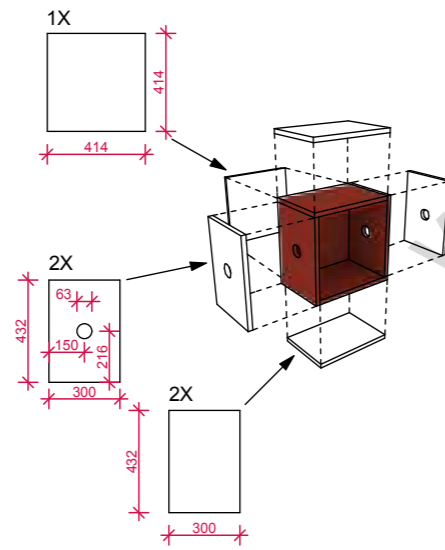
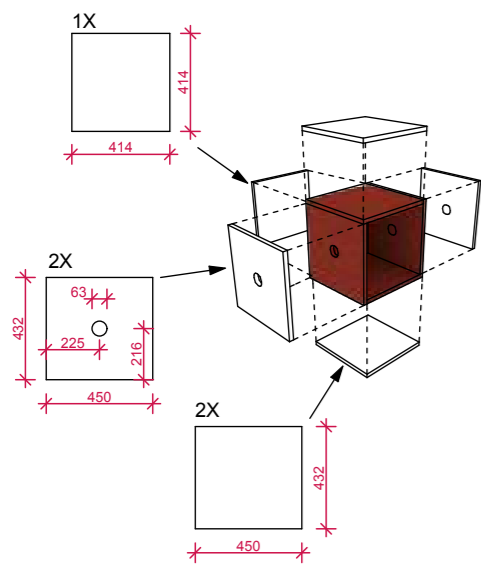
SHELVE "A" 11x

SHELVE "B" 9x

SHELVE "C" 6x

SEAT 16x

TABLE 2X

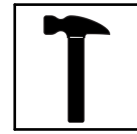


FURNITURE

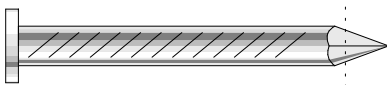
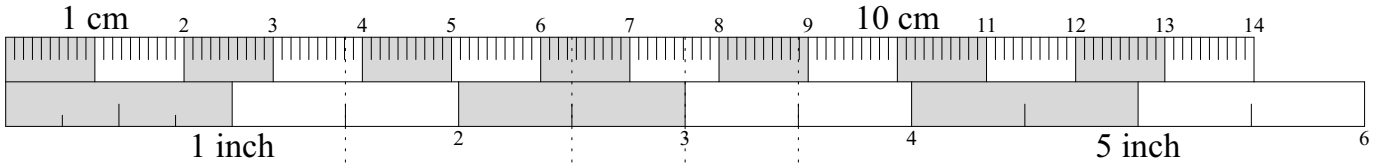
FREE SAMPLE PLANS

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Nails



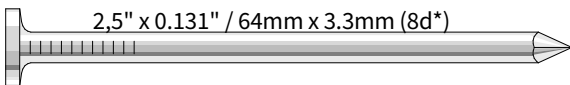
There are many types of nails in the world, varying as to the steel quality, size, surface, cross section dimensions and other factors. To organise this issue, the table indicates a basic range of nails used in construction of small houses. The images of nails are on a 1:1 scale.



Joist hanger nail



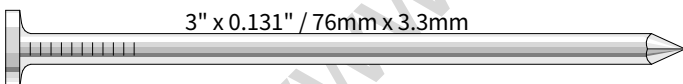
Roofing nail



Common/ box/ sinkers nail



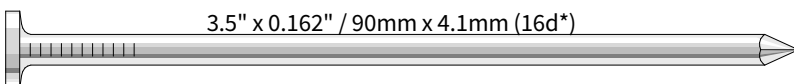
Concrete nail



Common/ box/ sinkers nail



Casing nail



Common/ box/ sinkers nail

Joist nail - a special type of nail which can be used for stressed joists - ceiling profiles, cantilevers etc.

Roofing nail - a nail with a narrow shank and a broad head, used on bituminous roofing, or foils inside wall compositions etc.

Common nail - a nail with smooth surface and a head, commonly used in wooden house construction

Concrete nail - a nail of good quality steel which can penetrate concrete.

Box nail - same type as the common nail, just the shank is narrower and the head smaller

Casing nail - a thin nail with a narrow head used primarily in flooring installations.

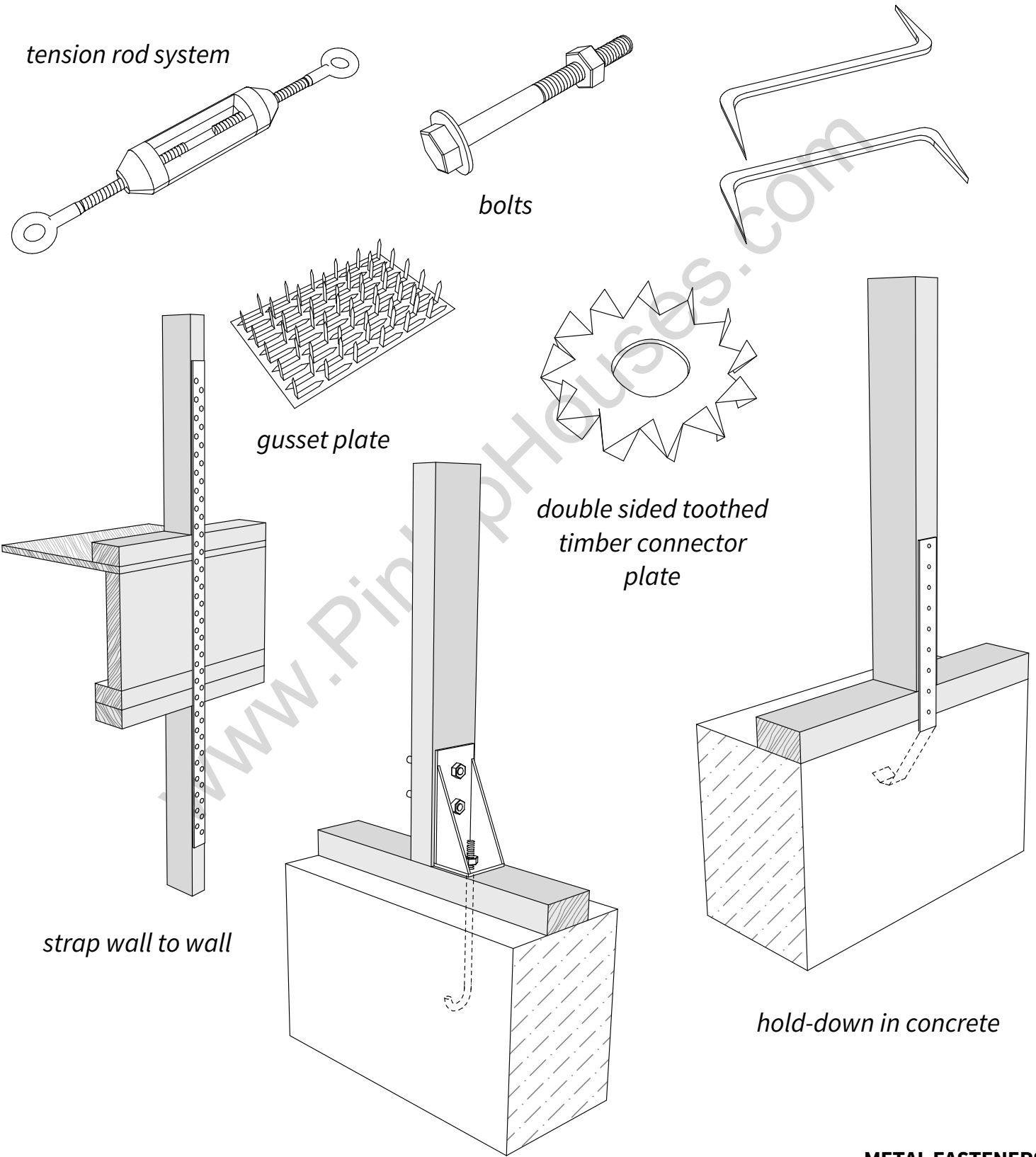
Sinkers nail - dimensions identical to those of the common and box nail, with concrete or vinyl surface finish to facilitate easier penetration and with an anti-slide pattern on the head

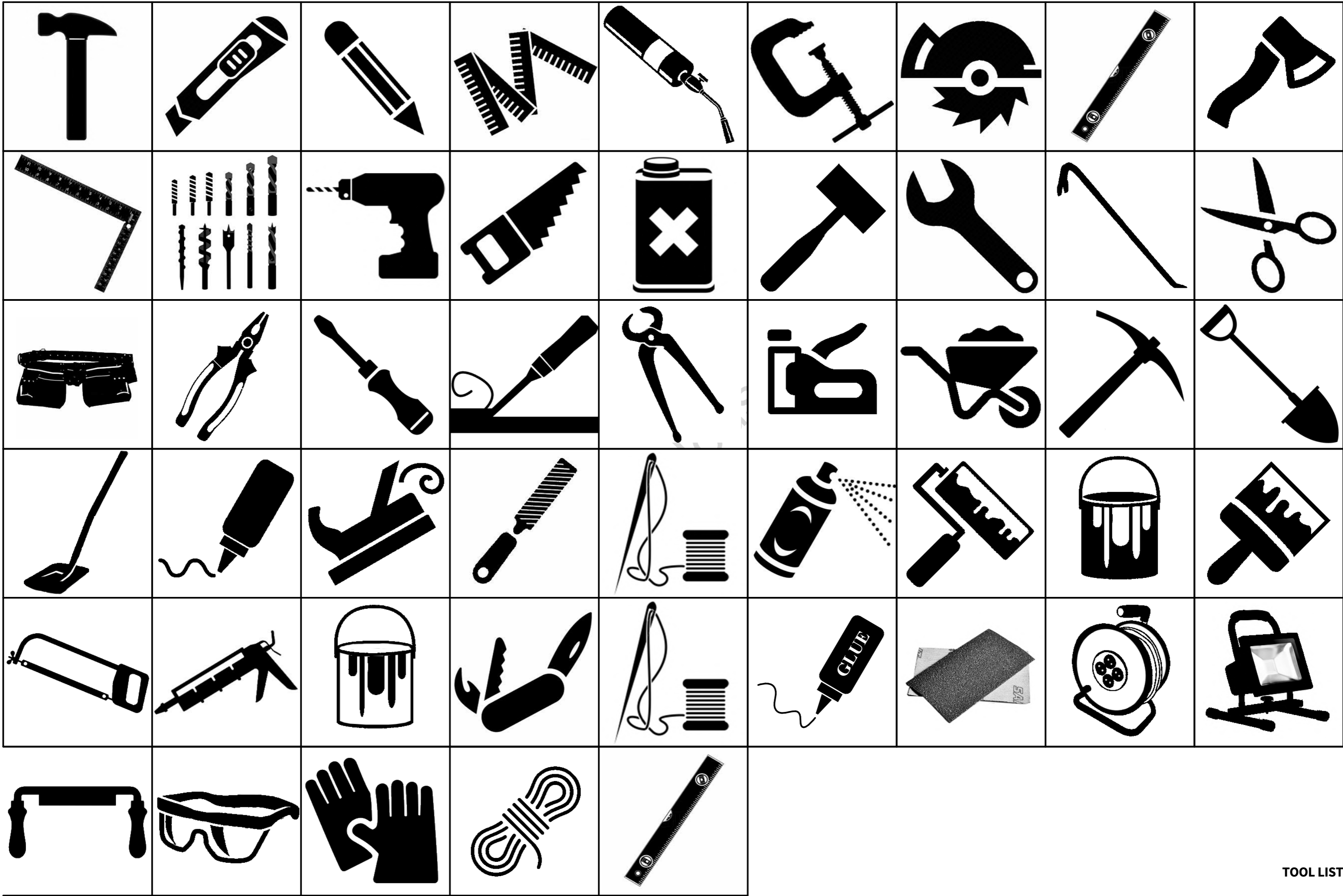
*d= Penny. Nail size classification is related to the 1 penny coin and the price of 100 nails of a certain length. The logic of this classification goes way back into history; it is not used anywhere but in USA nowadays.

Metal fasteners

Another highly important item is the fastening material - meaning nails, bolts, various woodworking fasteners, hinges etc. I recommend buying these goods in one of the big hardware stores. Regarding the woodscrews, which are absolutely crucial for building a wooden house, I recommend buying whole boxes. That way the price is better and any possible left-overs will certainly be used in the future.

Metal woodworking fasteners include primarily joints, nails, screws and bolts. The following two pages show the most frequent types of metal fasteners.





TOOL LIST

