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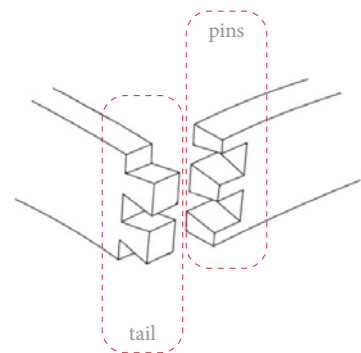
# the proposal

This project aims to construct or rather weave, both my introspective individual world and acknowledge the intergenerational 21st century Hong Kong diasporic community's collective form of diasporic mobile spaces of security. Embroidering umwelts for the Hong Kong diasporic community in London, to accommodate for the daily catastrophes of negotiating with belonging and their homes.

Derived from memories of living and space - the private and semi-public intergenerational spaces of living, the design aims to be an "extension of living or the home" for the diasporic community, creating places to dwell, for the re-creation of the memories of daily life where gatherings, debating, playing, living, rituals, ceremonies and more can occur. Blurring the boundaries between the new 'living space' and its setting, extending the home into the city, creating alternative living rooms.

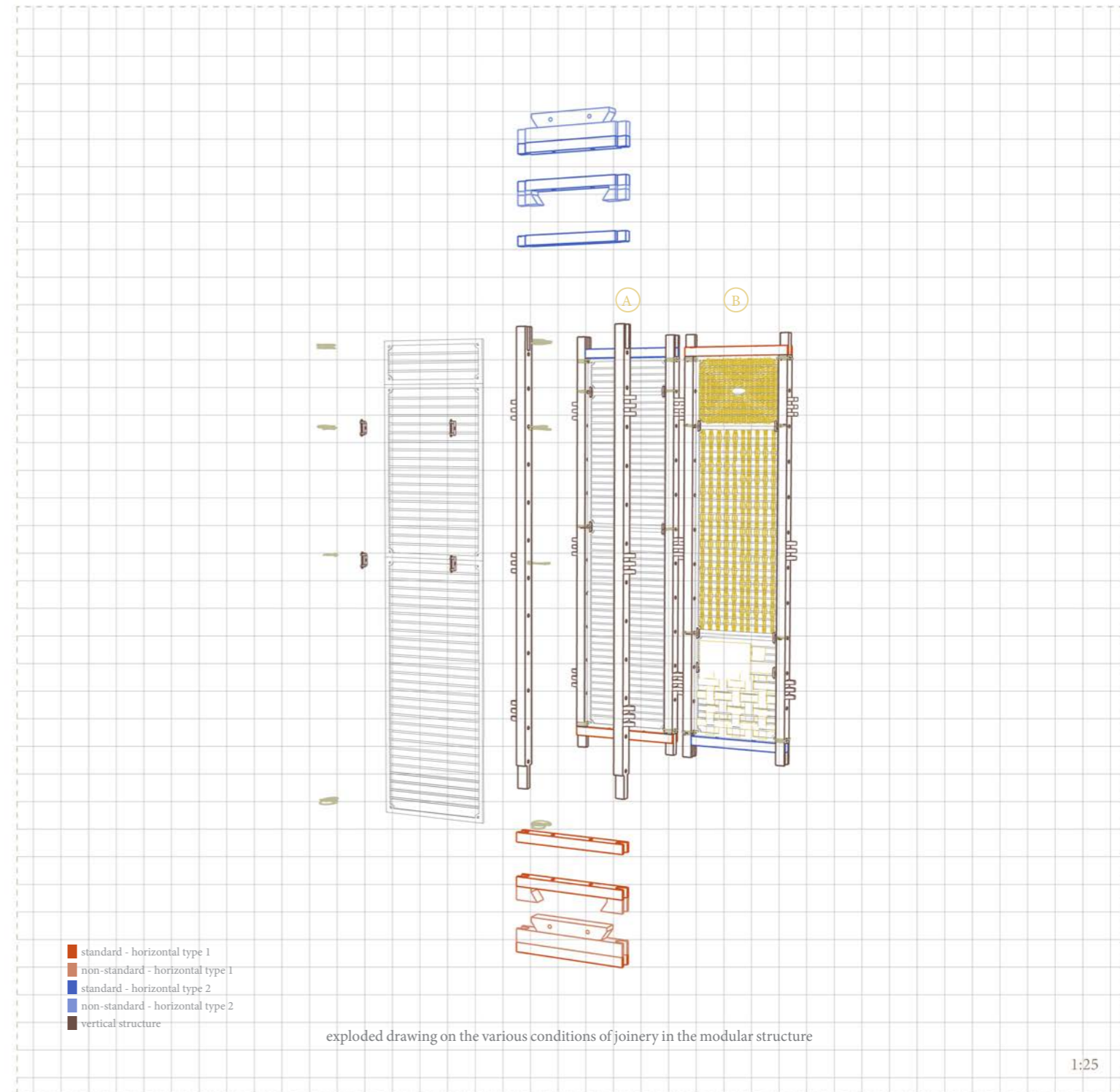
By proposing a series of scalable and portable structures, this project aims to break down, analyse, discover and reconstruct, banal moments of living between Hong Kong and London. Enabling spaces that UK is lacking of for the newly migrated Hong Kong community. Where critical engagement with banal objects, and visual and spatial familiarity, of both Hong Kong and UK, becomes the materiality for embroidery, allowing one to weave their stories into the new context, imprinting in space. This project, stresses on making as a form of re-engaging with space and belonging, through the ongoing engagement of the diasporic community collectively making together, building, 'embroidering', reconfiguring, inhabiting and more, new non-hierarchical enclosures, or portable living rooms, for collectivity, cohesion, togetherness, belonging are created, new alternative living rooms.

# the structural elements

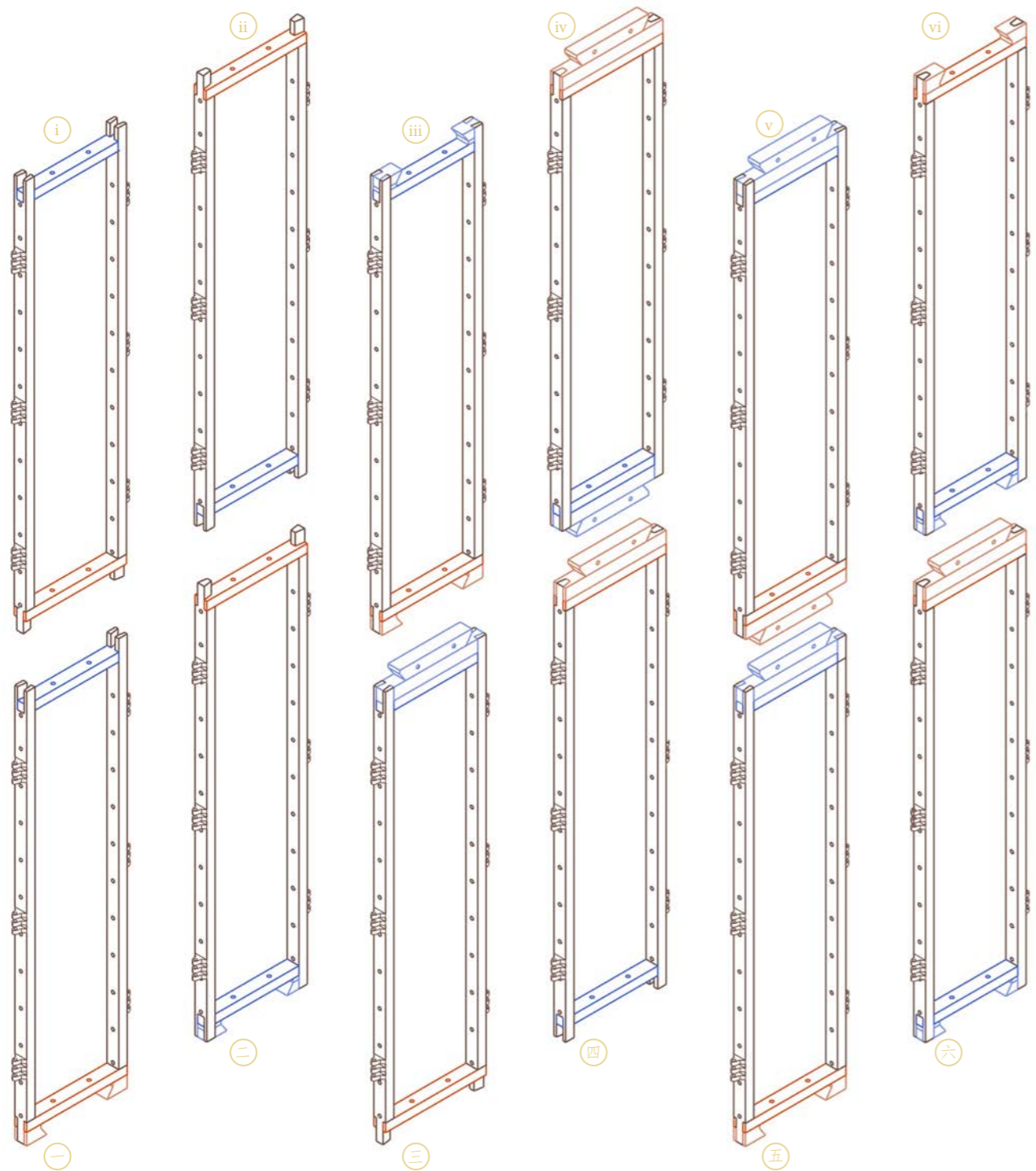


Dovetail Joinery:

technique most commonly used in woodworking joinery (carpentry), including furniture, cabinets. A series of 'pins' cut to extend from the end of one board interlock with a series of 'tails' cut into the end of another board. The pins and tails have a trapezoidal shape. Once glued, a wooden dovetail joint requires no mechanical fasteners.



exploded drawing on the various conditions of joinery in the modular structure

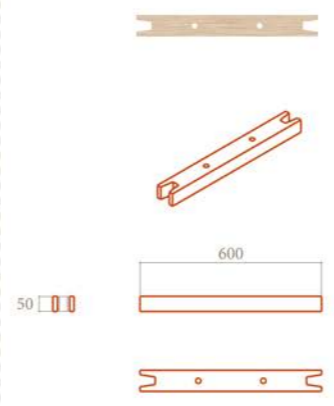


Horizontal Structures and its combinations of connections

Horizontal Structures :

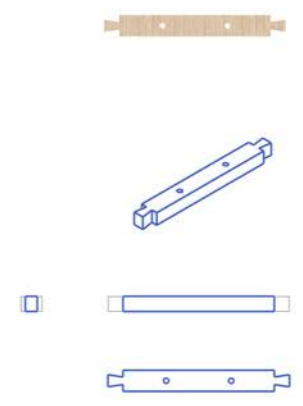
Type 1:  
standard component

the basic connection to the two vertical structures; they are included in all the combinations when constructing enclosure screens



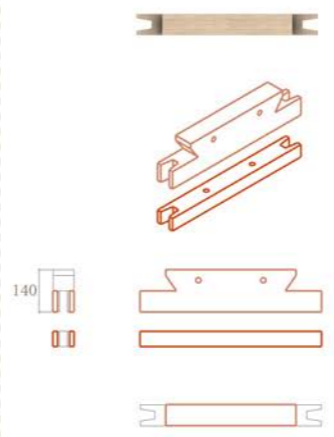
Type 2:  
standard component

the basic connection to the two vertical structures; they are included in all the combinations when constructing enclosure screens



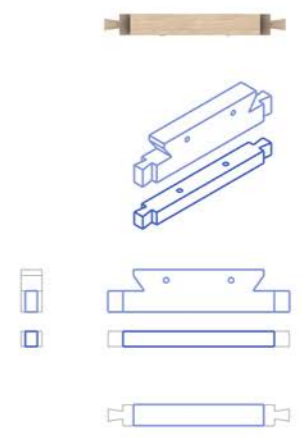
Type 1:  
non-standard component

used as top or as a connector to vertical and horizontal extensions, used with a standard unit and vertical structures



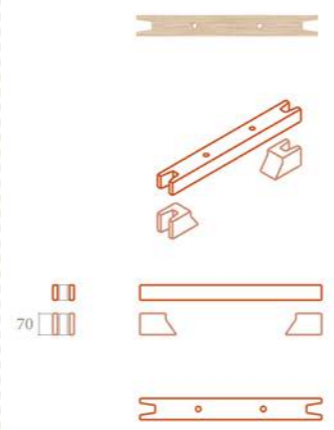
Type 2:  
non-standard component

used as top or as a connector to vertical and horizontal extensions, used with a standard unit and vertical structures



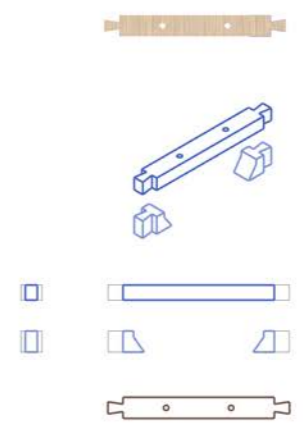
Type 1:  
non-standard component

used as base/top or as a connector to vertical and horizontal extensions, used with a standard unit and vertical structures

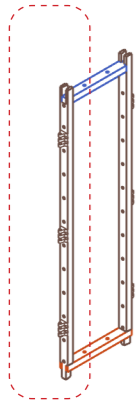


Type 2:  
non-standard component

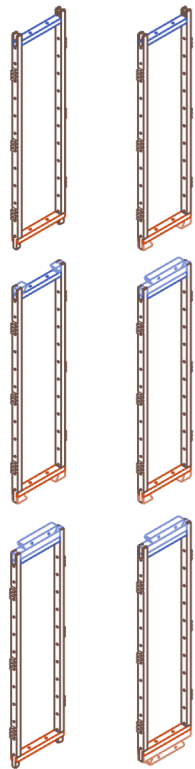
used as base/top or as a connector to vertical and horizontal extensions, used with a standard unit and vertical structures



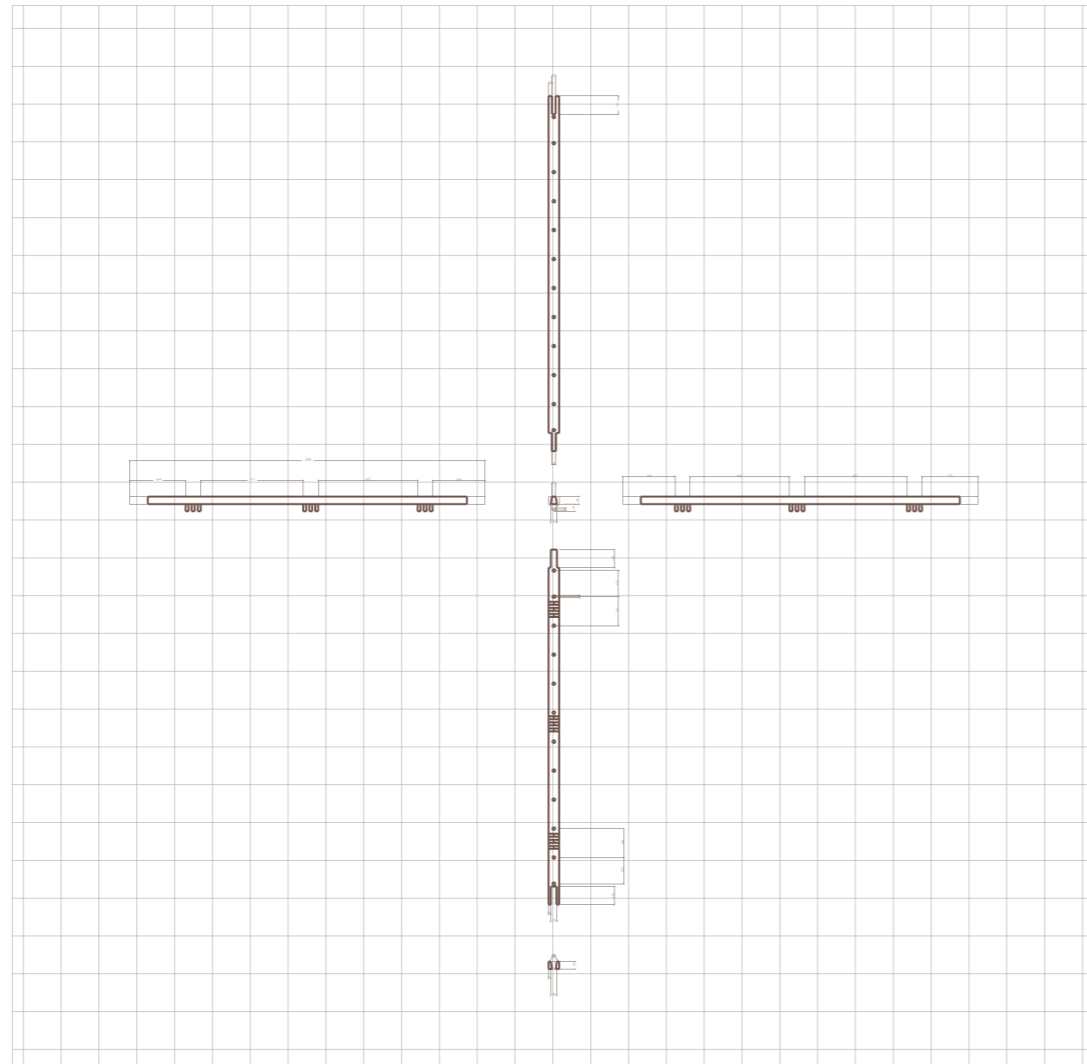
Type A:



Type A:  
vertical structure (Left)



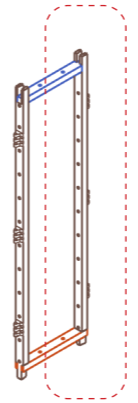
combinations



type A: left vertical structure dimensions

1:50

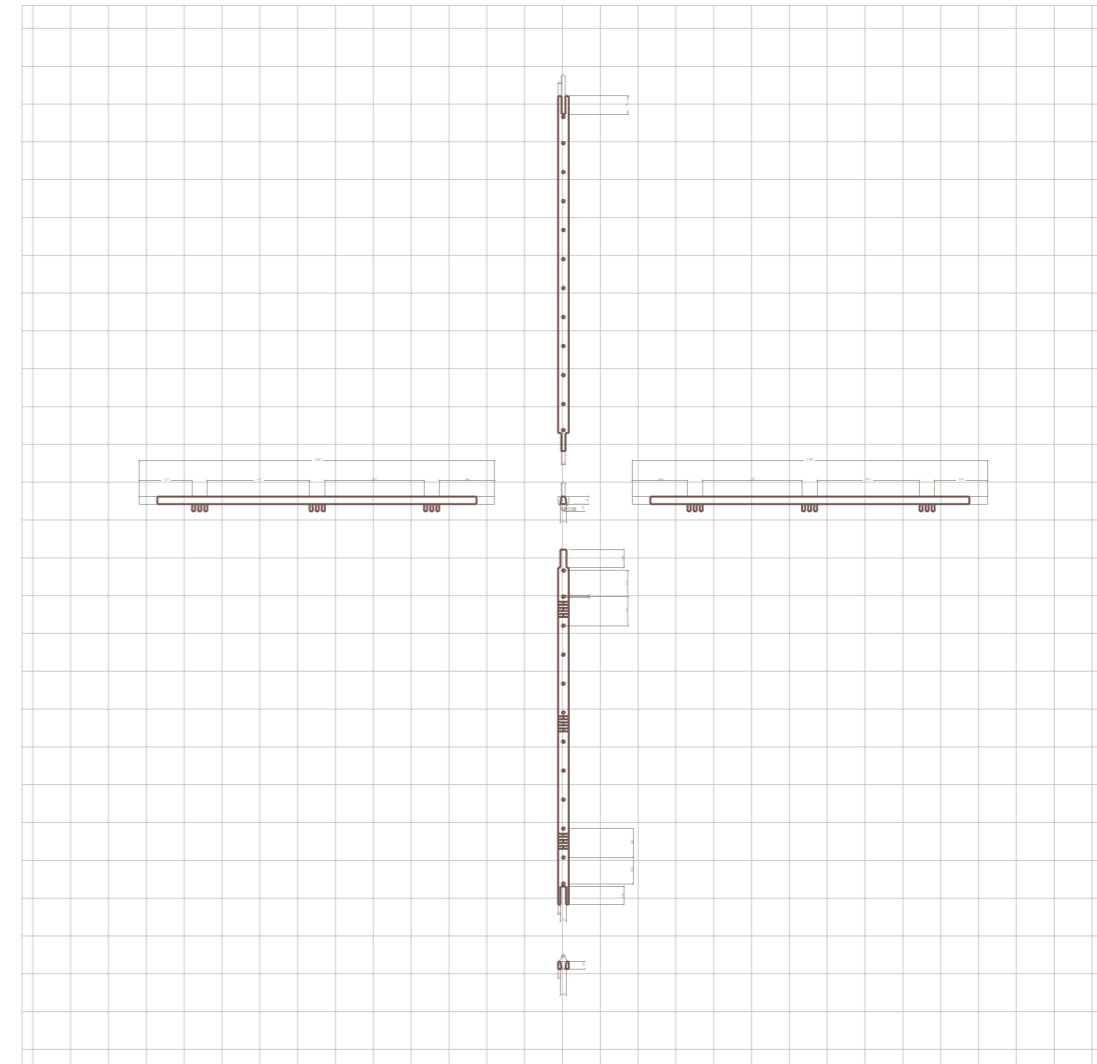
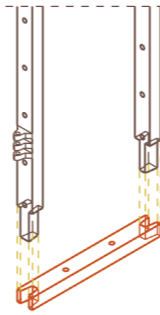
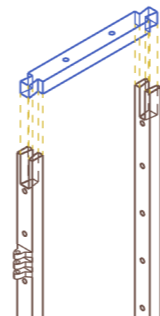
Type A:



Type A:  
vertical structure (Right)

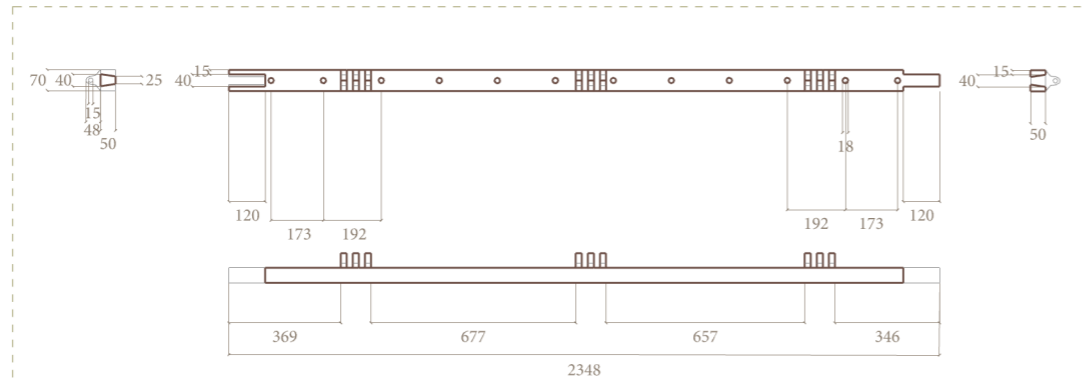
Vertical Structure type A is constructed of two poles, where the *pins* of the dovetail joint faces upwards.

Joinery

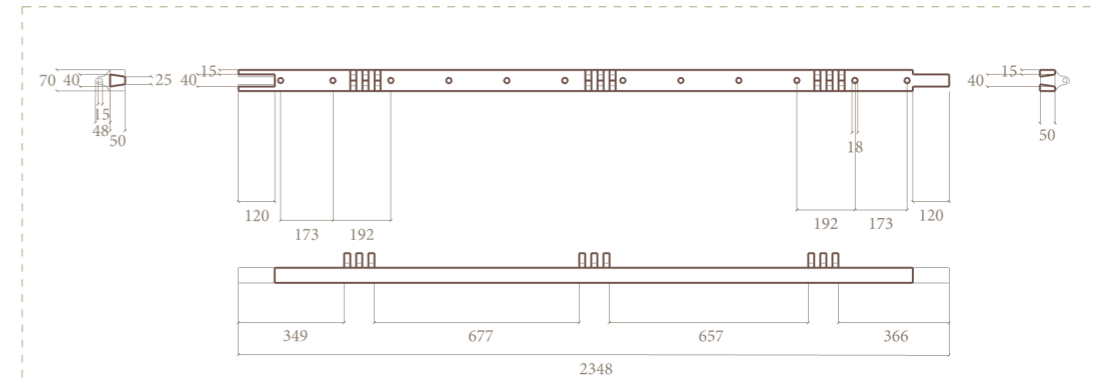


type A: right vertical structure dimensions

1:50

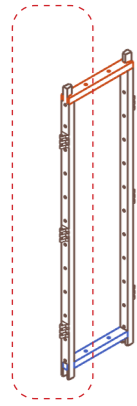


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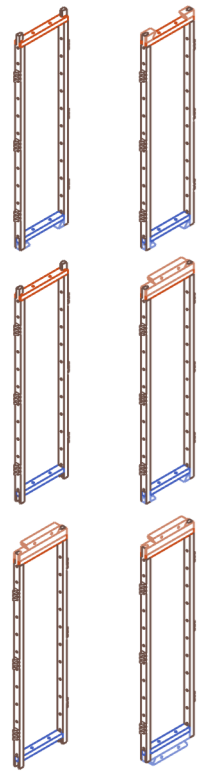


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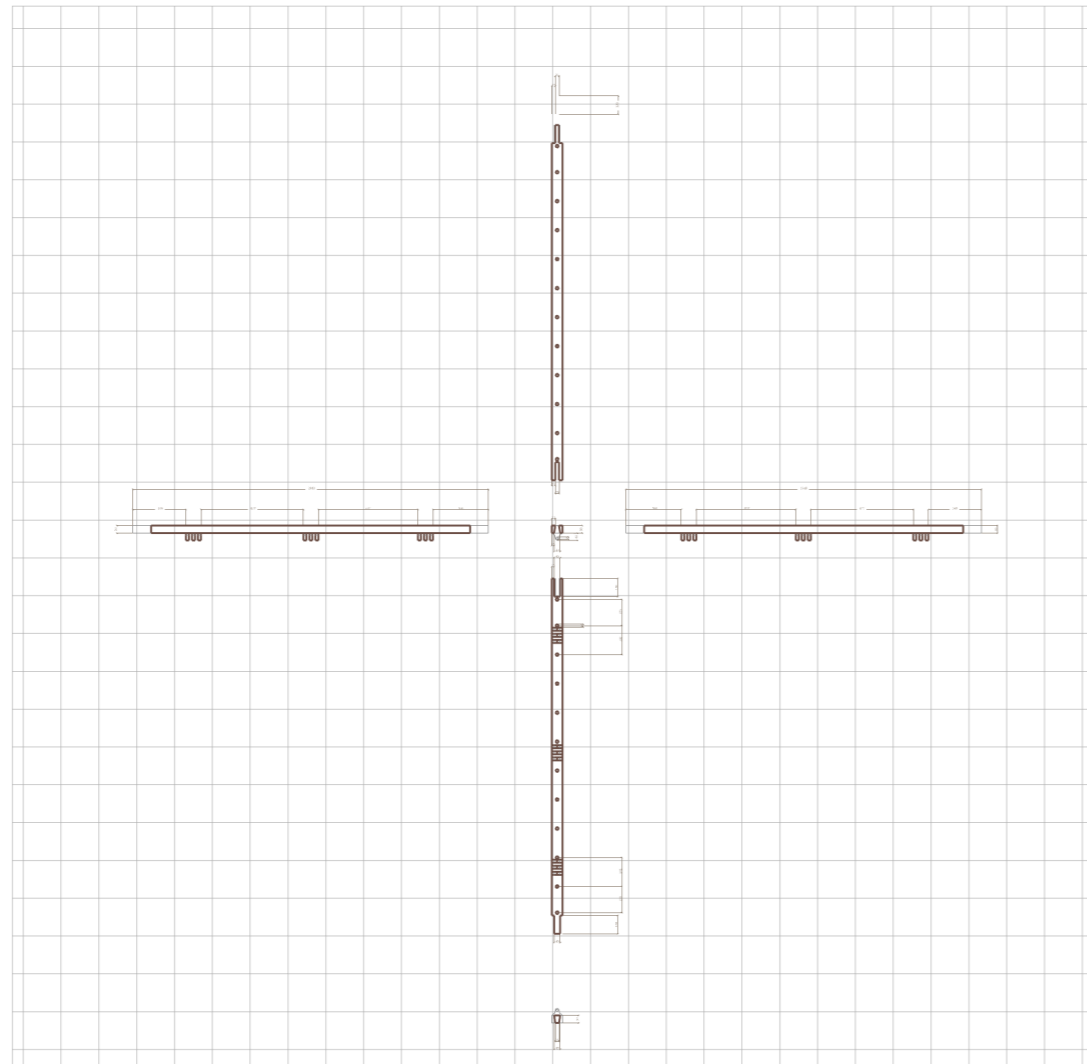
Type B:



Type B:  
vertical structure (Left)

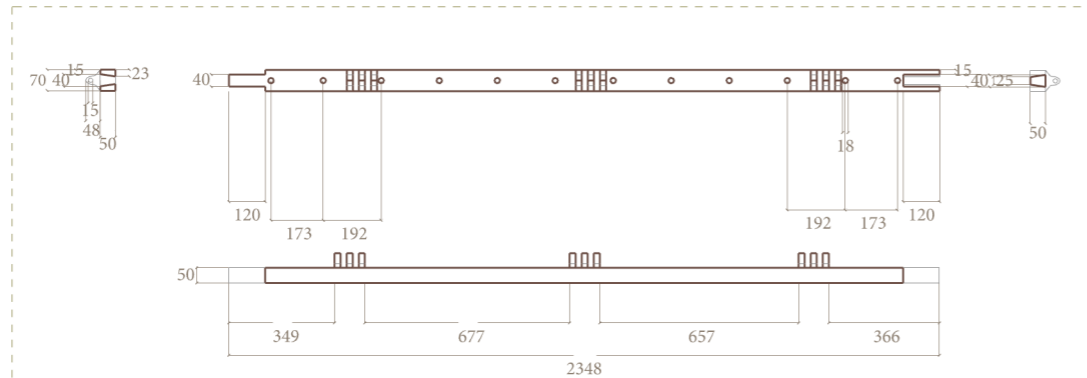


combinations



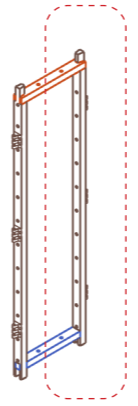
type B: left vertical structure dimensions

1:50



1:25

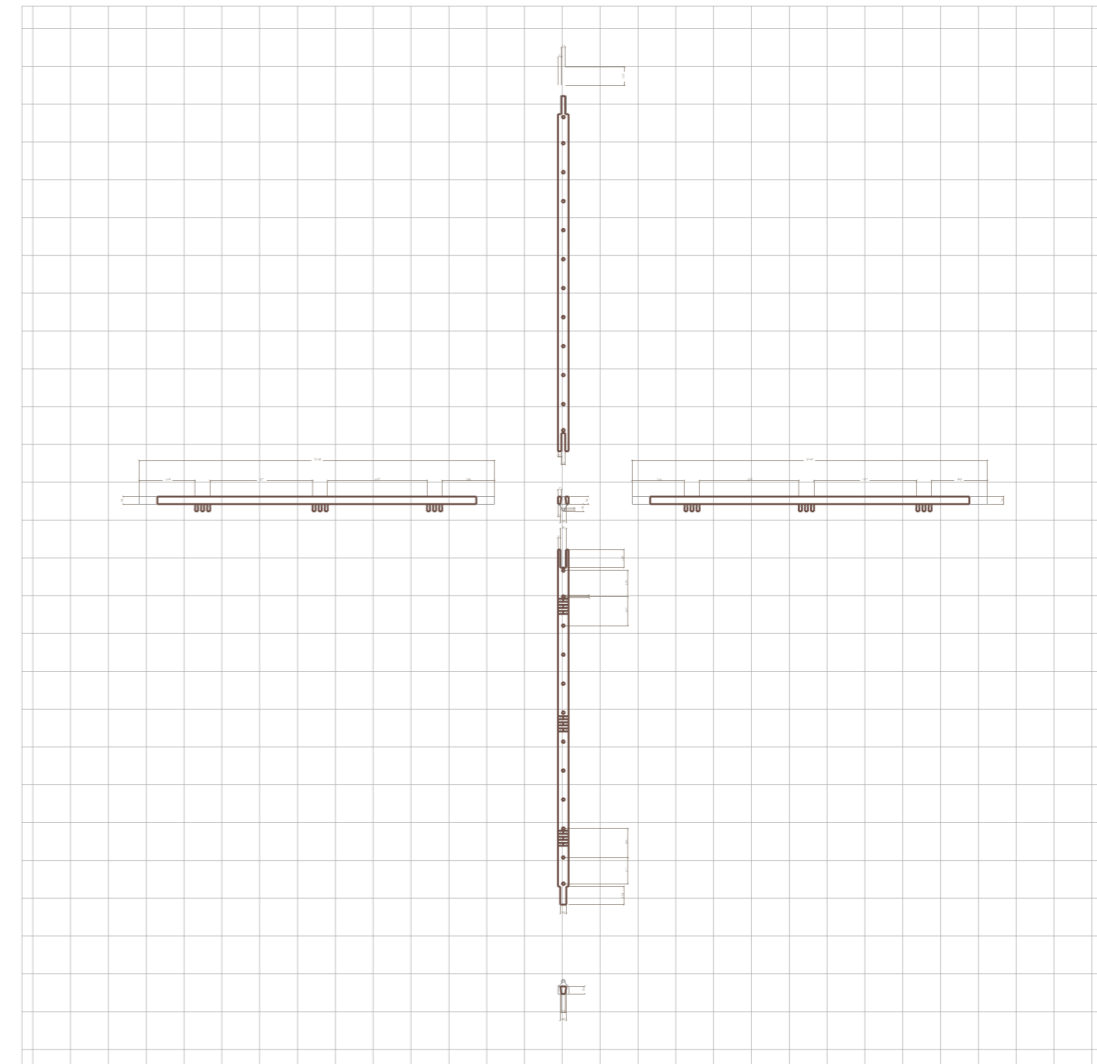
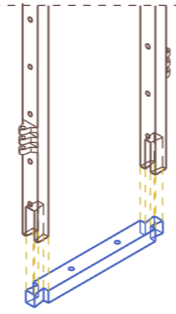
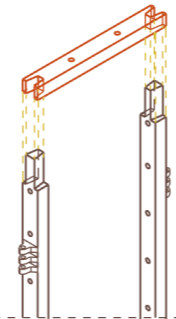
Type B:



Type B:  
vertical structure (Right)

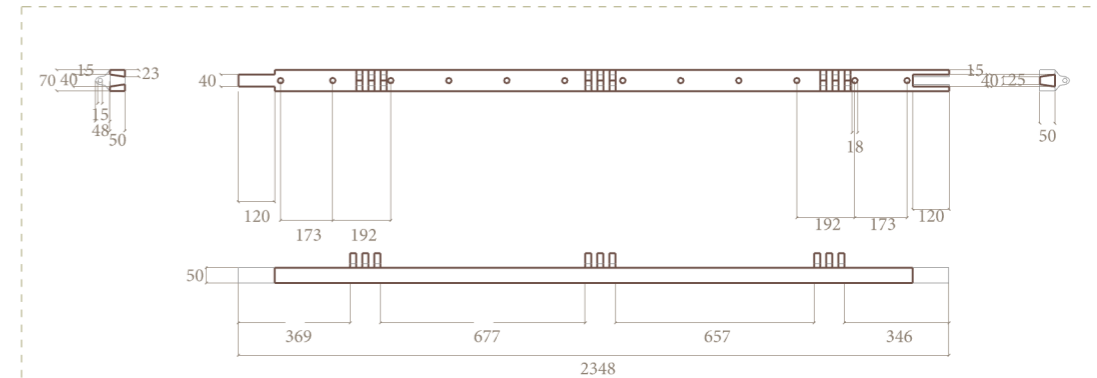
Vertical Structure type B is constructed of two poles, where the *tails* of the dovetail joint faces upwards.

Joinery



type B: right vertical structure dimensions

1:50



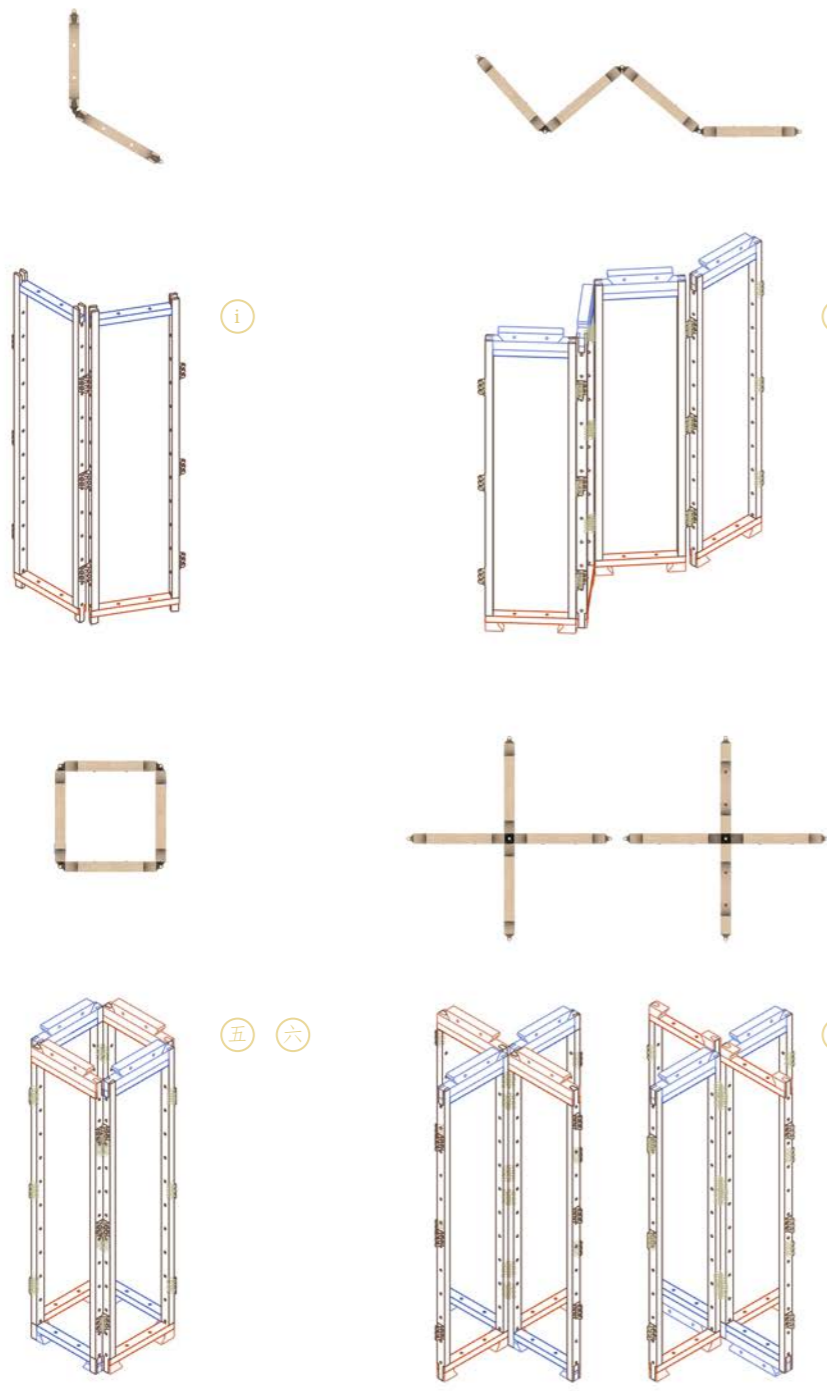
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# combinations

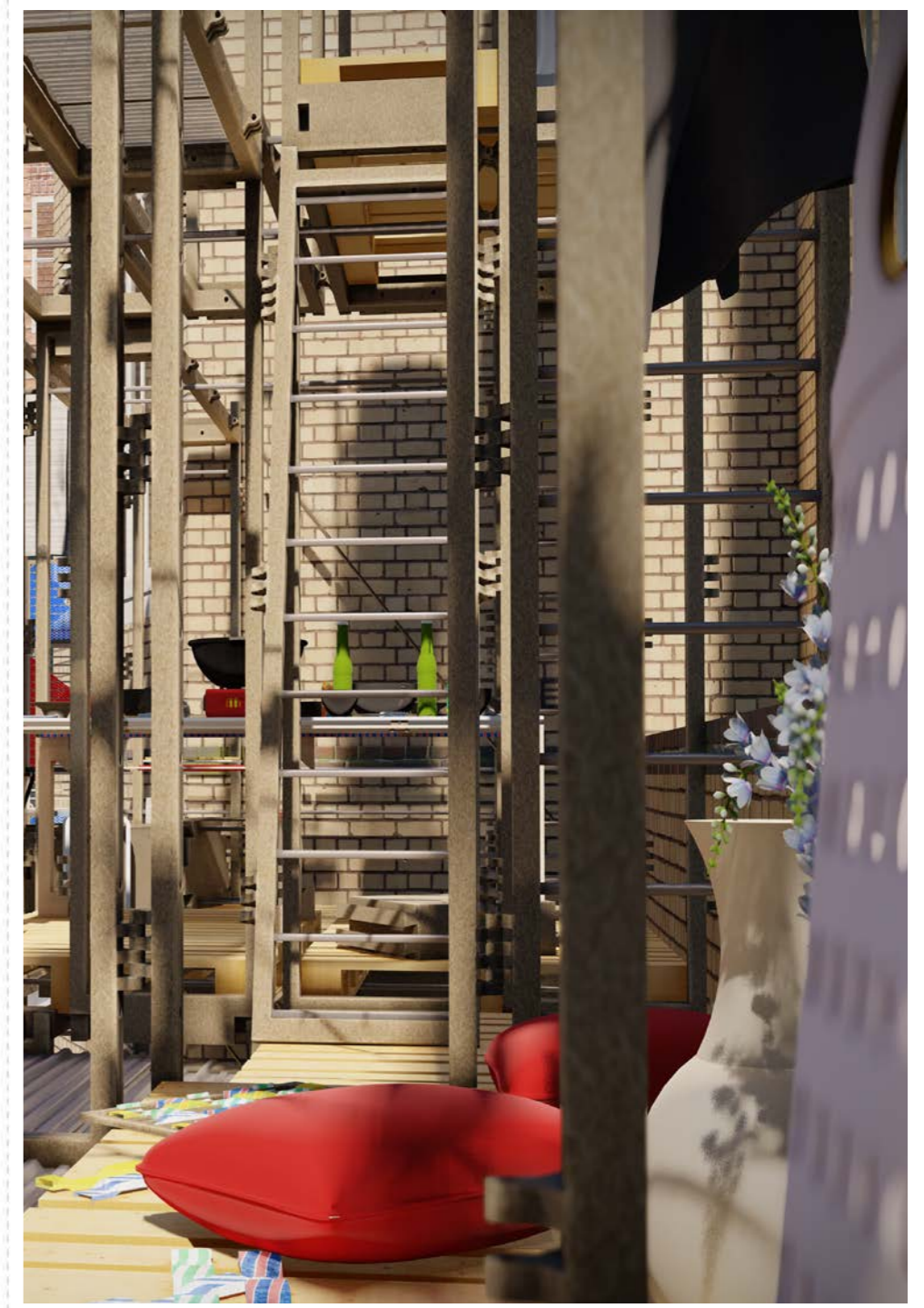
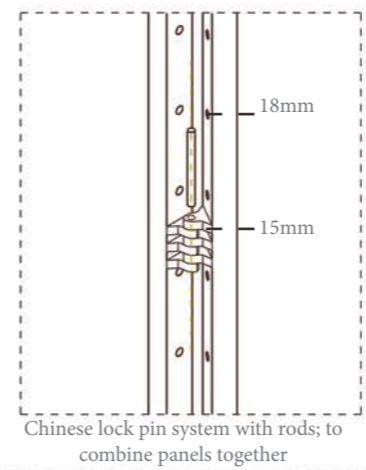
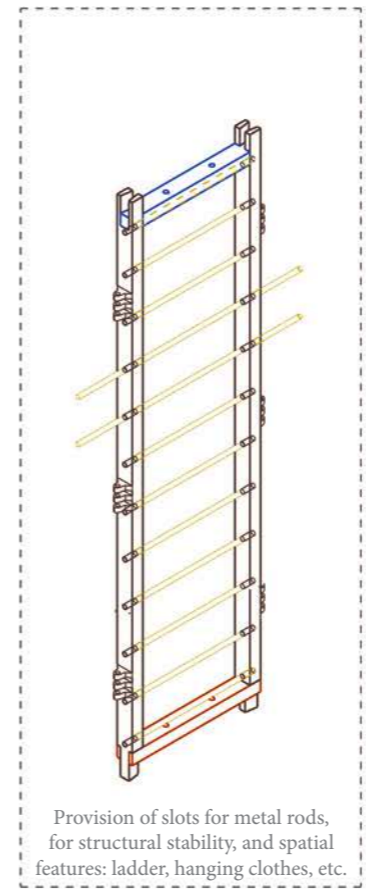


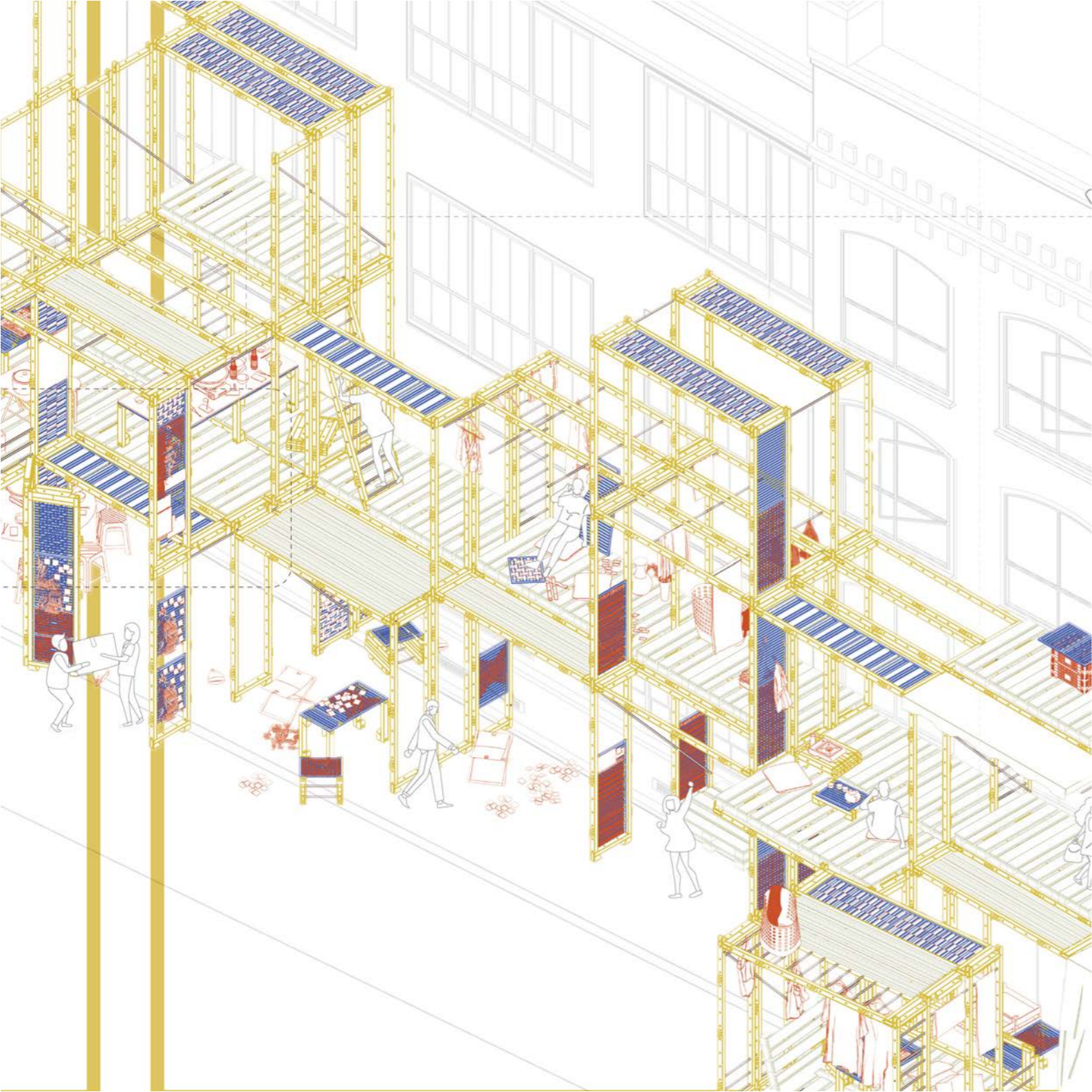
Modular Structure erected as a temporary facade, opposite Chinese Embassy



Configurations with 4 Panels and more:  
 Structures can be combined and expanded as screens and enclosures;  
 creating vertical and horizontal extensions.  
 These allow possibilities of more stability, more privacy, openness and more, allowing individuals to create their own enclosures.

Additional components

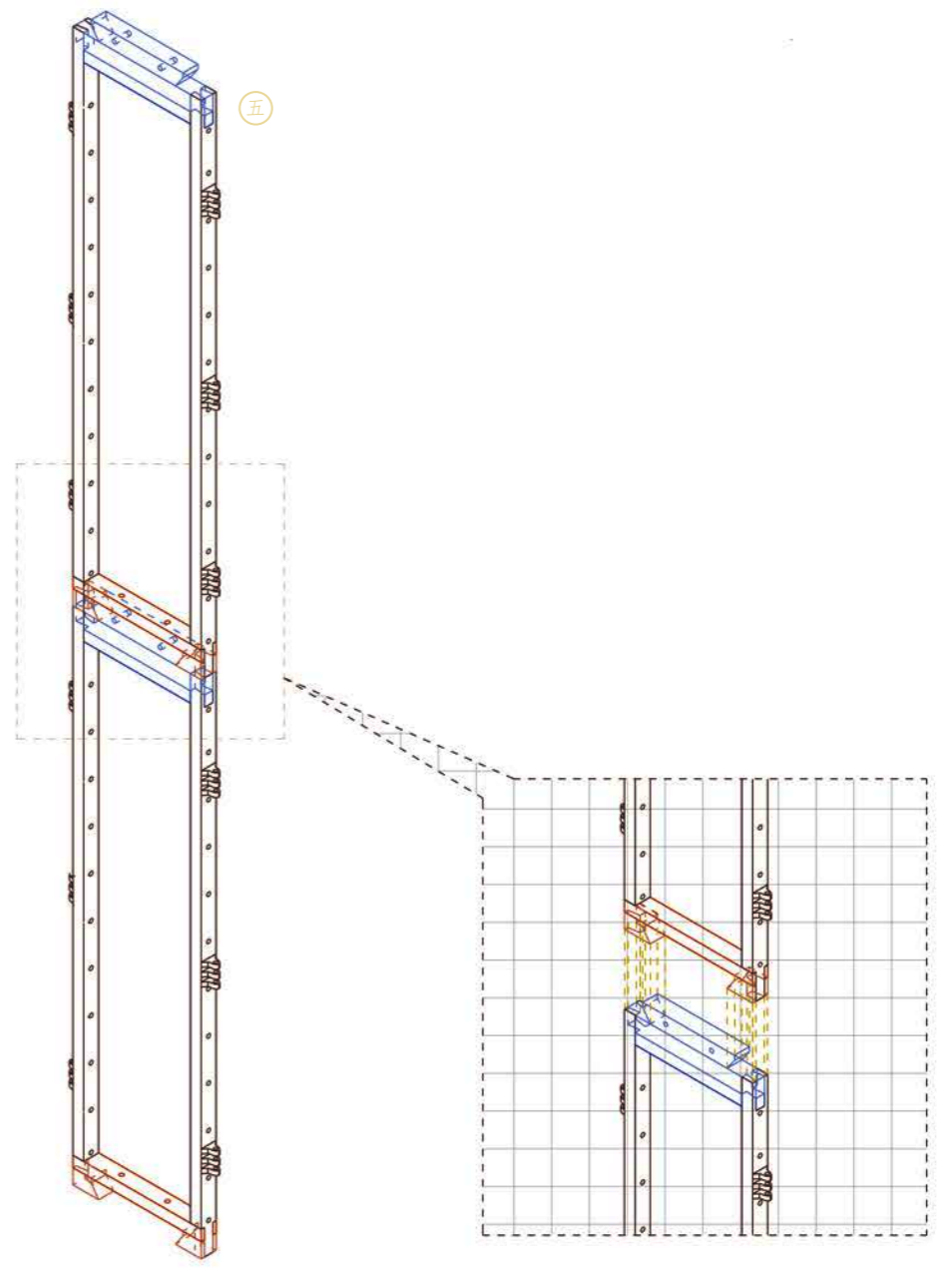


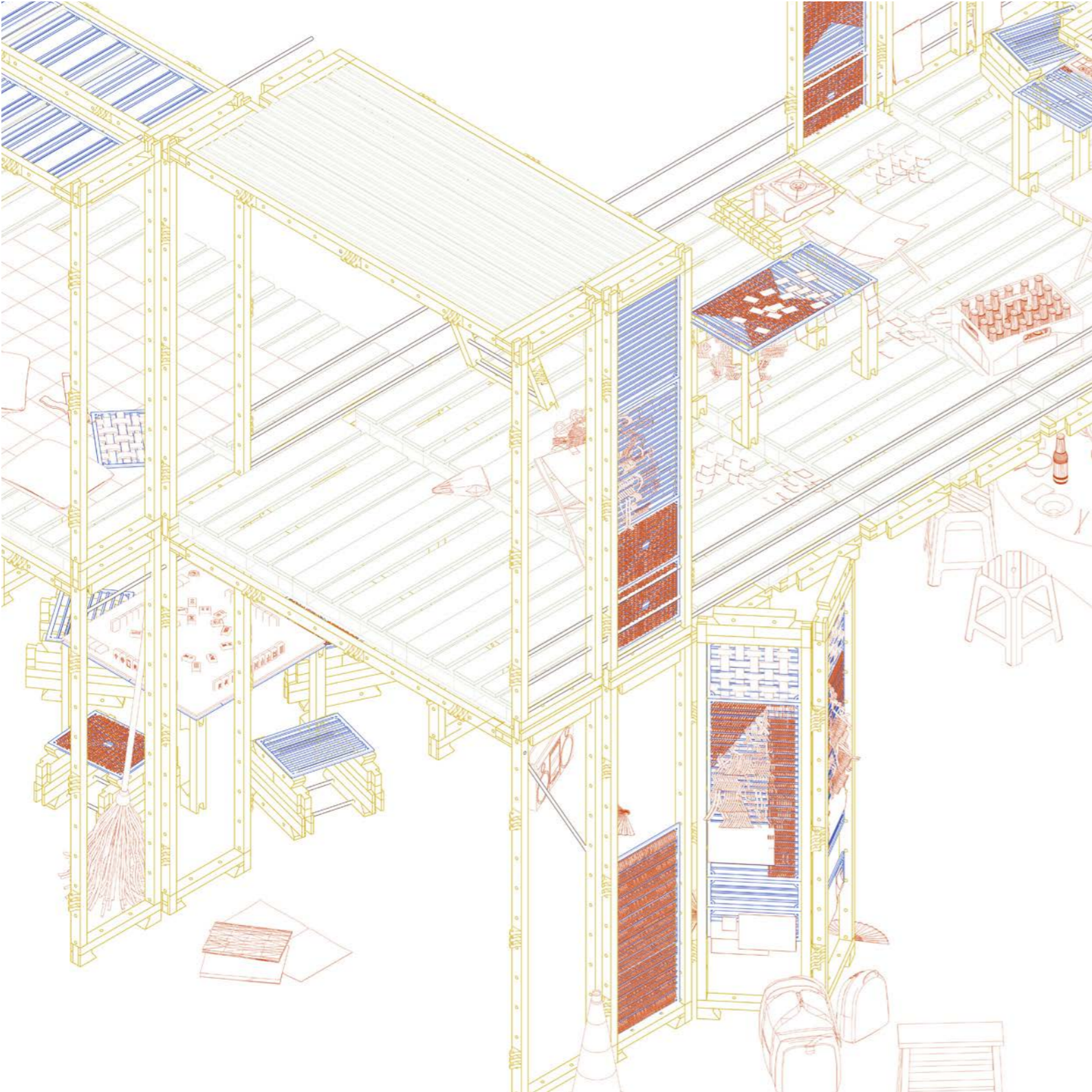


Verticality and Span

Vertical, upwards expansion through joinery with type one and two non-standard horizontal structures.

The two fit like a puzzle and with one more set of such vertical configuration, one is able to thread through 2 or more metal rods to secure the structures in place.

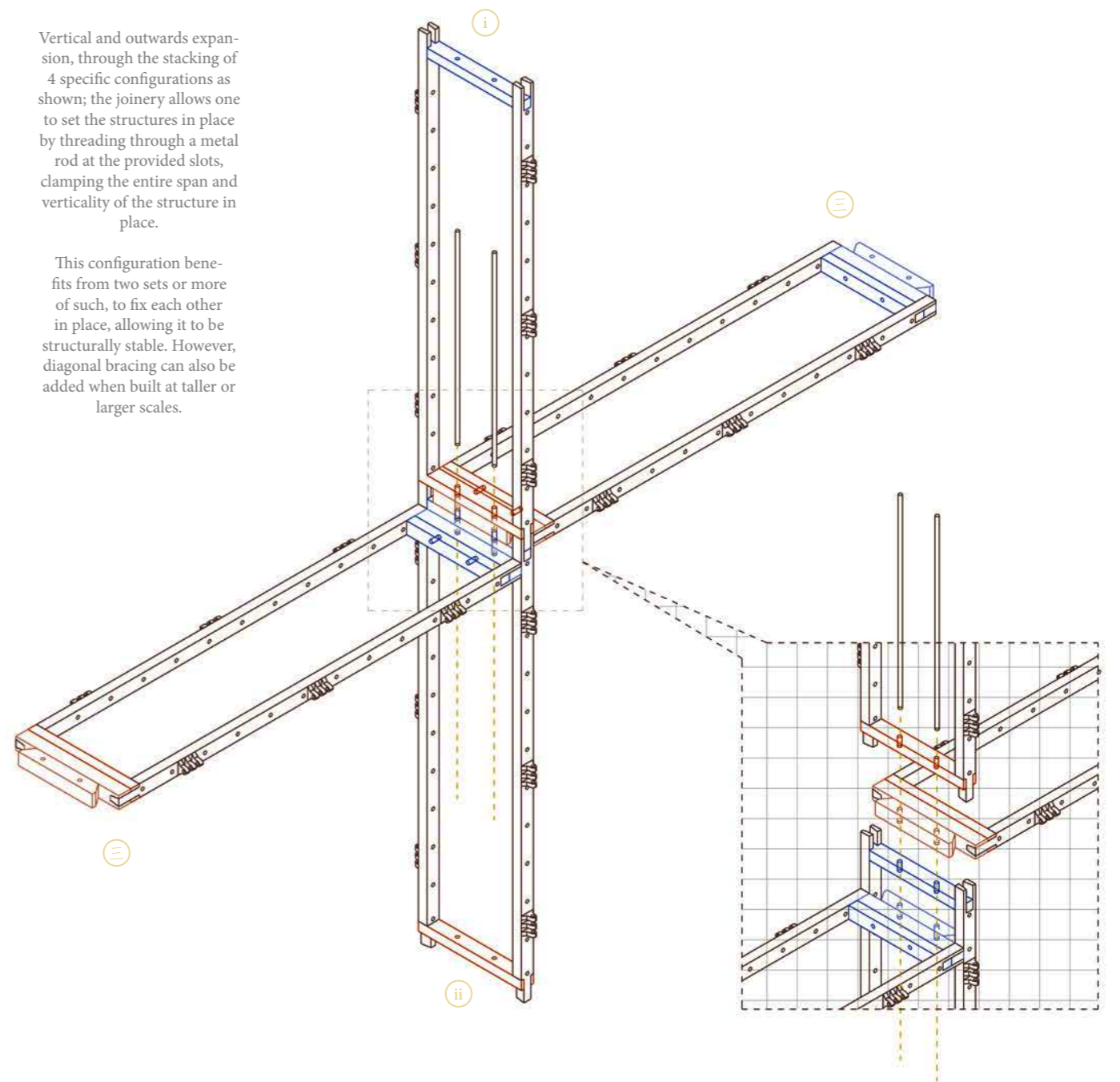




### Verticality and Span

Vertical and outwards expansion, through the stacking of 4 specific configurations as shown; the joinery allows one to set the structures in place by threading through a metal rod at the provided slots, clamping the entire span and verticality of the structure in place.

This configuration benefits from two sets or more of such, to fix each other in place, allowing it to be structurally stable. However, diagonal bracing can also be added when built at taller or larger scales.

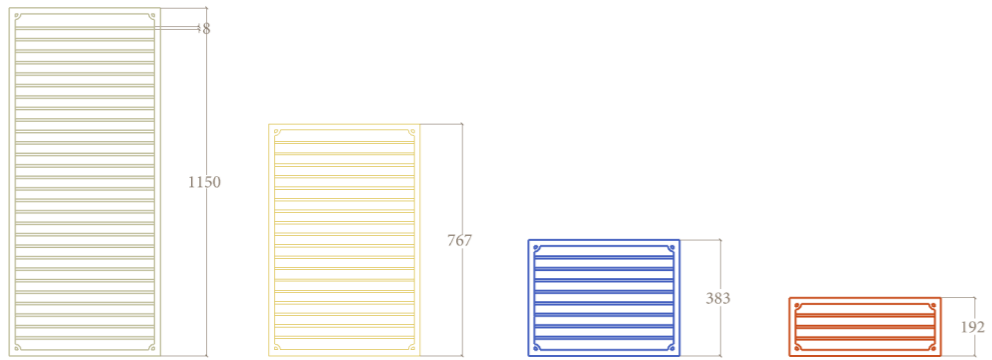


# weaving frames

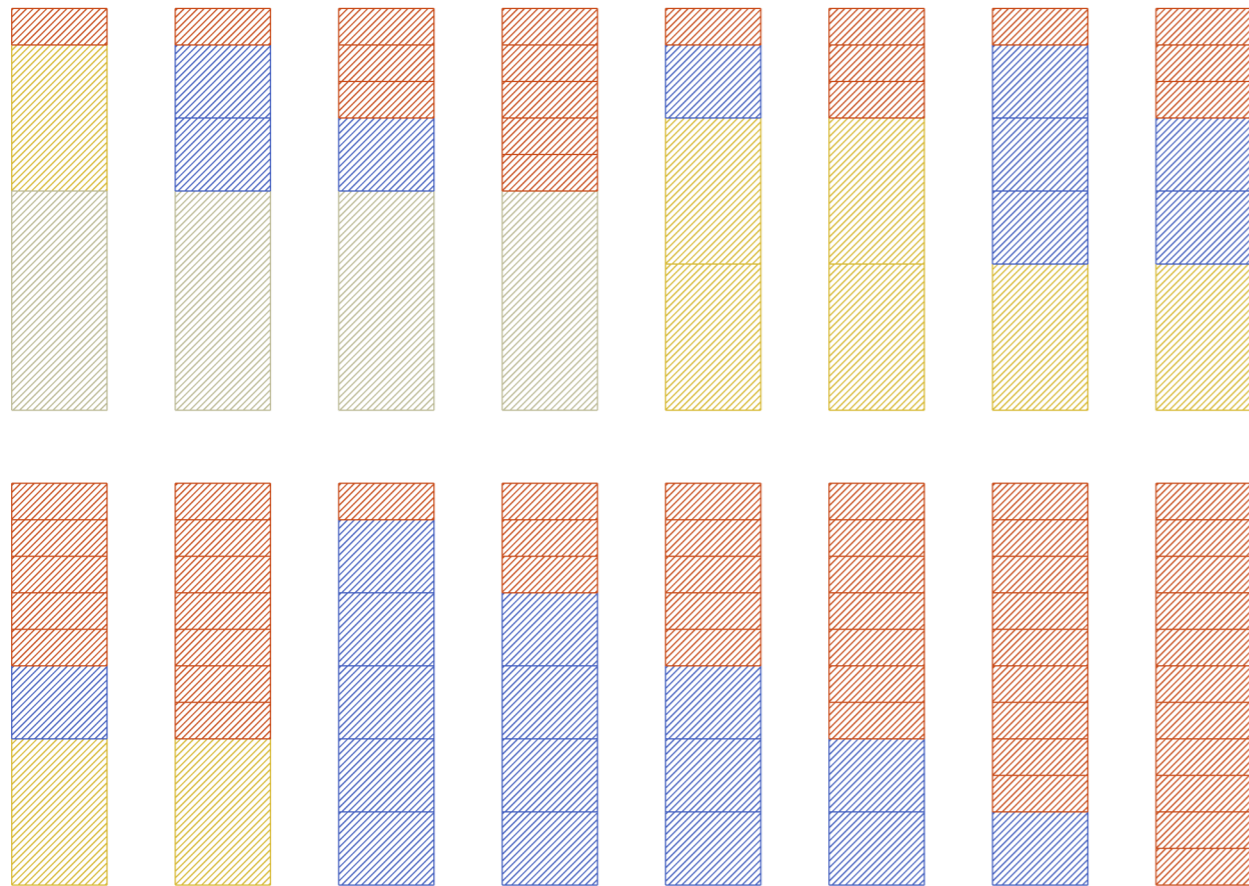


Modular structures adopted in a domestic environment

### Weaving Frames

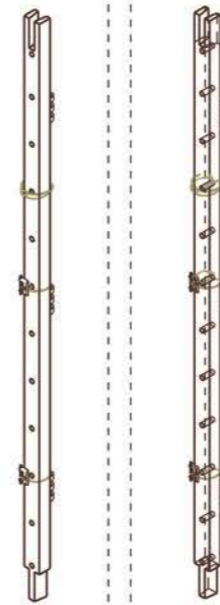
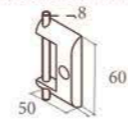
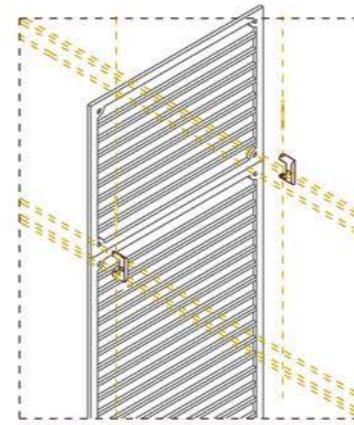


Dimensions  
1:25

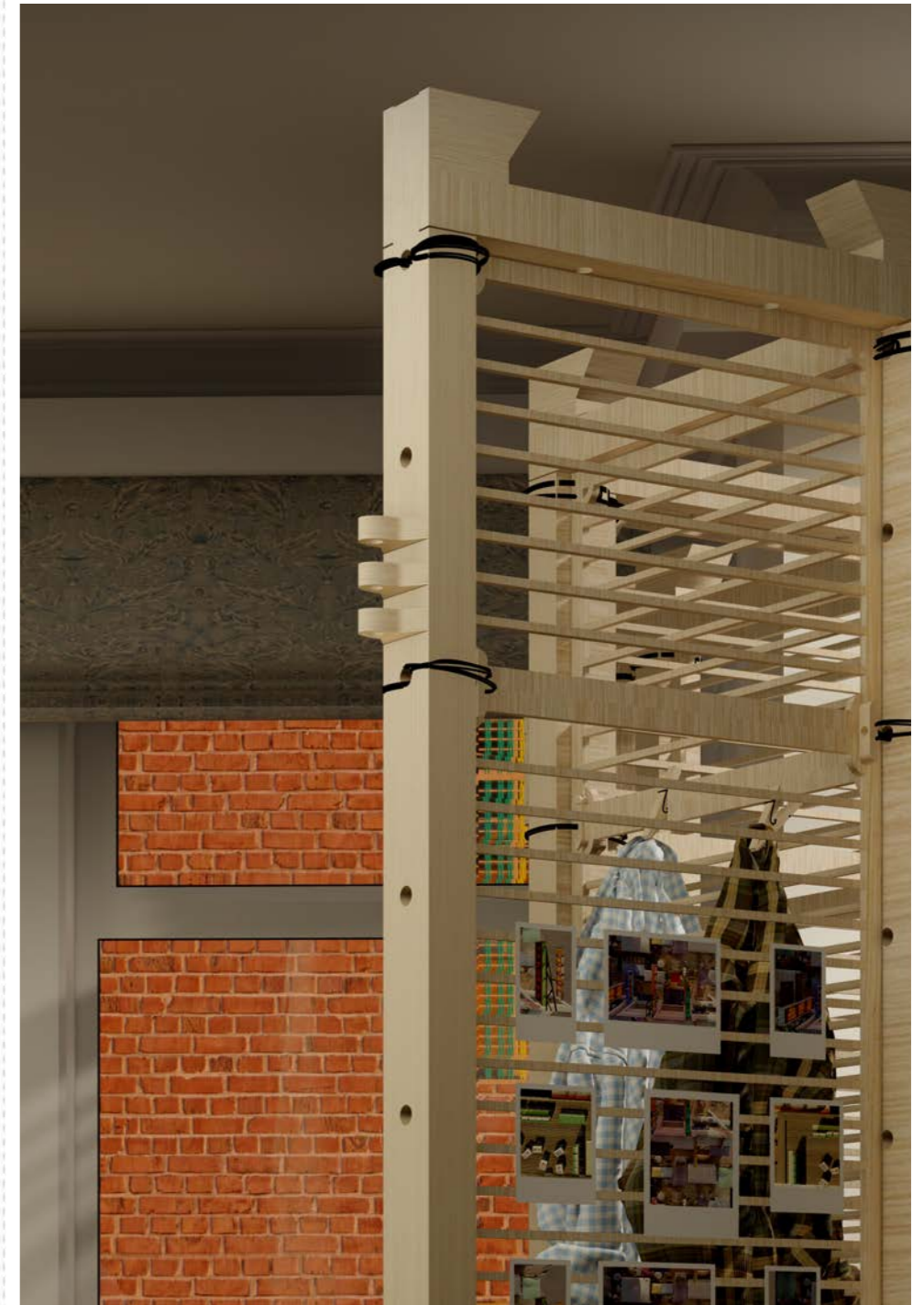


Organisation and combinations of weaving frames

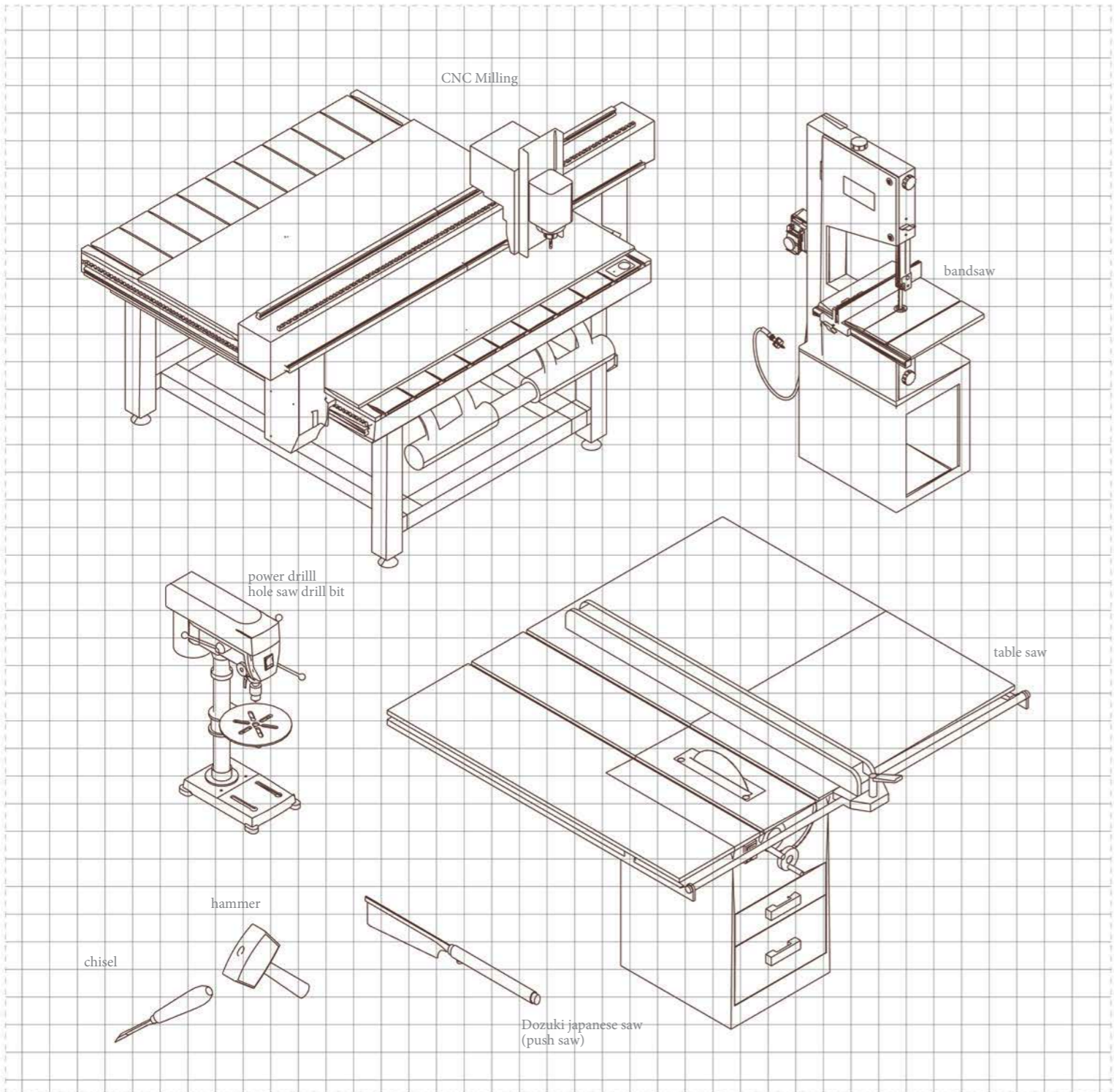
### Frame fastenings:

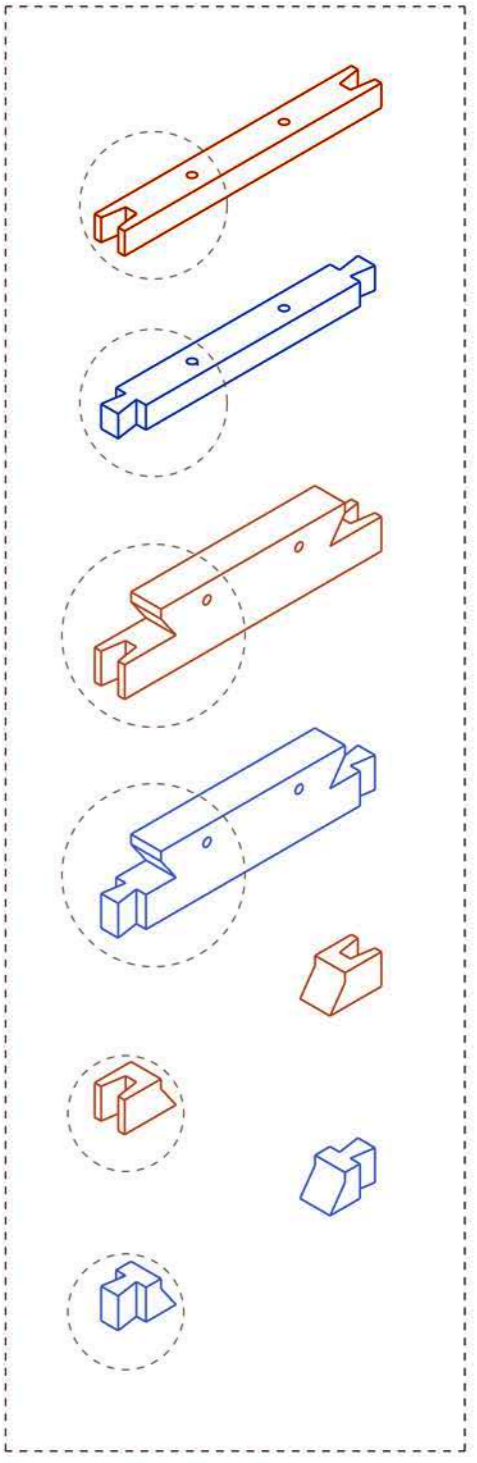
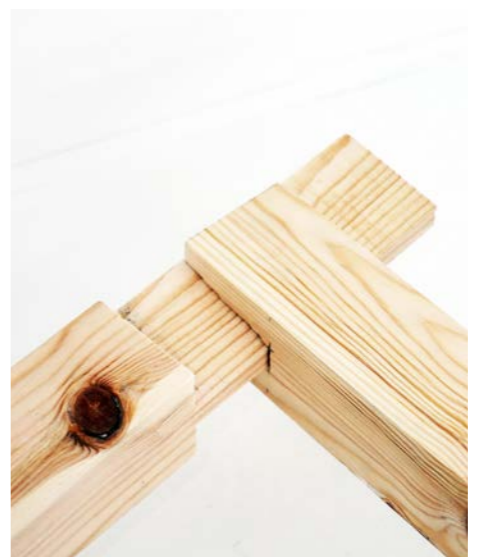
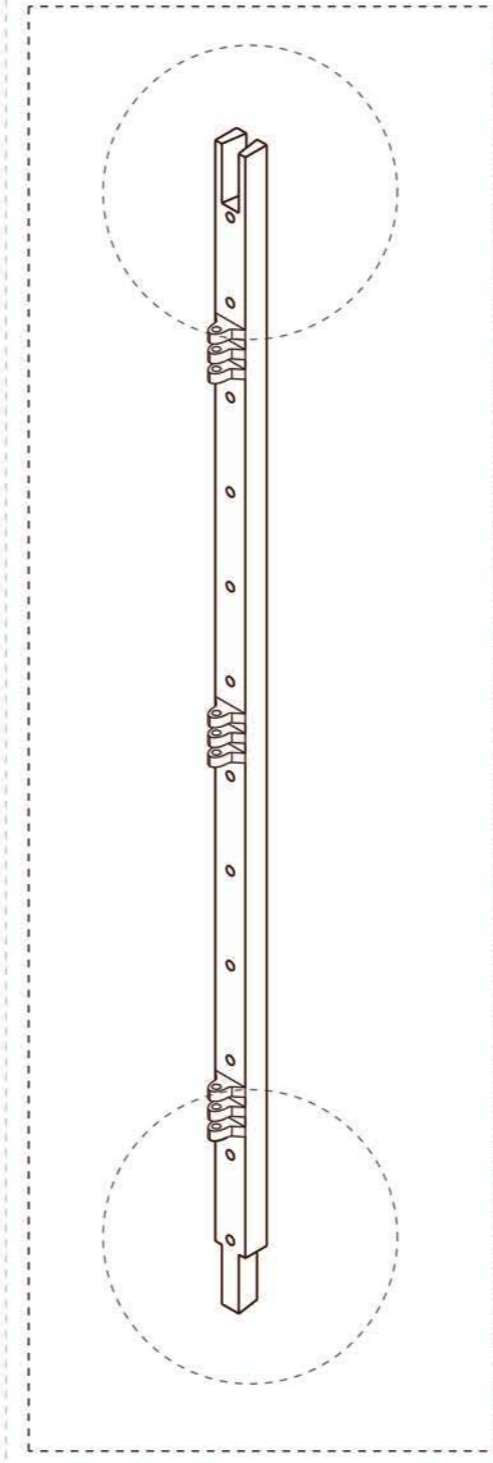
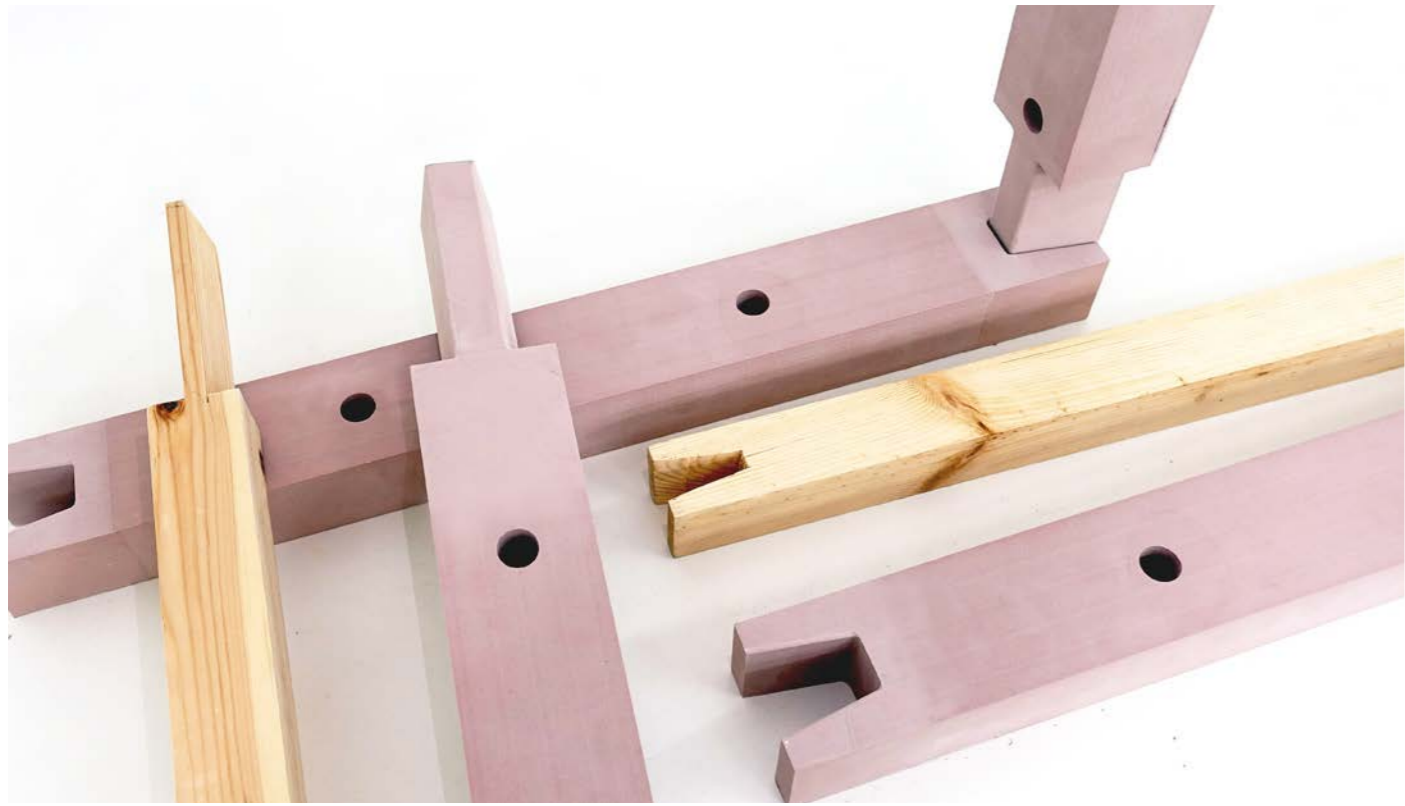


Chinese lock pin system and rope tying



# making

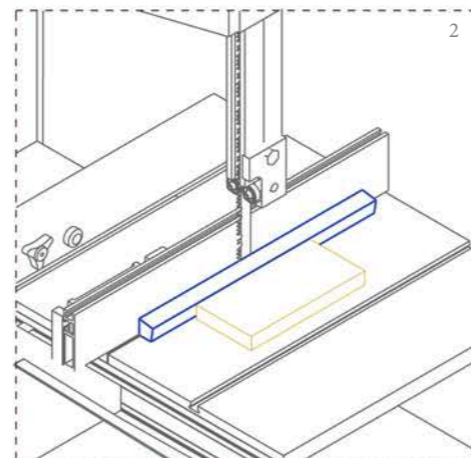
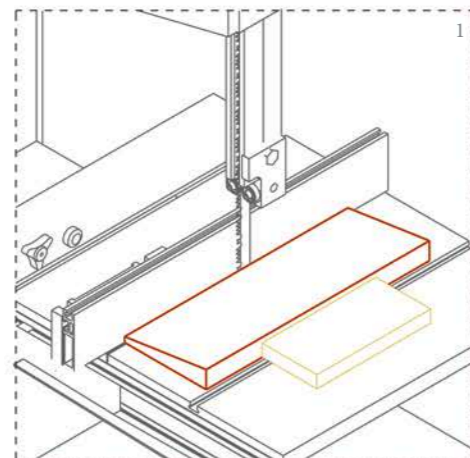
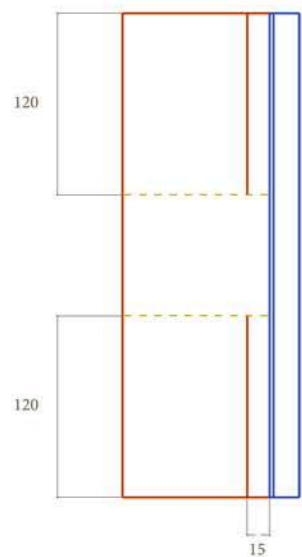
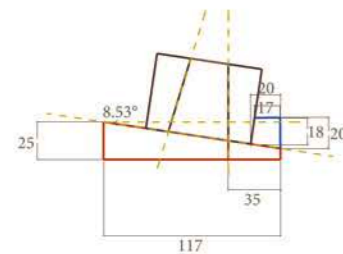
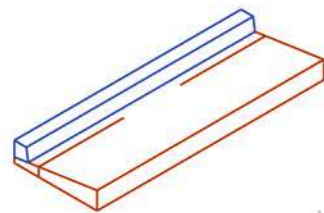




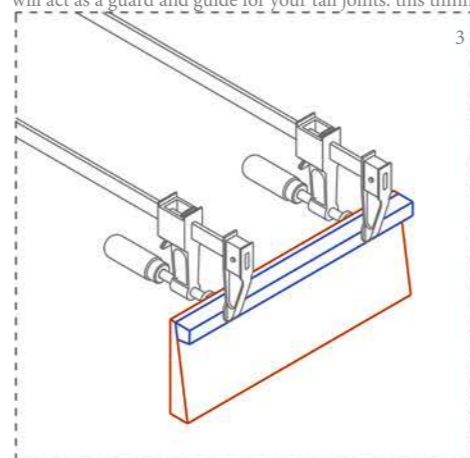
Woodwork:  
Complicated Cuts (angled joinery)  
demonstration and steps



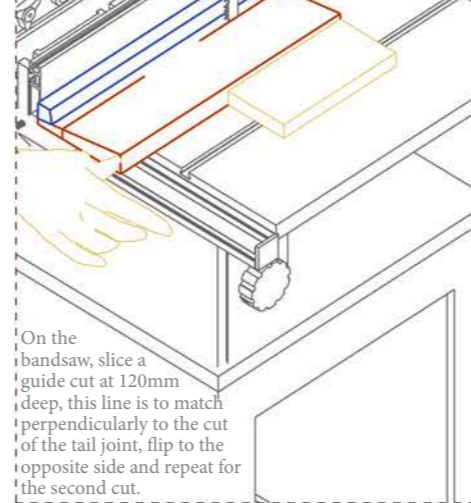
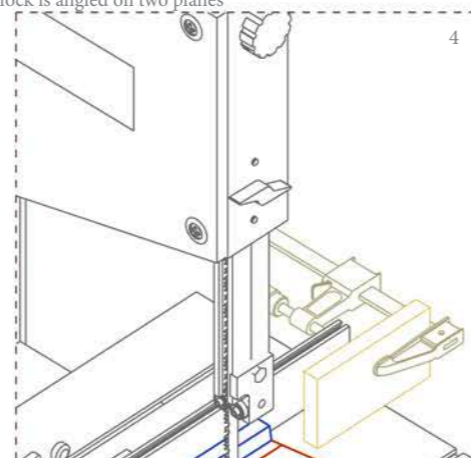
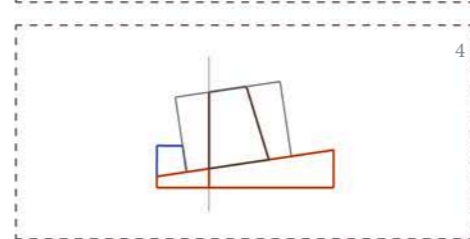
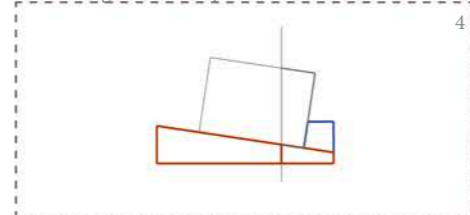
Making a *Jig* for an 8 degree angle, for all of the tail joinery



Cut out an 8.5 degree angle on a piece of wood block on the table saw and the bandsaw, then cut a thinner piece which will act as a guard and guide for your tail joints, this thinner block is angled on two planes



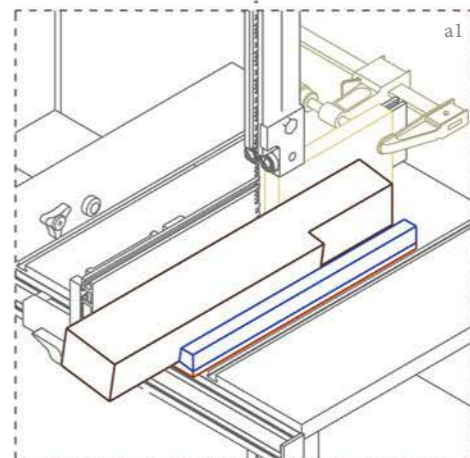
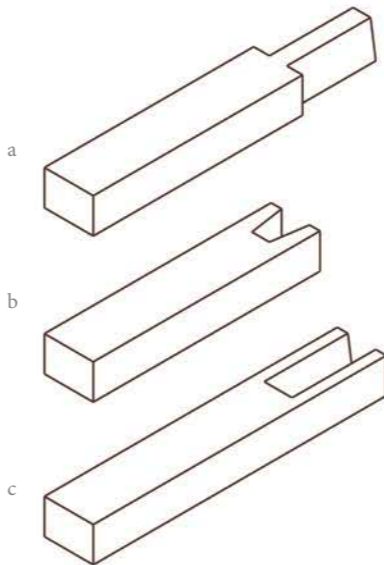
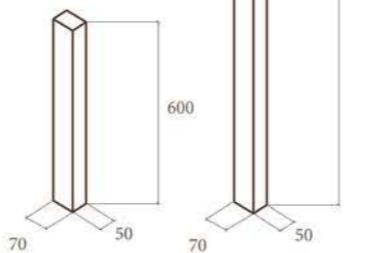
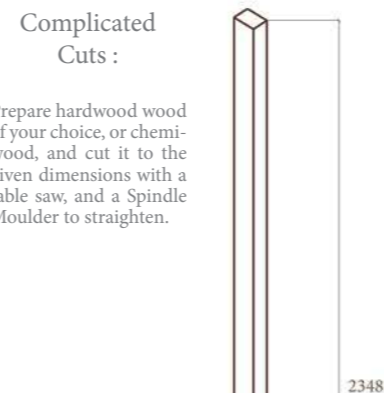
Stick the guide piece at the thin side of the angled plane with wood glue and clamp on both ends for 1 hour



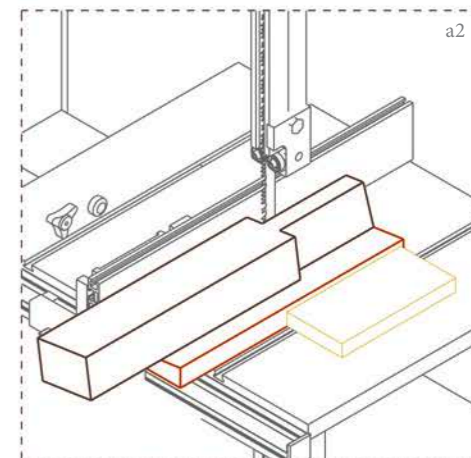
On the bandsaw, slice a guide cut at 120mm deep, this line is to match perpendicularly to the cut of the tail joint, flip to the opposite side and repeat for the second cut.

### Complicated Cuts :

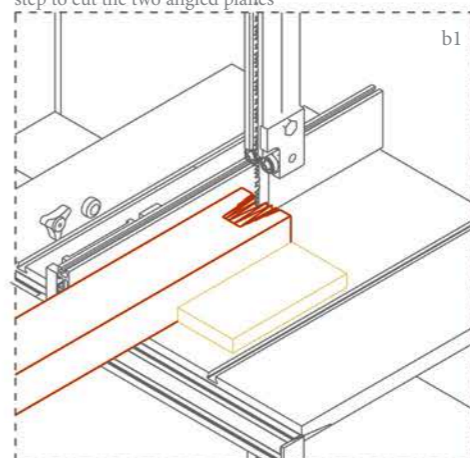
Prepare hardwood wood of your choice, or chemi-wood, and cut it to the given dimensions with a table saw, and a Spindle Moulder to straighten.



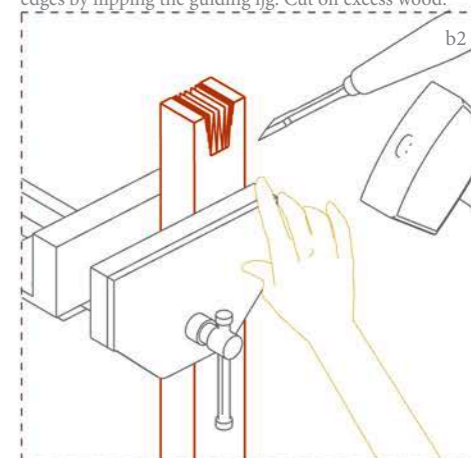
For all the tail joints, use the *Jig* made from the previous step to cut the two angled planes



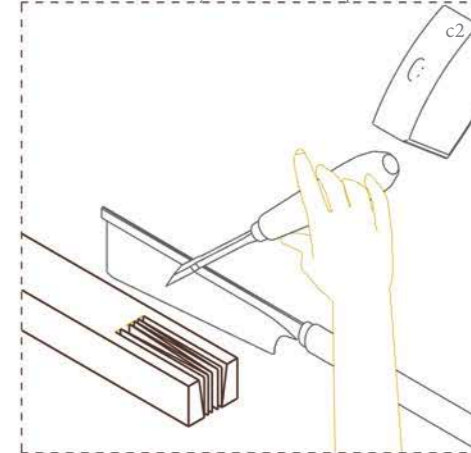
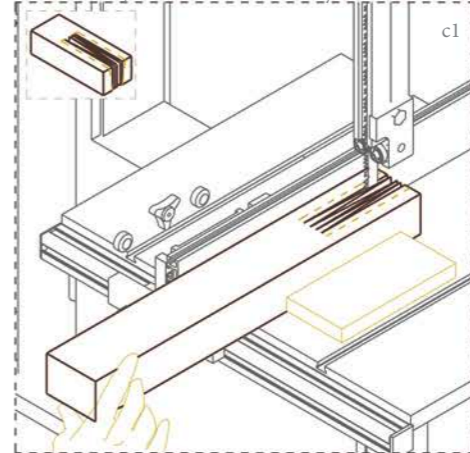
Clamp a stopper jig to ease process, and do this for both edges by flipping the guiding jig. Cut off excess wood.

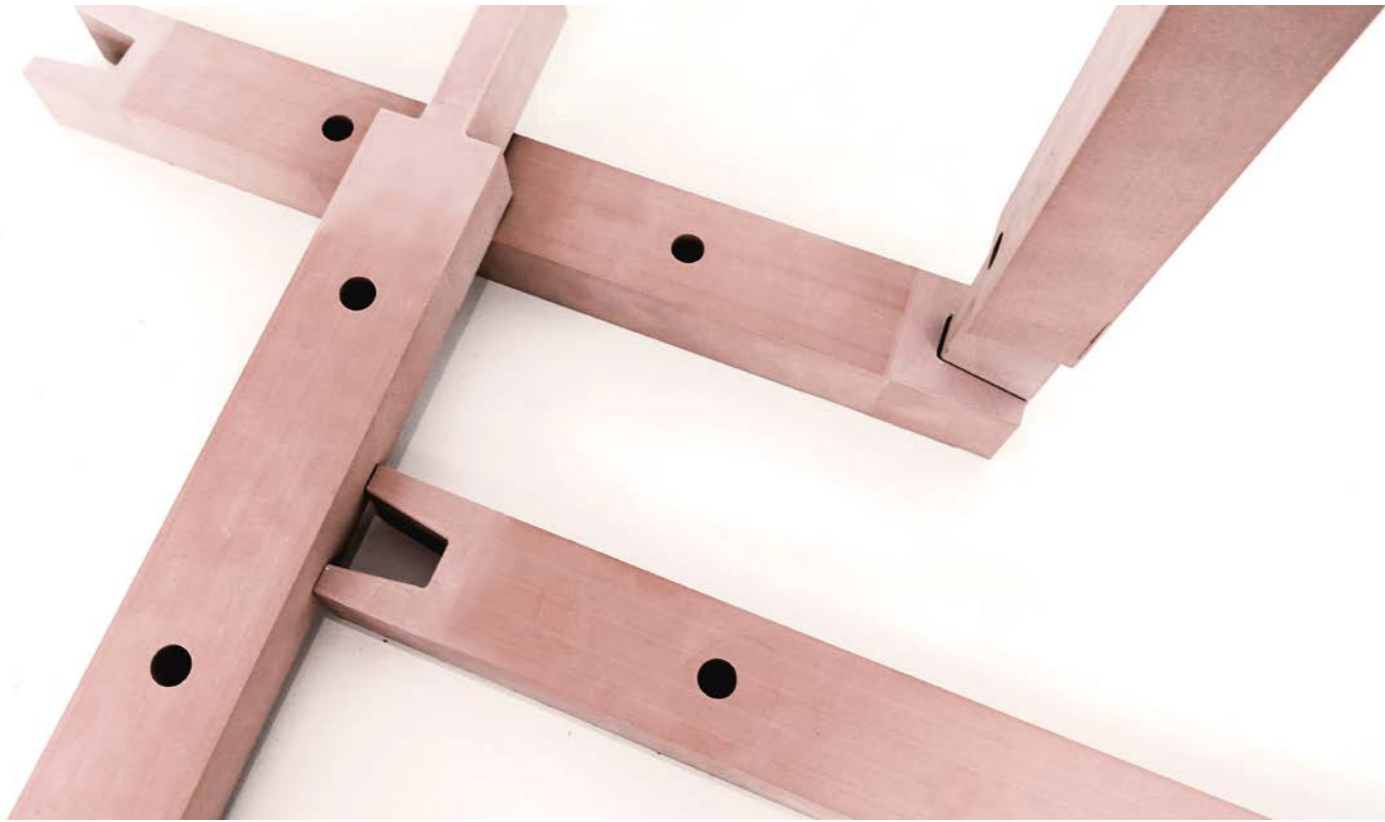


For pin joints, on bandsaw, make two cuts at angle of joinery, and subsidiary vertical cuts to the area you wish to remove



Clamp the piece and with a Chisel and Hammer slowly remove and shave away the excess wood pieces.





Machine : CNC Milling Machining  
 Size : x in mm 2600 by y in mm 1600

Tool: 6mm Cylindrical Bit

*2d cut CNC Settings :*

Milling Settings : Contour  
 Milling : Outer Milling

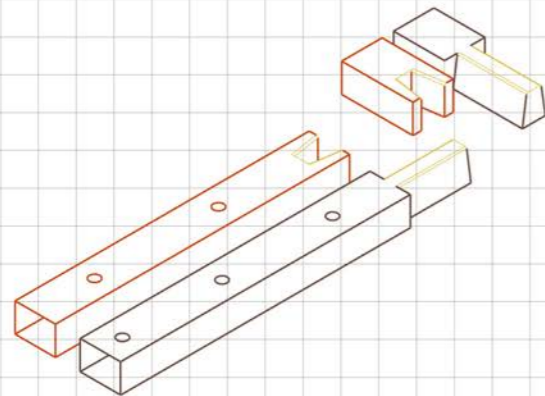
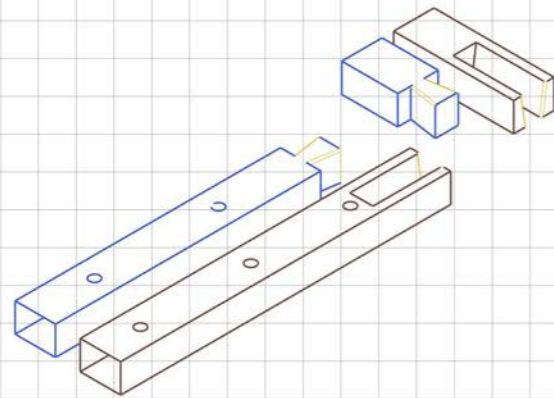
Speed : *(chemiwood as example)*  
 Spindle Feedrate : 12000rpm  
 Downwards by : 40mm/s  
 Plunge Feedrate : 30 mm/s

*3d cut CNC Settings :*

Milling Settings : Sweep Model  
 Milling : Outer Milling

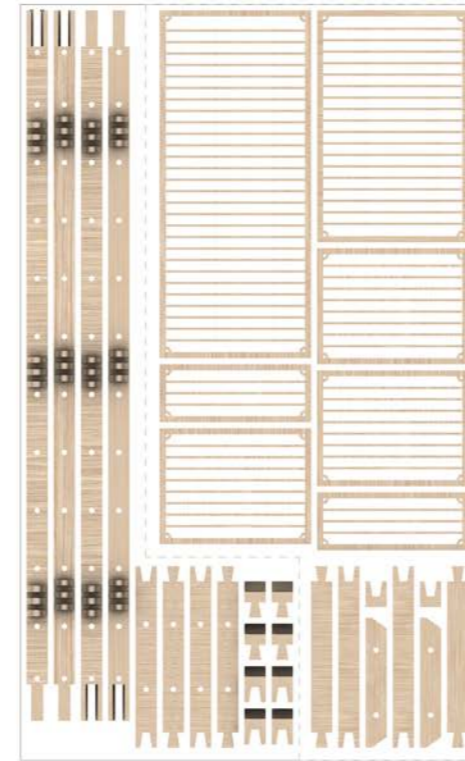
Roughing Cut:  
 Increment : 0.5  
 Depth of Pass : 0.5

Finishing Cut:  
 Speed : *(chemiwood as example)*  
 Spindle Feedrate : 12000rpm  
 Downwards by : 40mm/s  
 Plunge Feedrate : 30 mm/s

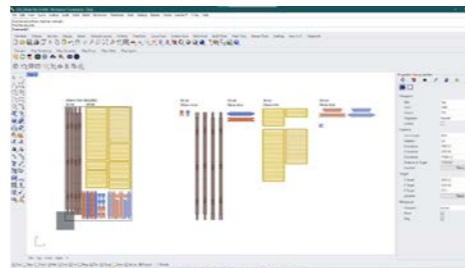


Structures with CNC tolerance

Set 1  
3d cut 2d cut



100mm thick 500x2500



For printing in CNC, there needs to be a tolerance left for the drill bit as it mills, as some of the edges become curved the CNC file has consequently been reconfigured to fit the tolerance of the CNC machine.

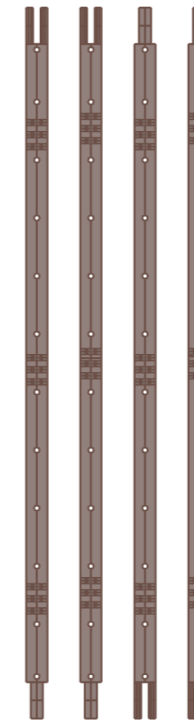
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3dm: <https://drive.google.com/file/d/1rxigkPRqvAx-sxyT0d3sUmeuu35XCSo8Y/view?usp=sharing>

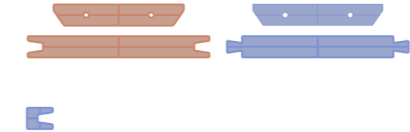
STL: <https://drive.google.com/file/d/1rJLAoxmZD-5FoS44aPFIXk0trjiRdNhvc/view?usp=sharing>

Set 2

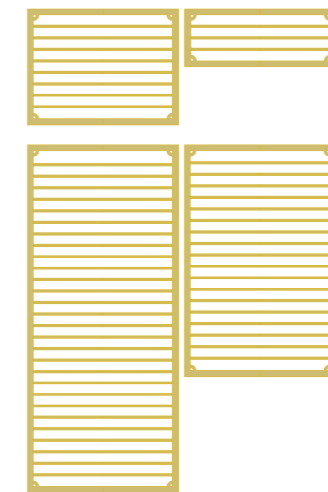
3d cut  
100mm thick



2d cut  
70mm thick



2d cut  
35mm thick



3d cut  
50mm thick



The files provide information on the thickness, width and cut, of the pieces. It is separated into two combinations:

1. A set of two basic panel structures, with all the subsidiary horizontal, vertical, weaving panel, and hinge pieces. Allowing one to create all the two panel combinations wanted.
2. A set that provides one with the specific information of each cut and the subsidiary thickness of materials required for such cuts, allowing user to mix and match their desired combinations.

In which the 3dm file provides the full set, whilst the STL file only provides the first set.



