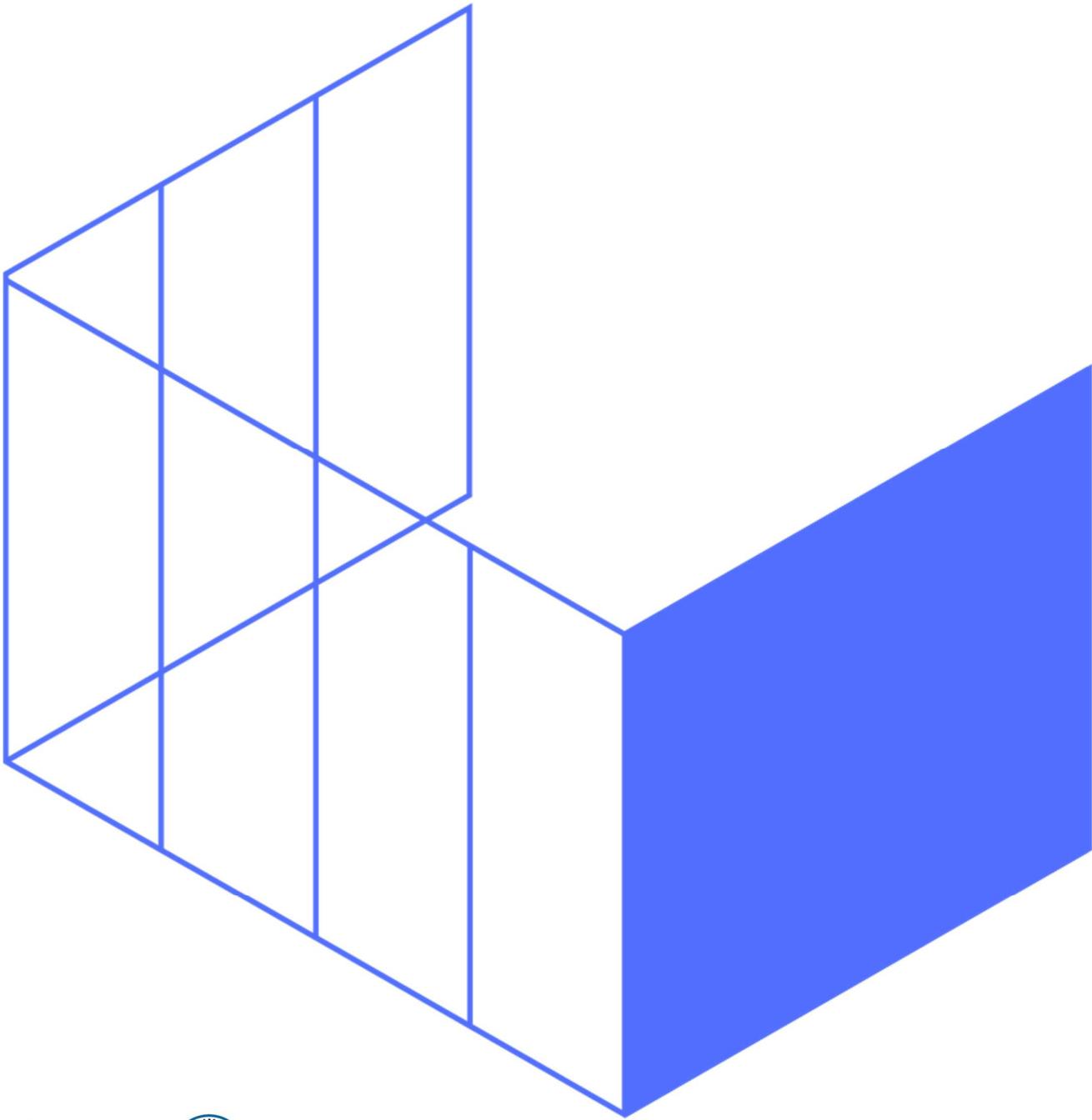


# JUUNOO

## TECHNICAL DOCUMENTATION

Version 2023 05 23 – ENG metric



reddot winner 2020



## Technical documentation

Version 2023 05 23 – ENG metric

### Preface

In the next 100 years our global population will grow to 12 billion people. All these people will need houses, schools, offices, and more. Current construction methods have an immense **ecological impact** and are responsible for one of our largest **financial costs**. This impact and cost are increasing even more as a result of globalisation and the speed at which society lives and moves. As a result, **buildings and spaces are changing** more and more often.

In order to protect our planet as well as cope with a growing population, we will need to totally reinvent architecture. This is where the principles of the **circular economy** are crucial so that ecological necessity can be combined with economic reality.

JUUNOO gives you the opportunity to put this into practice when it comes to the **compartmentalization of spaces**; in this respect, growth and adjustments should not always result in greater quantities of construction waste or higher costs.

JUUNOO does this by cleverly arranging spaces, using a **patented system** for interior walls. It has been developed entirely according to the principles of the circular economy. The result is a system with a very high residual value and low labour costs that ensures that the **total lifecycle cost of a building** is lower than that achieved using conventional systems.

The speed of construction, simplicity and limited number of components guarantee a faultless and smooth assembly. All modules can be extended in terms of height, are interchangeable, or can simply be placed in a different layout. The spaces you use are therefore always **adaptable**.

The 'look & feel' of a JUUNOO wall is then entirely up to the architect and property owner. All standard finishing panels can be reversibly and securely mounted on JUUNOO. It is also no problem to install insulation materials and utilities. This **freedom in finishing** ensures that your spaces not only perform & **look great** today, but also meet all future demands & trends.

Here at JUUNOO we have already taken the first step with the development, certification and launch of this product. Now is the time for us to start working **together as partners** and ensure that we become the generation that makes a real success of the circular economy.

Chris Van de Voorde  
Founder JUUNOO

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# 1 Introduction

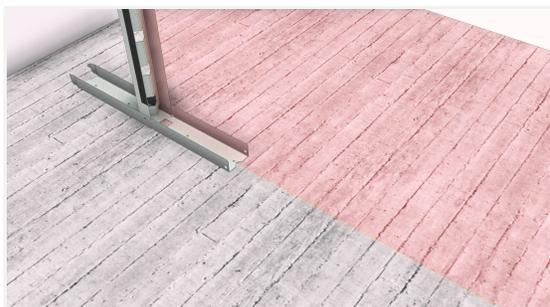
## 1.1 General installation method using BaseClick panels



Place the laser on the centre of the wall.



Place the first I-module.



Centre the horizontal and vertical profile on the laser. Fix this module.



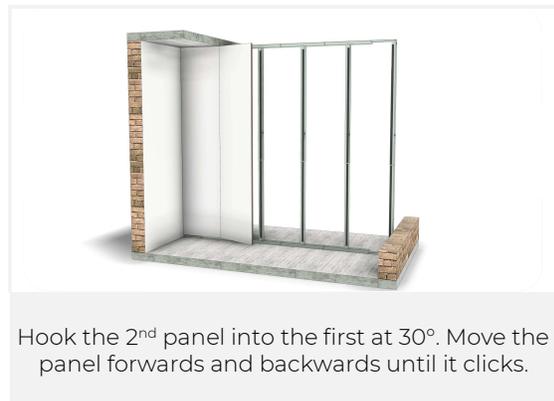
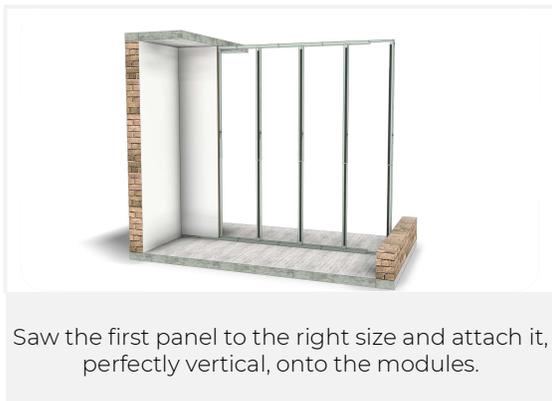
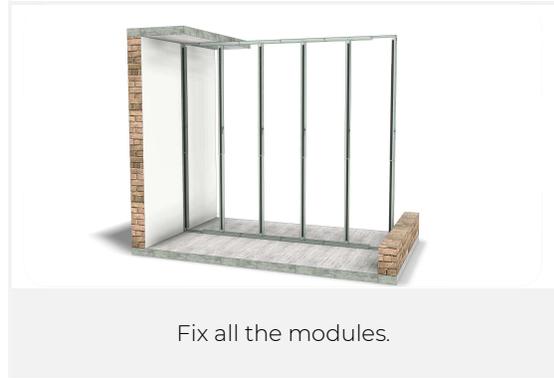
Align the second module with the first.



Snap the modules together and centre the end in line with the laser. Fix it.



Continue this across the wall using I-modules.



## 1.2 Reusability

JUUNOO modules and snap-in panels are designed and tested for multiple use or reuse.

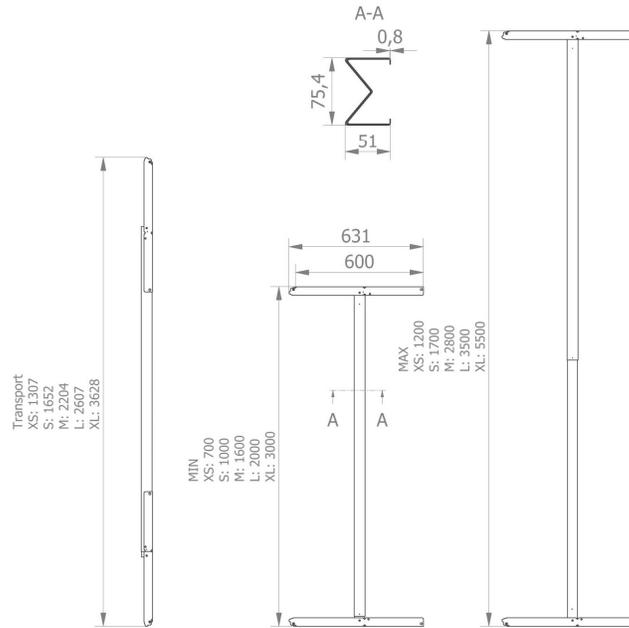
It is possible to connect items with JUUNOO tape up to 30 times, without there being any measurable loss of strength. It is important to press the cladding firmly onto the modules to ensure a good connection.

When screwing drywall panels or fibreboard to the modules, it is important to use self drilling screws. (This is because they produce fewer burrs and the profiles of the modules can continue to slide smoothly over each other.) After screwing a plate on to the module and off again 10 times, the friction between the sliding profiles becomes too great for it to work efficiently.

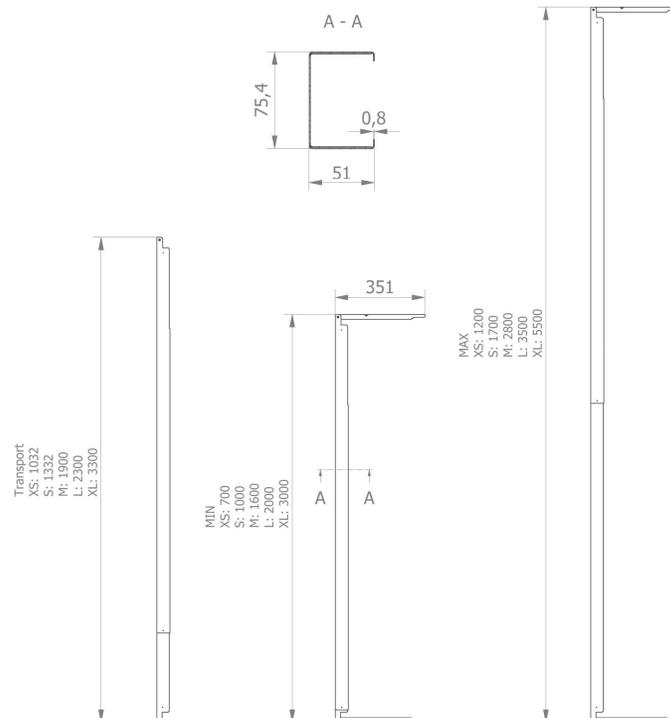
JUUNOO can upgrade any old modules through the cashback guarantee. They can then be used again in new projects. Any snap-in panels that cannot be reused again, are recycled into new panels.

## 2 Dimensions

### 2.1 I-module dimensions

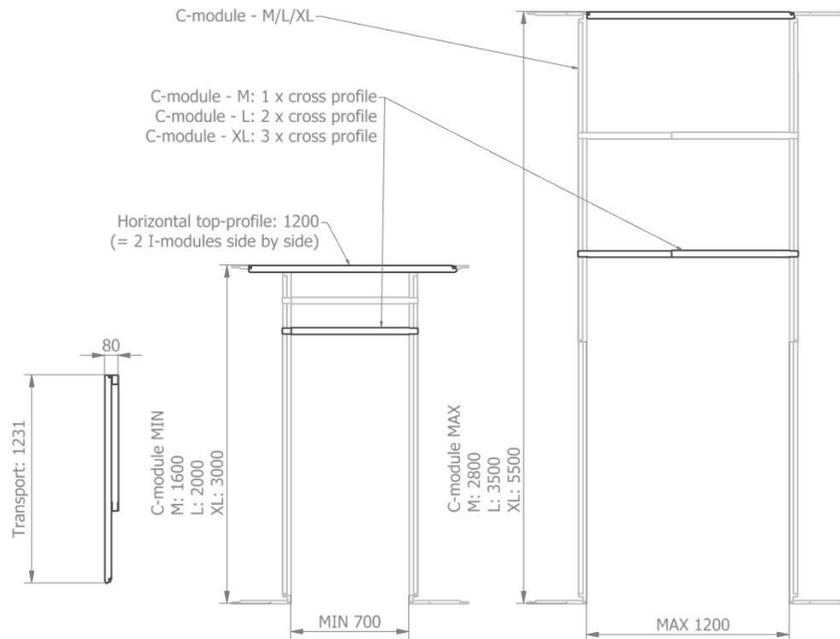


### 2.2 C-module dimensions



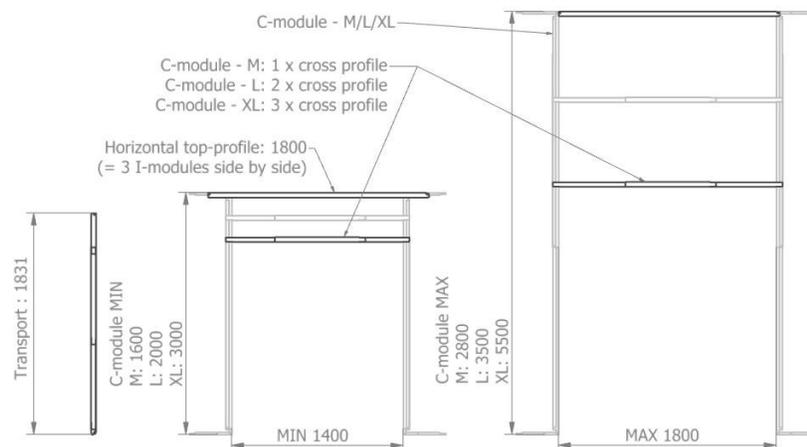
### 2.3 D-set dimensions: for a single door

The door set consists of 1 horizontal top profile above the C-modules, which is then completed with 1, 2 or 3 cross profiles depending on the height of the C-modules. The top profile has the fitting dimension of 2 adjacent I-modules, thereby ensuring that the pattern of 600 mm is maintained over the entire wall.



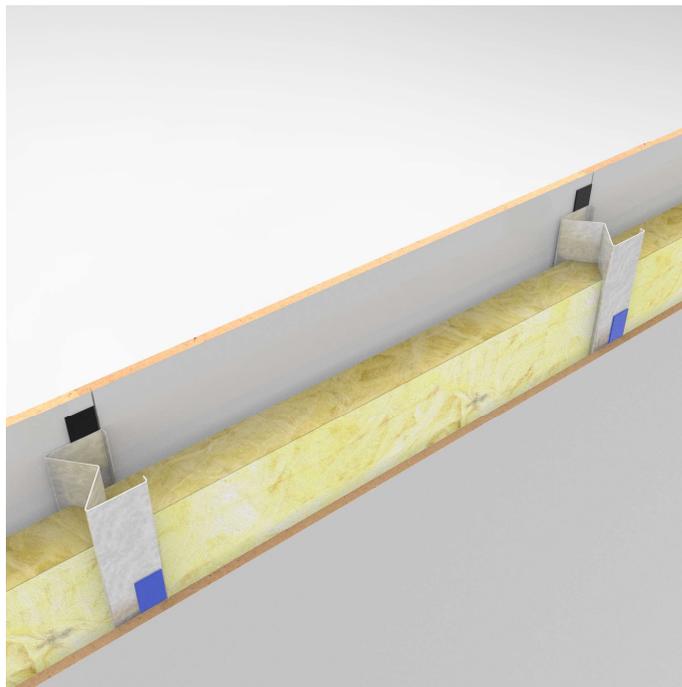
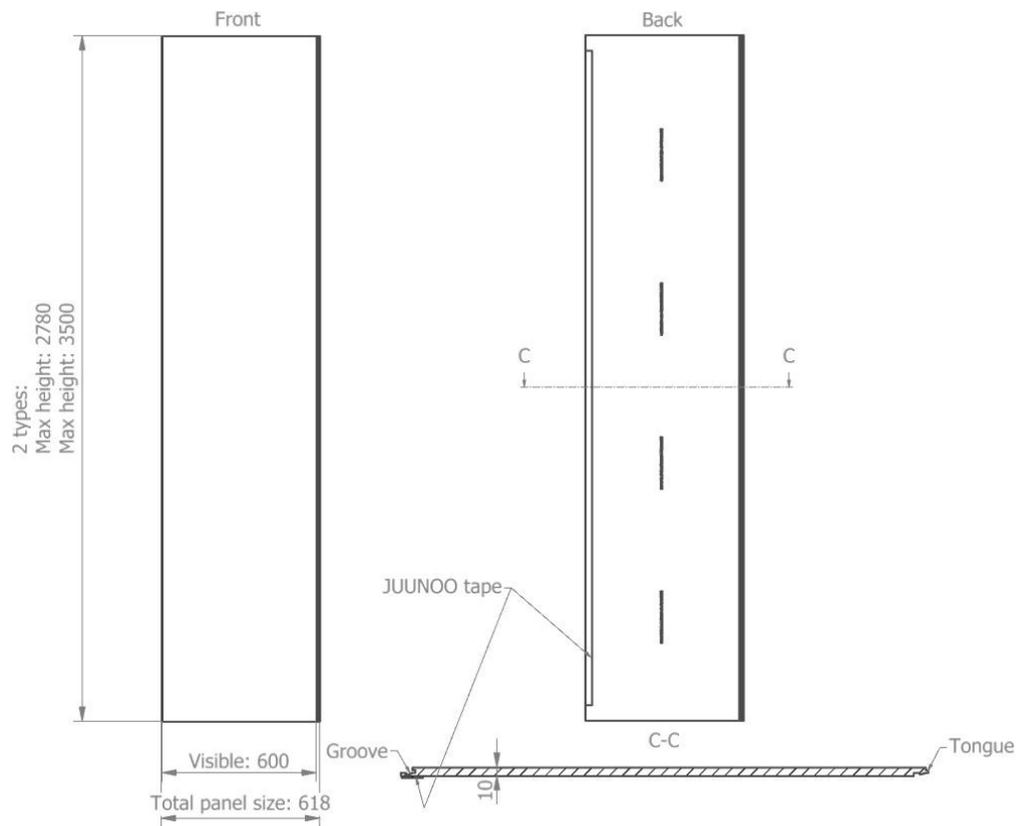
### 2.4 DD-set dimensions: for a double door

The DD-door set consists of 1 horizontal top profile above the C-modules, which is then completed with 1, 2 or 3 cross profiles depending on the height of the C-modules. The top profile has the fitting dimension of 3 adjacent I-modules, thereby ensuring that the pattern of 600 mm is maintained over the entire wall.

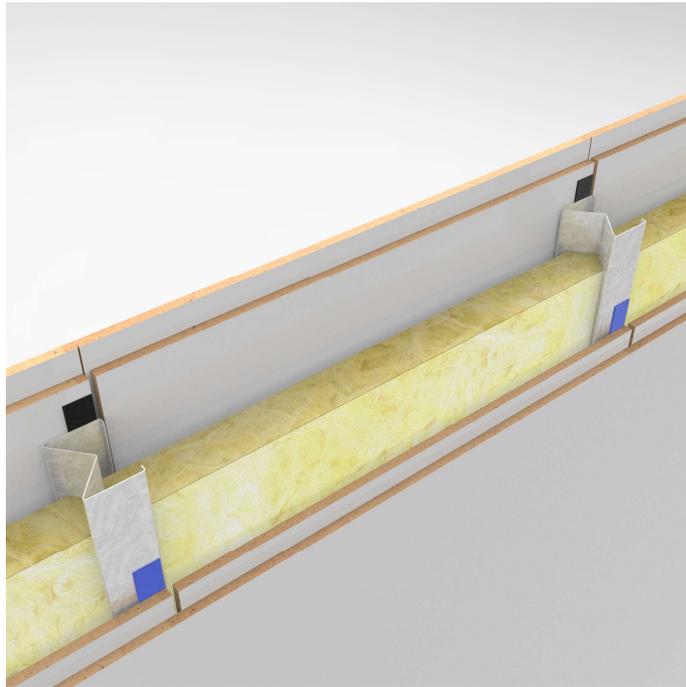
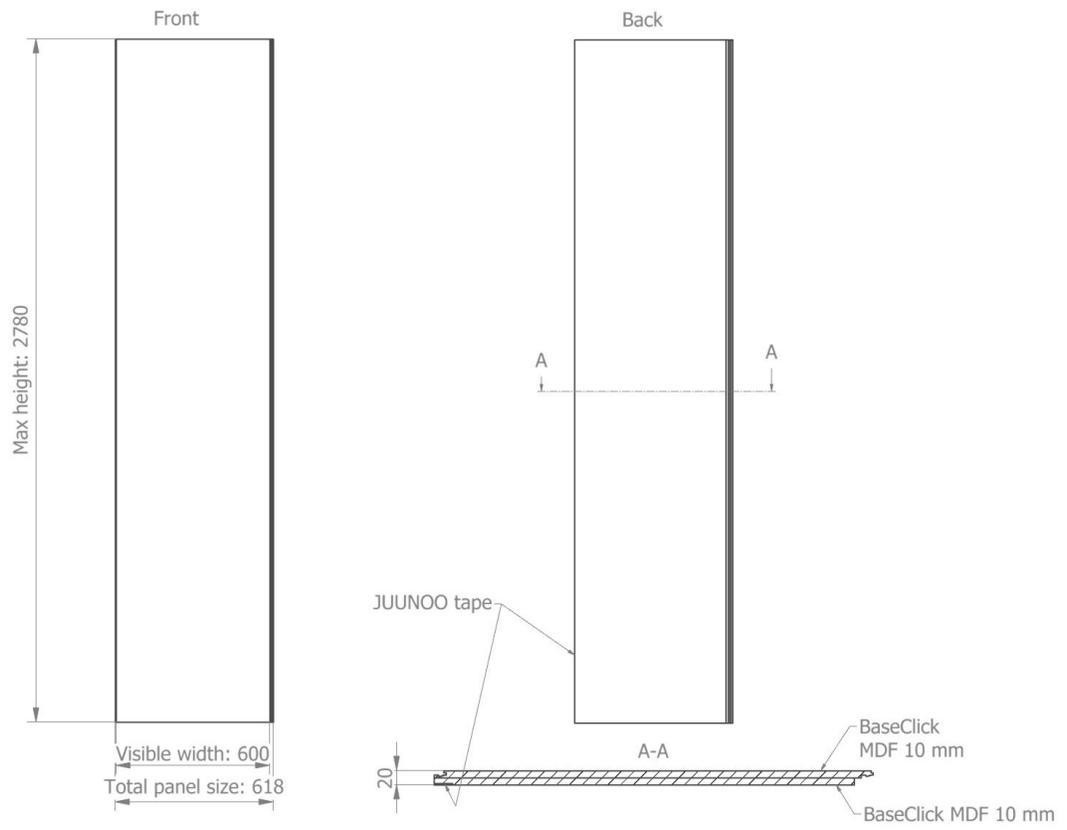


## 2.5 BaseClick dimensions

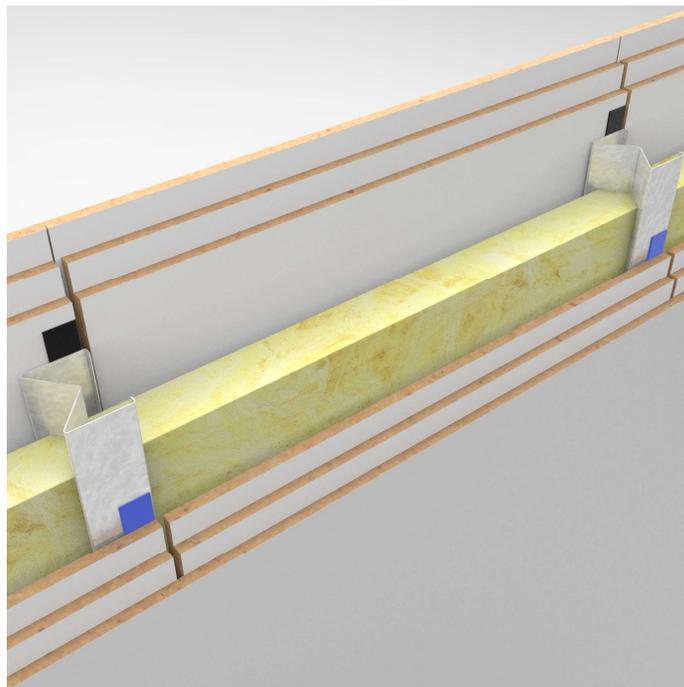
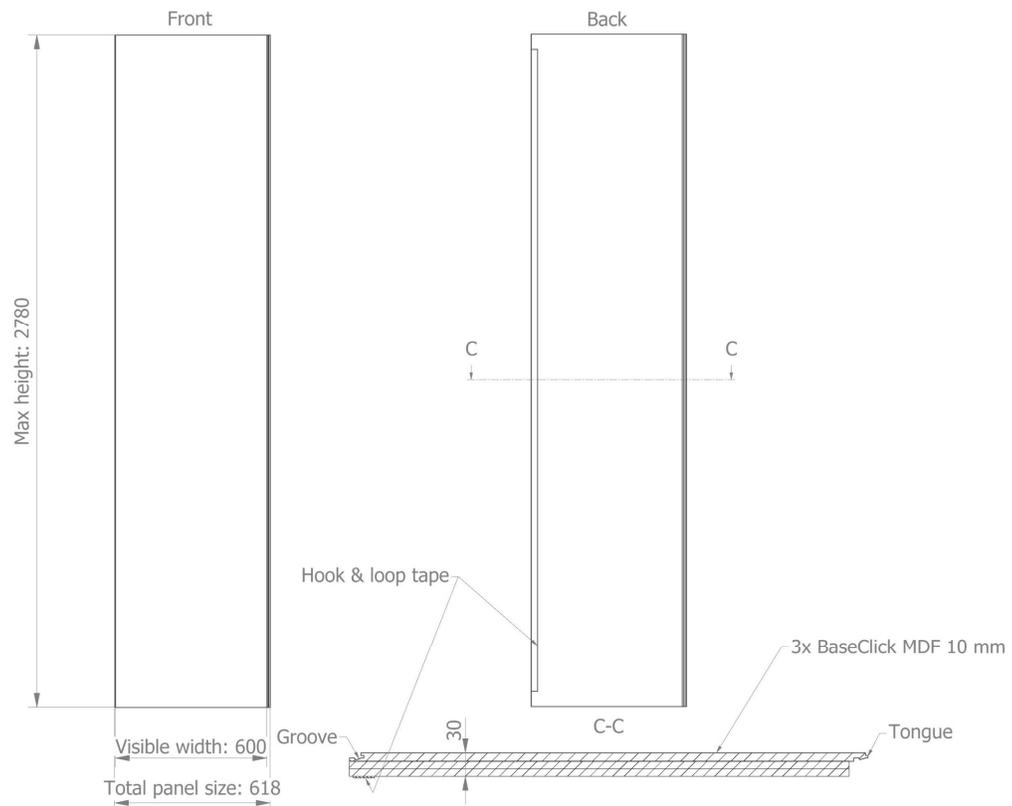
BaseClick panels come in sizes of 2780 mm and 3500 mm. These are delivered cut to height according to the project. The panels come with JUUNOO blue tapes.



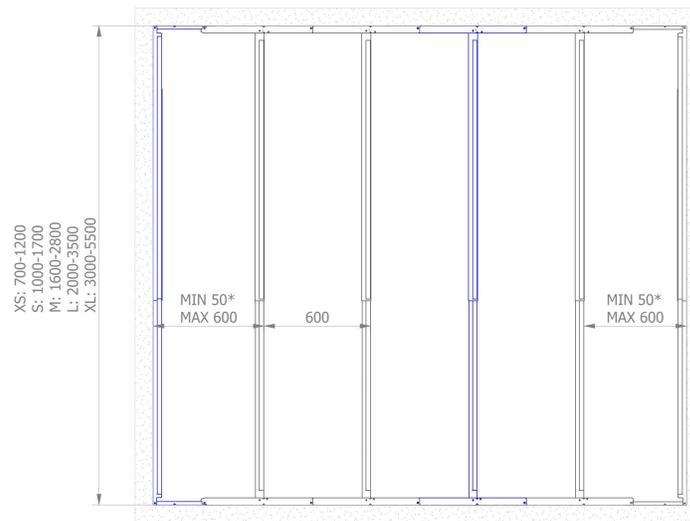
## 2.6 AcouClick dimensions



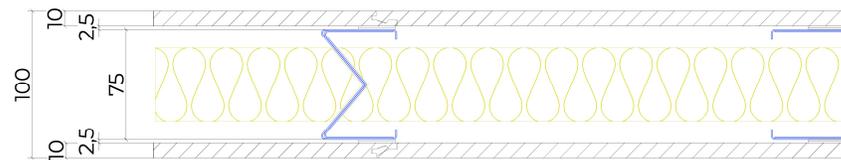
## 2.7 SilentClick Dimensions



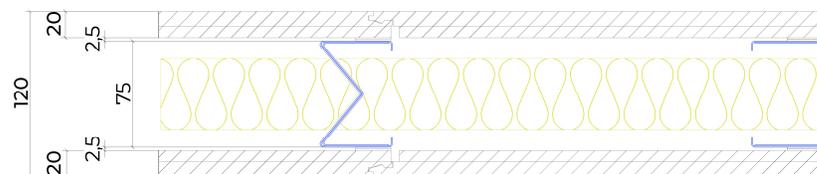
## 2.8 Generic dimensions of a wall



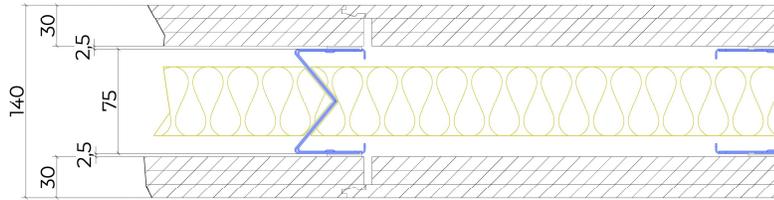
## 2.9 Wall thickness with BaseClick panels



## 2.10 Wall thickness with AcouClick panels



## 2.11 Wall thickness SilentClick panels



## 2.12 Materials used

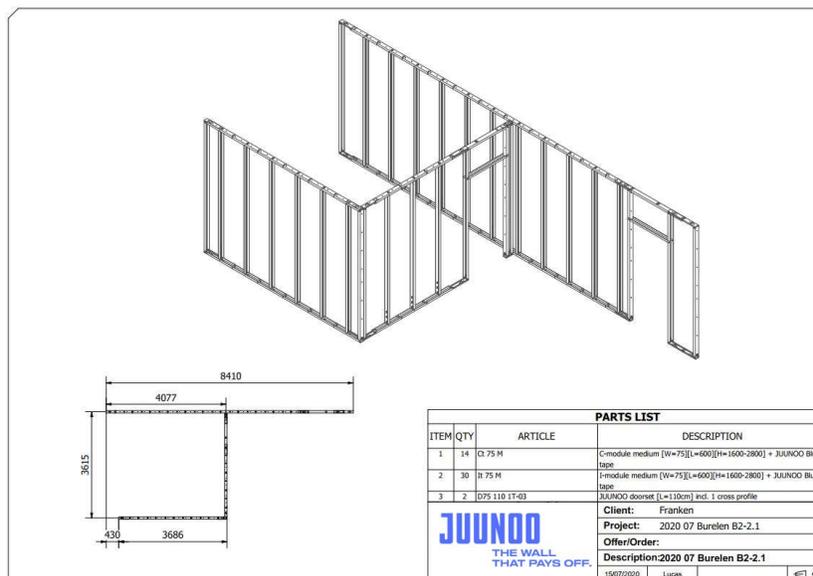
JUUNOO modules are made from S250GD – galvanised steel. Our guarantee to you is that at least 40% of this steel comes from recycling processes. The material consumption of the medium modules is as follows:

Medium size	New material	Recycled material	Total
C-module	2.3 kg	1.5 kg	3.8 kg
I-module	2.9 kg	2.0 kg	4.9 kg
D-set	1.5 kg	1.0 kg	2.5 kg

## 2.13 AutoCAD, Revit, BIM models

All components can be delivered in either 2D or 3D format for detailing requirements. Please contact [info@juunoo.com](mailto:info@juunoo.com) for technical drawings.

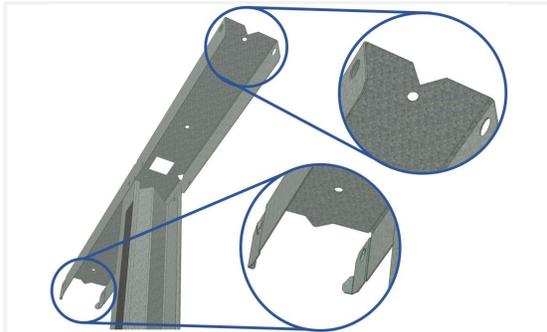
We can also offer you assistance in designing projects using the JUUNOO system.



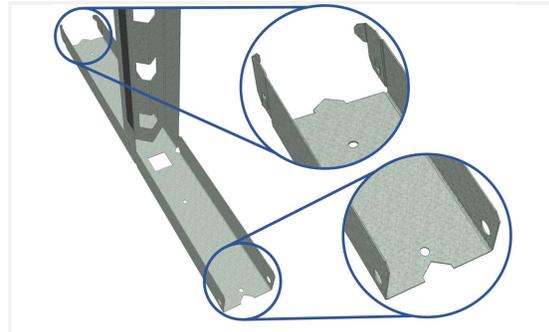
### 3 Modules

#### 3.1 Working with I-Modules

##### 3.1.1 Top and bottom of an I-module



Top edge: contour in the shape of a "roof".



Bottom edge: contour in the shape of a "house".

##### 3.1.2 Installing the I-Module



The modules are delivered folded.



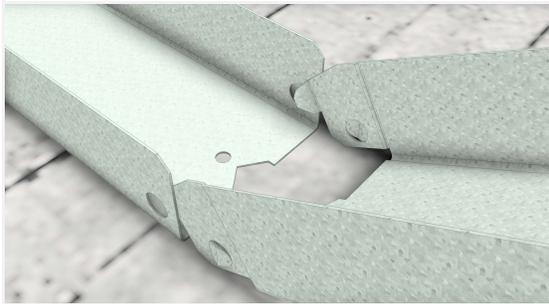
Unfold the horizontal profiles.



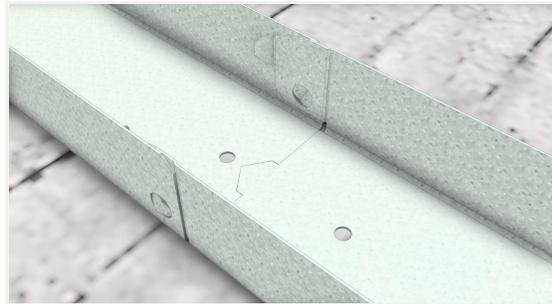
Open the Quickspan and slide the module open.



Clamp the module between the floor and ceiling by closing the Quickspan



Connect the second module to the first. The profiles have 'flaps' to facilitate the alignment



Click the horizontal profiles together.



Open the Quickspan and slide the module open.



Click the top horizontal profile into the previous parts.

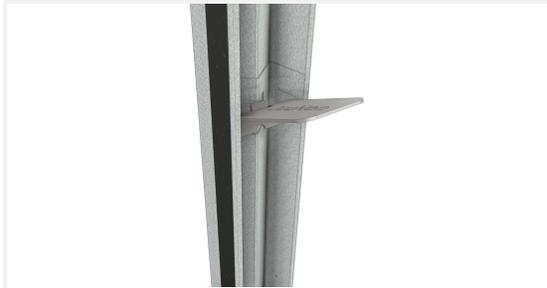


Clamp and fix the module.



Carry on building!

### 3.1.3 Height adjustments: Quickspan



With an open Quickspan you can infinitely adjust the height of a module.



The Quickspan acts as a lever so you can work smoothly.



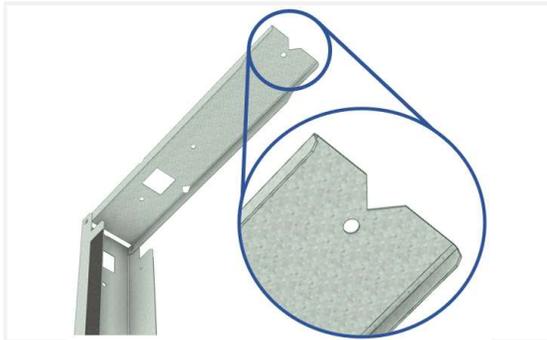
The modules slide open and clamp between the floor and ceiling. From this point onwards, the module is fixed.



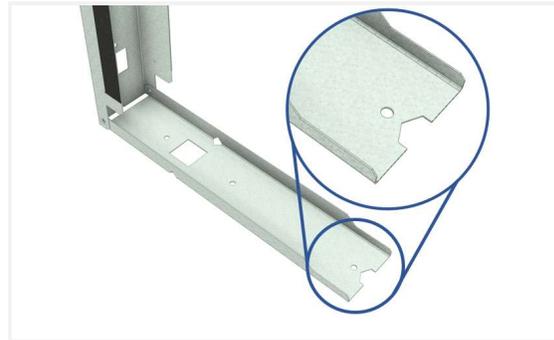
When the Quickspan lever is closed, the modules are tensioned and fixed in place.

## 3.2 Working with C-Modules

### 3.2.1 Top and bottom of a C-module



Top edge: contour in the shape of a "roof".



Bottom edge: contour in the shape of a "house".

### 3.2.2 Installation of a C-module



Unfold the horizontal profiles.



Insert the C-module into the I-module.



Slide the C-module against the corner.



Click the C-module into the I-module at the top and fix into place.

### 3.2.3 Height adjustments: Quickspan



With an open Quickspan you can infinitely adjust the height of a module.



The modules slide open and clamp between floor and ceiling.

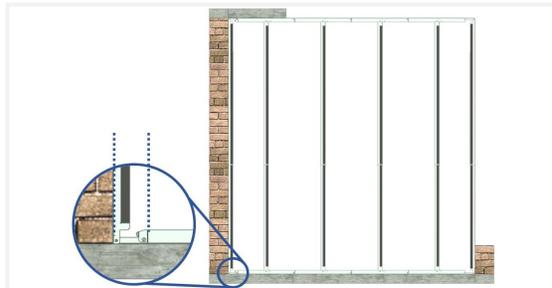


Closed Quickspan: the height is fixed.

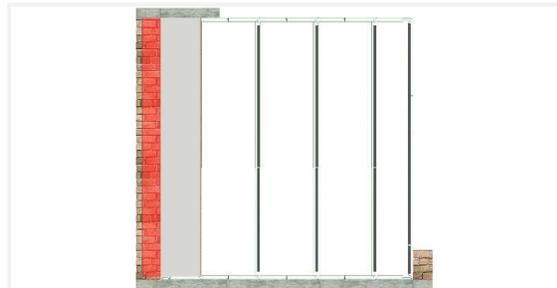
## 3.3 Starting point

### 3.3.1 Symmetrical construction

With a JUUNOO wall the **I-modules** are **distributed centrally** over the wall so that the distance to the I- and C-modules is the same at both ends of the wall.



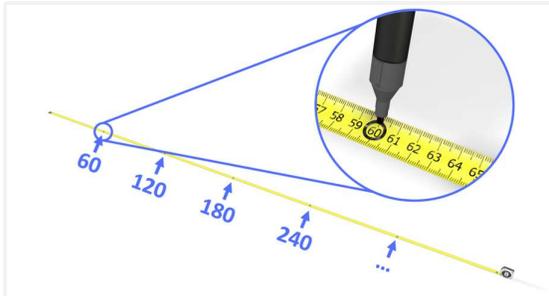
I-modules are central.



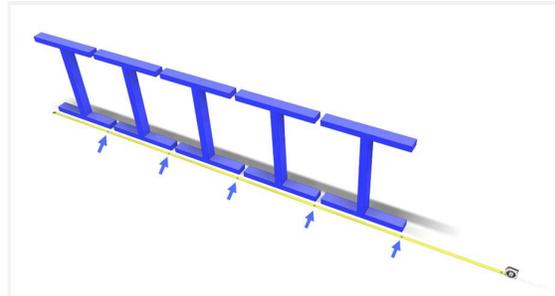
Start and stop panels are cut to size.

### 3.3.2 Determining where to place the start module with a tape measure

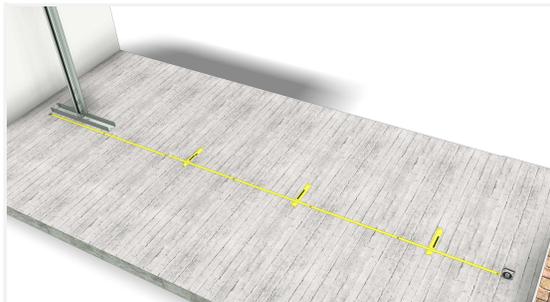
Using a tape measure means that a group of I-modules can be theoretically shifted along the length of the wall to see how they can be built up symmetrically.



On a tape measure, circle all the multiples of 60 cm (23 5/8").



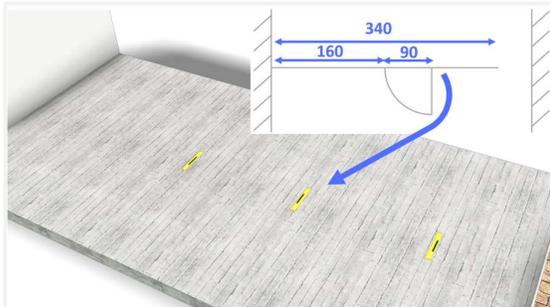
These distances represent the widths of the horizontal profiles of the I-modules.



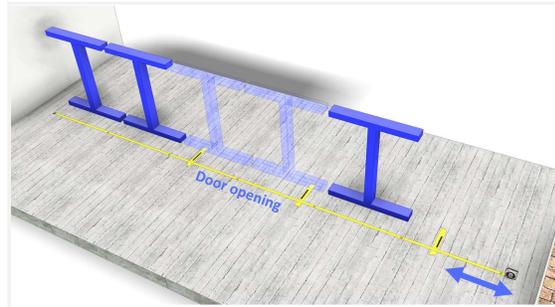
Once the tape measure is in place, place the first I-module at the beginning of the tape measure.

### 3.3.3 Using a tape measure to easily plan a wall

A tape measure is the perfect tool for placing modules around doors or pipes. By laying out and moving the tape measure, you can very quickly see how everything interacts with each other.



Mark doorways and ends of walls on the floor.



Note that only 2 theoretical I-modules overlap the doorway. If the base of a third I-module remains in the doorway, trim the base of that I-module.



Insert the I-modules. Insert a door top profile in the place of the door opening.

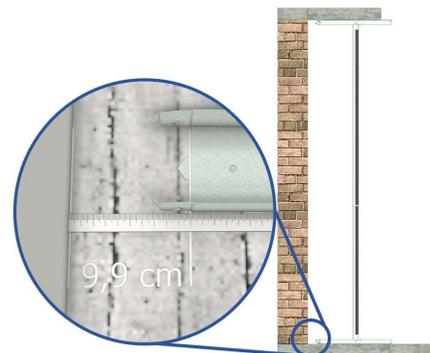


Now place the C-modules on the floor marking.

### 3.3.4 Calculate where to place the start module

If the tape measure is too short it can be useful to determine the start position manually as follows:

- Measure the length of the wall in cm  
**example: length = 260 cm**
- Divide this length by 60 cm  
**example:  $260\text{cm}/60\text{cm} = 4.33$**
- Multiply the numbers after the decimal point by 30 cm  
**example:  $0.33 \times 30 \text{ cm} = 9.9 \text{ cm}$**

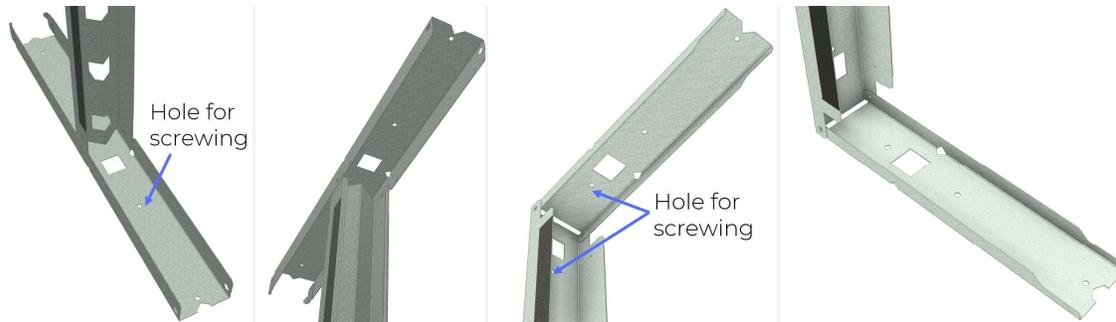


### 3.4 Fixing the modules

Quickspan is very effective in temporarily securing the modules. However, it is not strong enough to act as a replacement for individually fixing the modules into their surroundings.

#### 3.4.1 Fixing with screws

The modules have pre-drilled holes at the top and bottom ( $\varnothing$  6 mm). All that is needed for each module is to fix it once at the top and once at the bottom with screws. Depending on the application, several screws can be used.



Depending on the material against which the modules are being fixed, you might need to use a specific type of screw. *Tip:* use screws without countersunk heads.

Type of screw (suggestion)	Substrate
Anchor 5 x 30 mm 	Concrete, tiles, etc.
Wood screw 3.5 x 13 mm 	Wood, laminate, etc.
Self-drilling screws 4 x 25 mm 	Technical floor with metal layer
Tek screw 4.2 x 13 mm 	Metal studs, other JUUNOO modules

### 3.4.2 Fixing with JUUNOO blue tapes

The wall can be fixed to the floor and ceiling without causing any damage. JUUNOO blue tapes are used to do this. To avoid damage when removing the tapes, you can first apply high-quality masking tape.

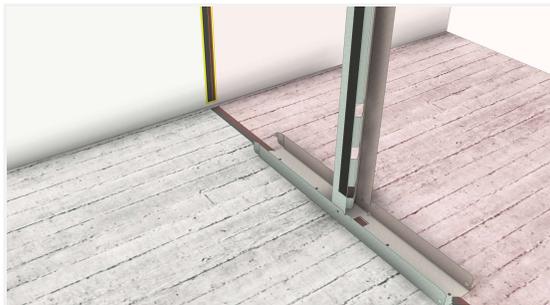
The tensioned modules ensure that the adhesive bonding of the tapes is fully compressed, and they are therefore fixed into place very firmly.



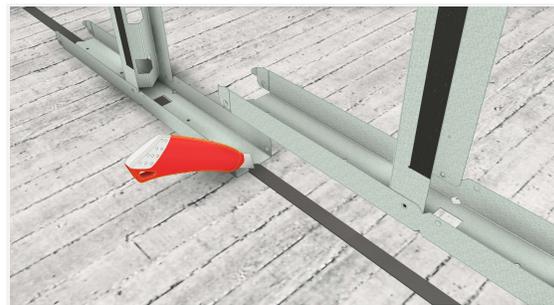
Optional: apply painter's tape to all fragile or delicate surfaces.



First apply the hook side of the JUUNOO tapes, then the loop side. Partially remove the backing sheet.



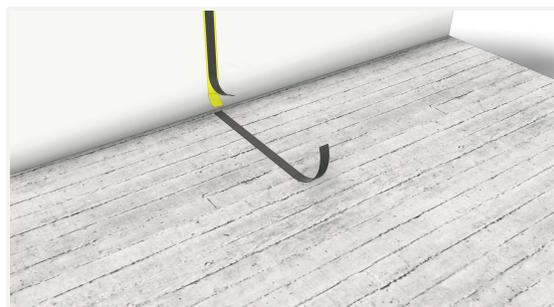
Insert the I-module as you would normally.



In order to be able to disassemble it easily later, we recommend cutting the tape at the joint of each module.



Complete the structure.

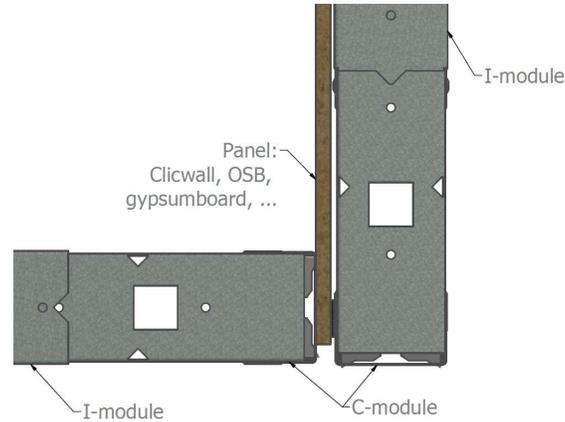


When disassembling, the JUUNOO tape can be removed from its surroundings. It can also be removed from the modules if desired.

### 3.5 Corners

#### 3.5.1 Mounting angle: detail

Two JUUNOO C-modules can easily be placed at an angle. It is recommended that the panels of one wall continue between the 2 C-modules.

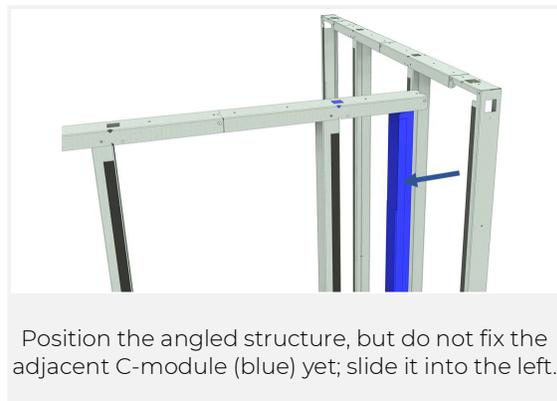


#### 3.5.2 Construction method

We recommend that you only fix the C-module of the connecting wall in the corner once the panel has been mounted. For example, one construction team can install modules, and another can install the panels.



Position and fix 1 module structure.



Position the angled structure, but do not fix the adjacent C-module (blue) yet; slide it into the left.



Mount the panels to the 1<sup>st</sup> structure.

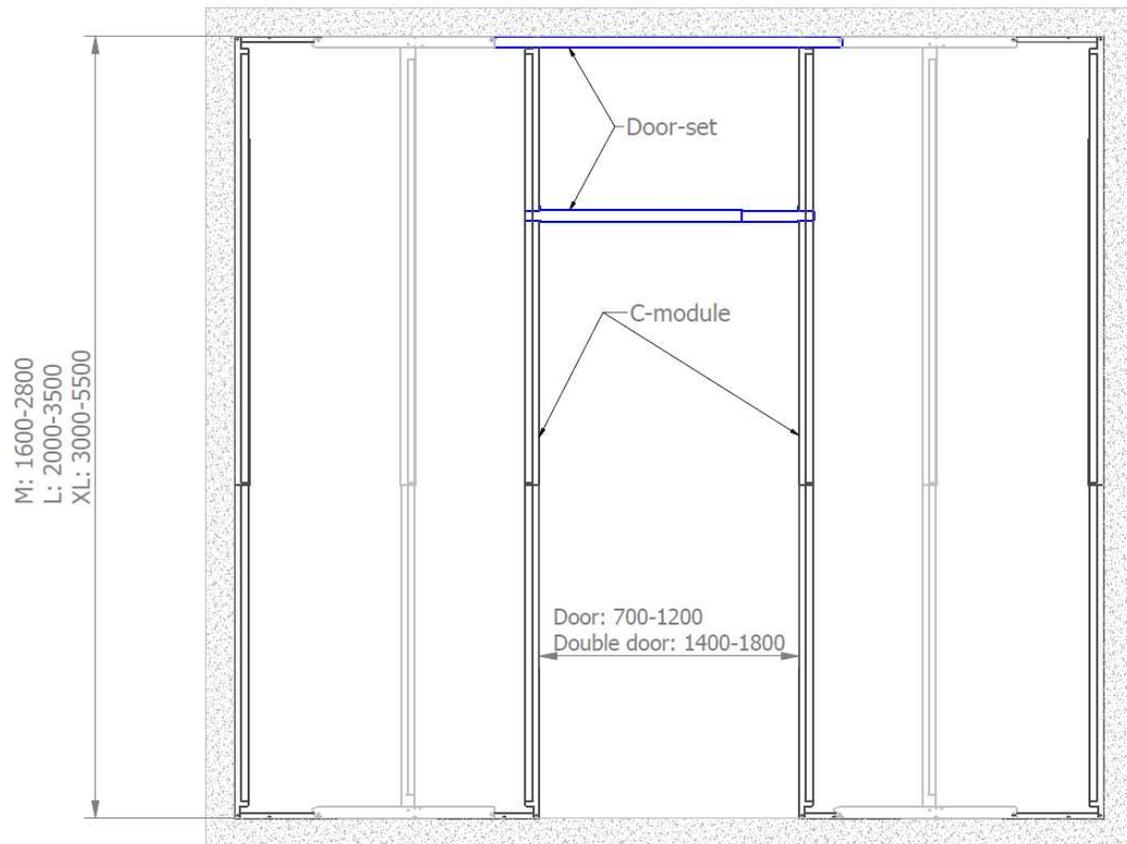


Slide the C-module against the panels and fix where necessary.

### 3.6 Doorway: D-set

#### 3.6.1 General principle for creating a doorway

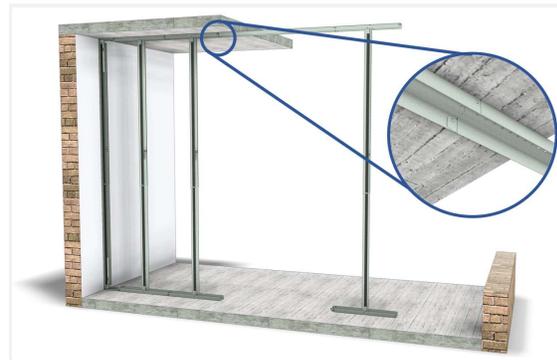
A doorway is created by installing two C-modules and a door-set at the place where two I-modules would normally be installed. The two C-modules are on the left and right of the doorway. The door-set will be mounted above the doorway. The click-in panels continue along, with the JUUNOO blue tapes on the panels to the left and right of the door matching up with the tapes on the modules.



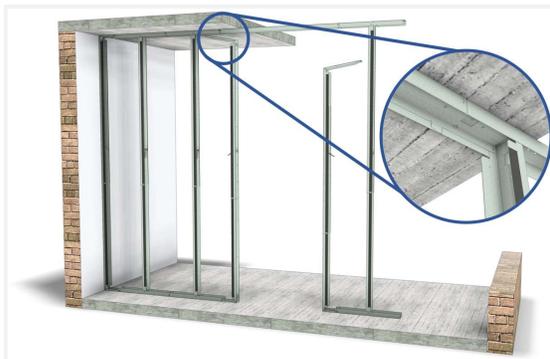
### 3.6.2 Positioning of standard doorway: D-set



Click the large 120 cm door profile (= 2 I-modules) into the I-modules and fix it.



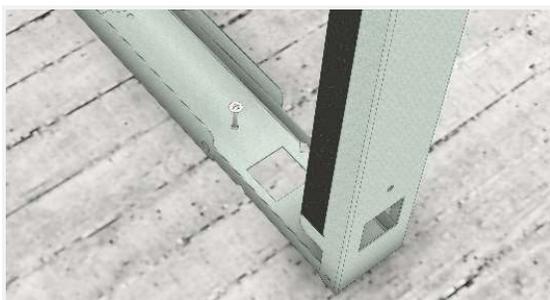
Click the next I-module into the door profile. Make sure it is level again.



Place the 2 C-modules into position on the door. These slide into the door profile at the top, and slide into the I-modules at the bottom.

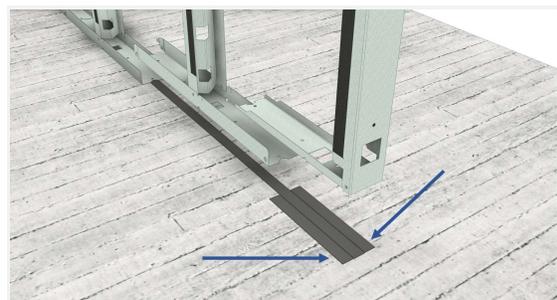


The placement of the C-modules/width of the door opening can be adjusted.



The C-module should preferably be screwed into the floor and ceiling.

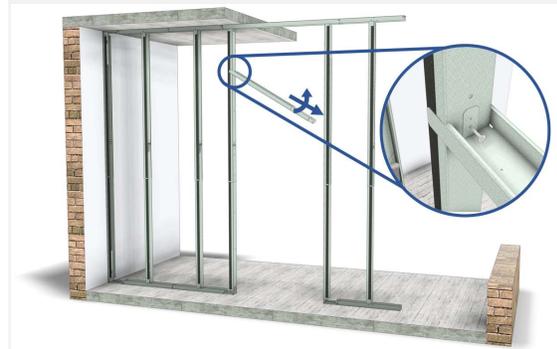
When working with a doorway of 90 cm, the holes in the I- and C-modules will match. For other widths, you will need to drill a new hole.



When fixing the modules with JUUNOO blue tapes, you will need to use two additional strips of tape underneath the C-modules next to the doorway.



If it is not possible to screw into the ceiling, the horizontal top edge of the C-module must be fixed to the door module using JUUNOO blue tapes.



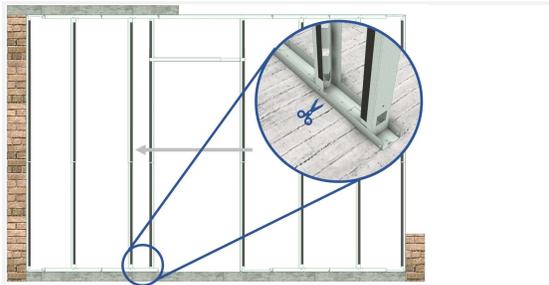
Attach the telescopic cross section to the C-modules at the desired height. The cross profile has a flap that can be fixed with self-tapping screws.



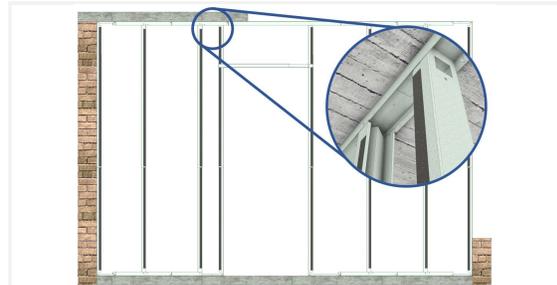
Complete the structure.

### 3.6.3 Door shifts to the left/right

In certain situations (wide doors, specific positioning of doors, etc.) the horizontal profile of the I-module may be inside the door opening. This can be cut off if necessary.



Door shifts to the left: this causes the I-module to the left of the door to protrude into the doorway. This piece must be cut off before the module is installed.



There will be no problems with the structure at the top.

To cut the I-modules, proceed as follows:



Unfold the last I-module.



Cut the raised edges on the horizontal profile at the mark indicated.



Fold the profile piece over and cut the bottom edge.



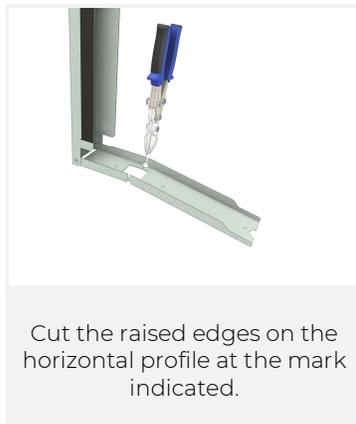
This way you will end up with an I/C-module.

### 3.6.4 Installing a door close to the wall

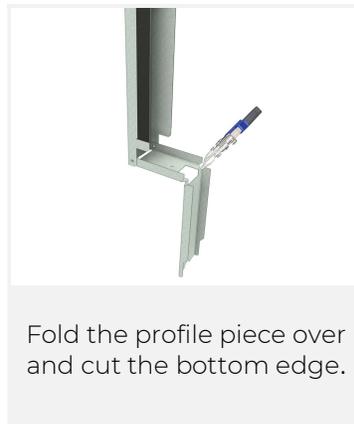
If the door is less than 60 cm from the wall, two C-modules will face each other without there being an I-module between them. In this case, we recommend folding the C-module against the wall and possibly shortening the C-module against the door.



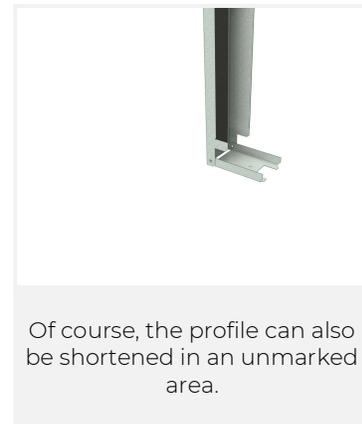
You shorten the C-module in a similar way in which you shorten the I-module.



Cut the raised edges on the horizontal profile at the mark indicated.



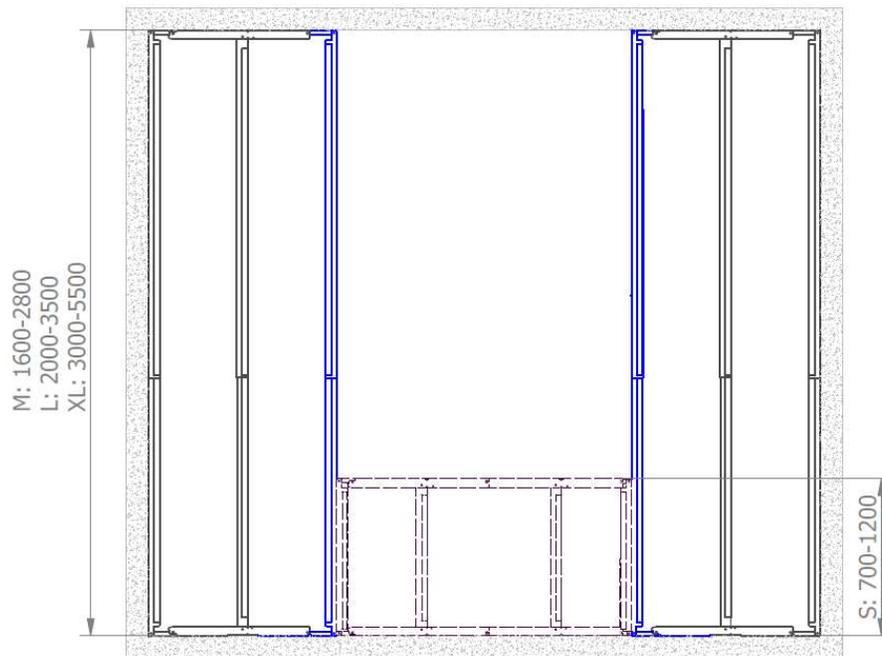
Fold the profile piece over and cut the bottom edge.



Of course, the profile can also be shortened in an unmarked area.

### 3.7 Combining with glass windows, glass doors and special components

#### 3.7.1 Generic dimensions: open wall with two C-modules



Small modules (Small, S) are optional.

#### 3.7.2 Installation of a combination wall

AJUUNOO wall can be easily combined with glass walls, windows, large doors or other types of openings. In locations where you must install other systems, the JUUNOO wall simply ends with a C-module.

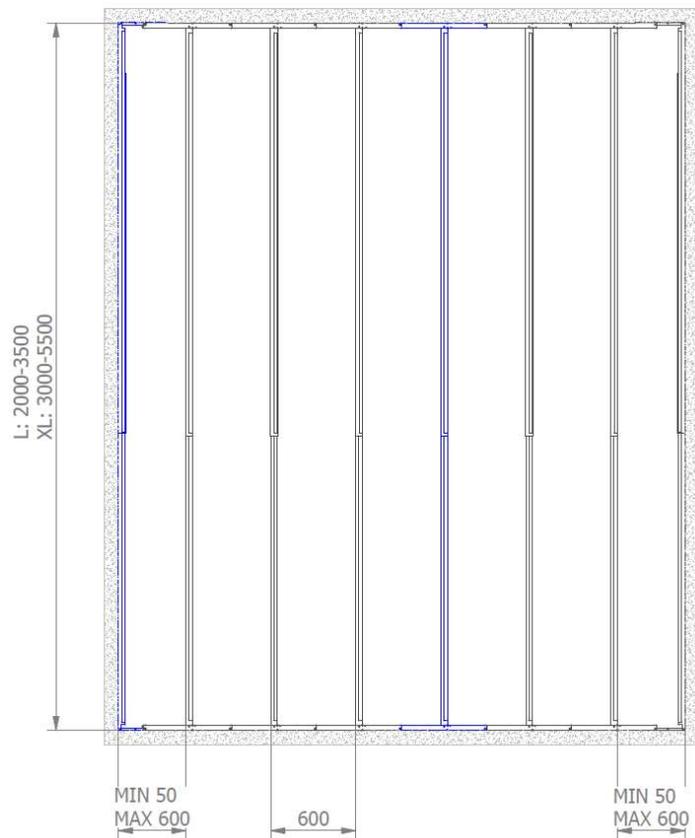


### 3.8 High walls

The installation process for a high wall is identical to that of a normal wall.

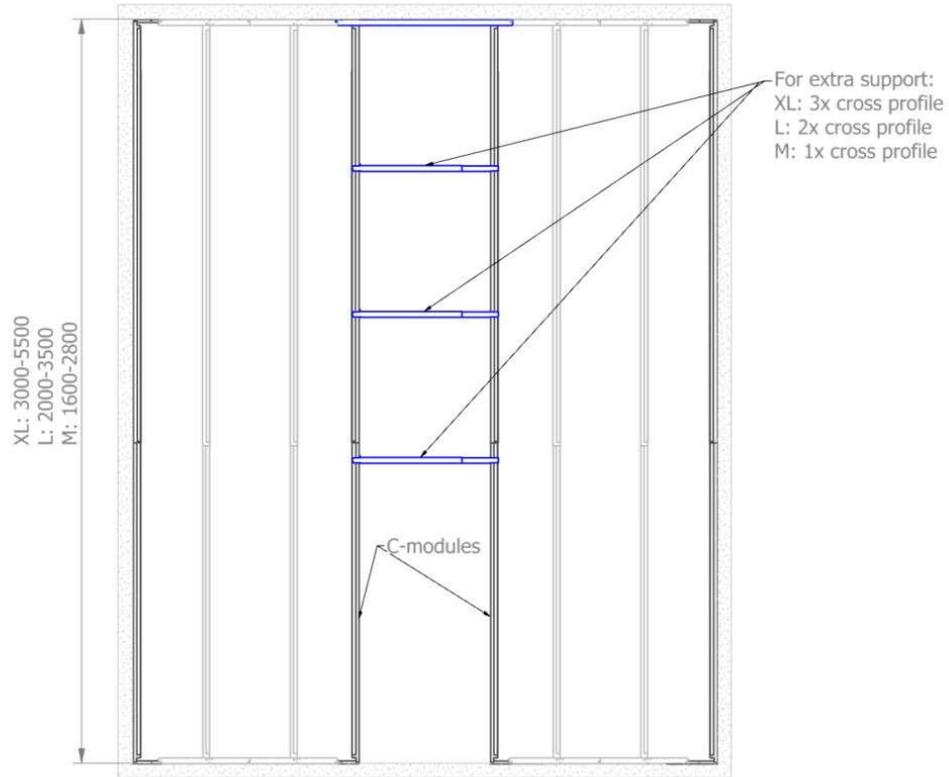


#### 3.8.1 Generic dimensions: high walls



### 3.8.2 Door in high wall

Several cross sections are provided depending on the height. These give extra support to the joints of the panels that come above the doorway.



### 3.9 Connection to a drop ceiling

#### 3.9.1 Basic connection

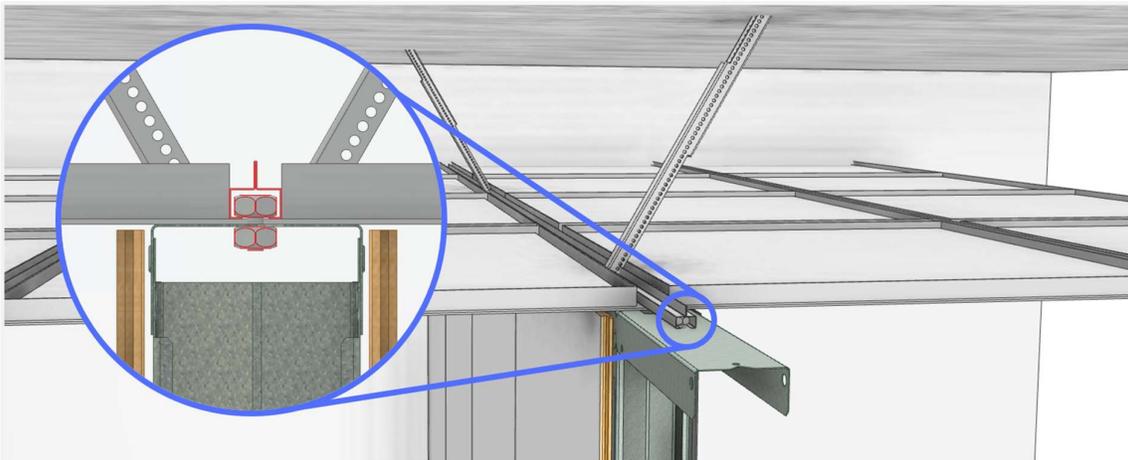
- 1) If the wall is to be placed on a profile of the drop ceiling, the modules can be fixed to this profile.



- 2) If the wall is not to be placed on a profile of the drop ceiling, a wooden board can be first fixed to the ceiling and then all the modules will be positioned against it.

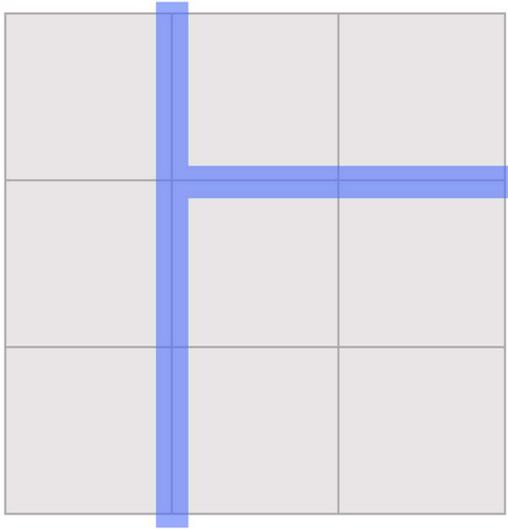


- 3) Some ceilings have a U-channel where a bolt (M6 or smaller) connects the modules.

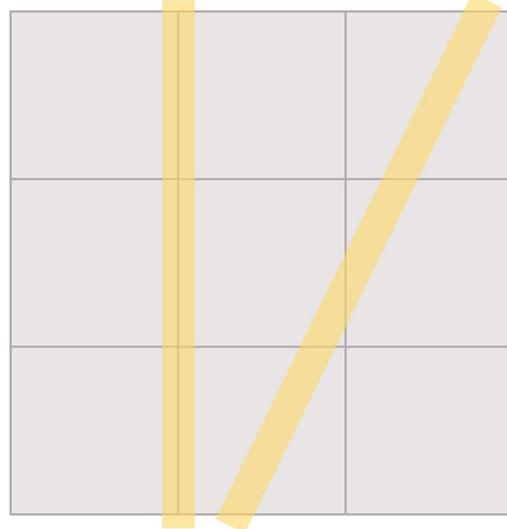


The ceiling systems differ in their position flexibility.

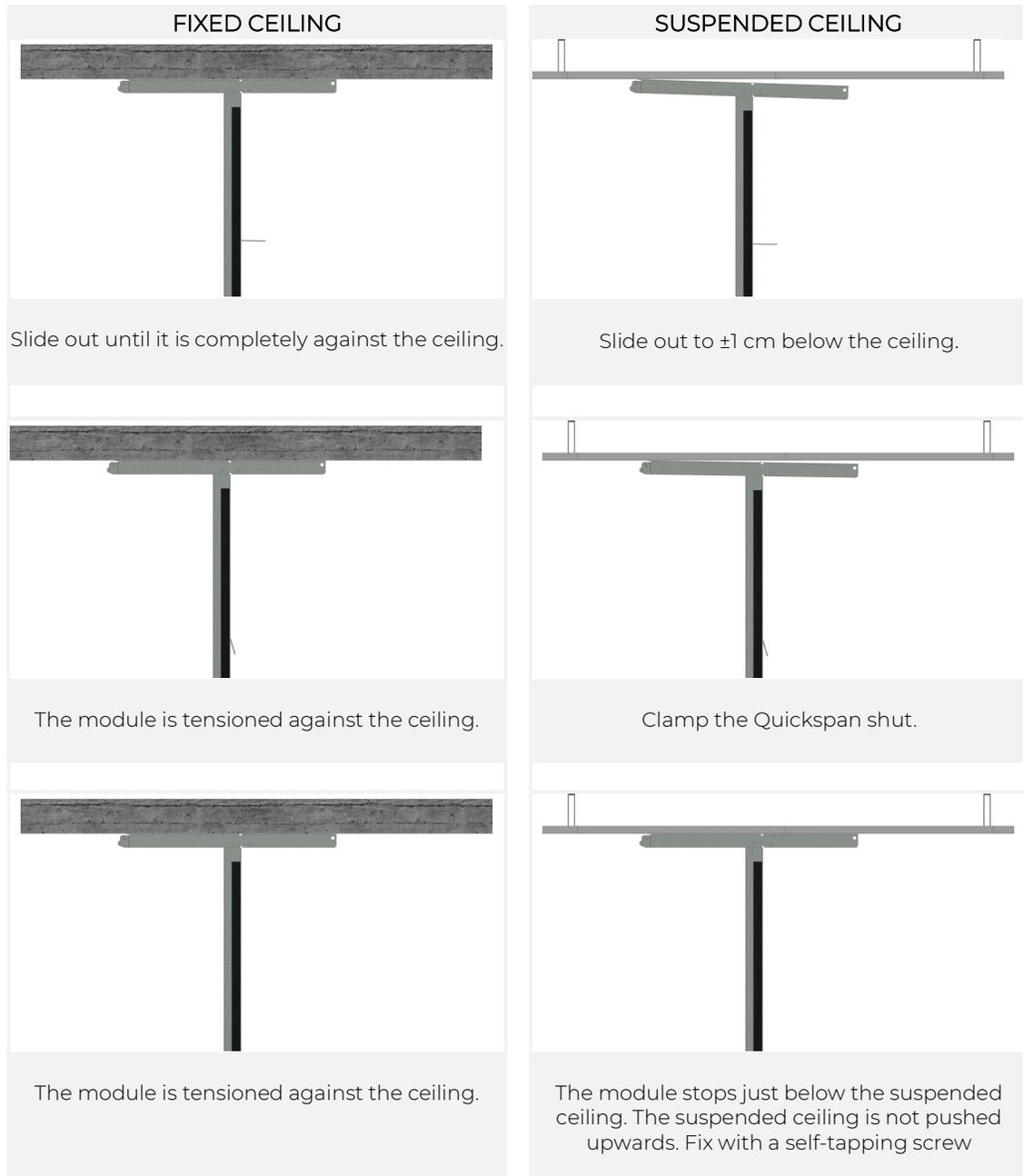
System 1 and 3 are constraint to the preinstalled ceiling grid.



System 2 can be put anywhere on the grid. System 1 & 3 require extra holes to be drilled in the horizontal side of the modules, on the location where they intersect with the grid, to allow a screw or bolt to fit in the grid



The modules are usually extended against the ceiling and only at that point are they tensioned. With a suspended ceiling, however, this would be difficult since the suspended ceiling would be pushed upwards. The following method is therefore used:



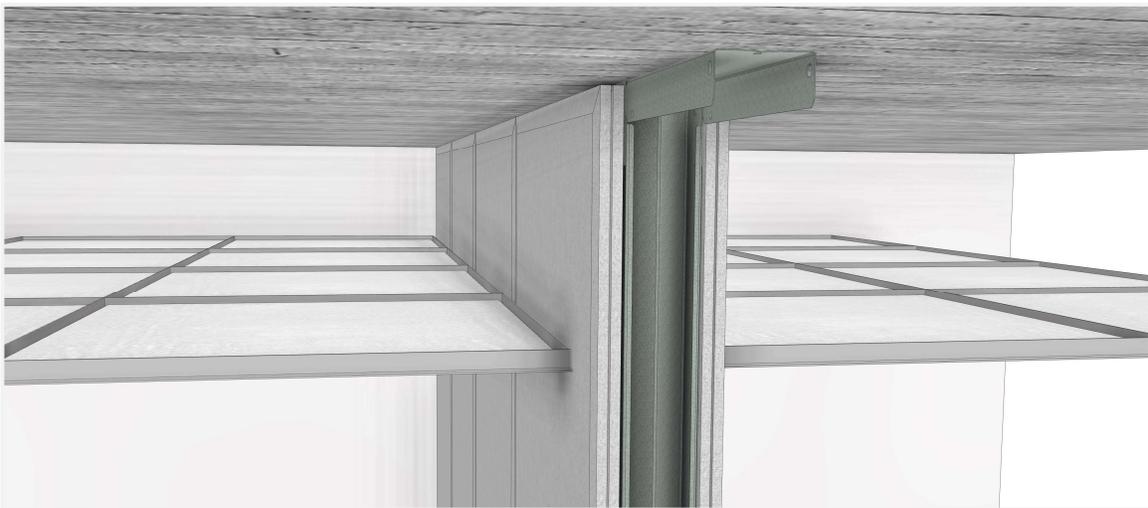
### 3.9.2 Acoustic connections

When installing the JUUNOO wall under a drop ceiling, vertical and horizontal reinforcements are recommended where necessary. It is also recommended that you work with bandraster grids.

To avoid acoustic insulation problems, the space above the wall should be filled with an acoustic barrier and the joints should be sealed with aluminium tape. When installing the acoustic barrier, the manufacturer's instructions must be followed.



For an alternative arrangement, the drop ceiling can be installed after the installation of the JUUNOO wall. This is a more robust structure, but less easy to adapt.



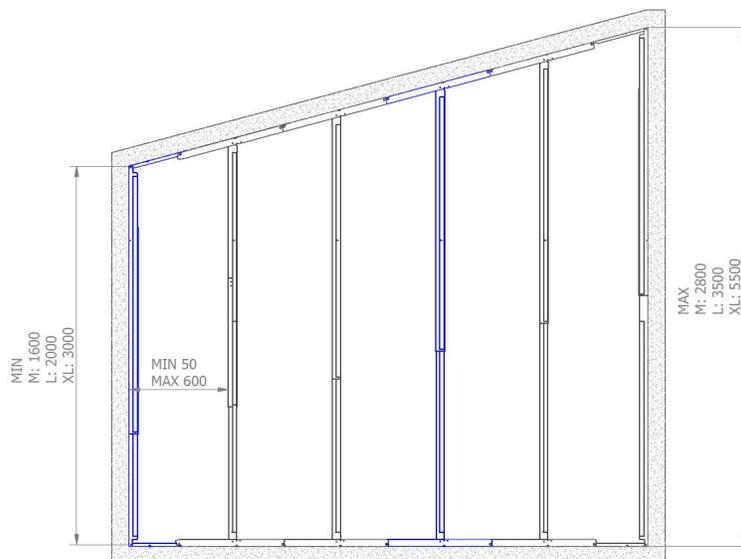
### 3.10 Walls under a pitched roof

JUUNOO walls can be placed under a pitched or sloping roof if they are within the minimum and maximum range of the modules. If the dimensions are outside these limits, you will need to customise the solution.

When installing under a sloping roof, the I-modules must each be mounted vertically. They therefore do not click together in this set-up. At the top of the modules there must be at least 2 fixation points per module.



#### 3.10.1 Minimum and maximum range under a pitched roof



## 4 In the wall

### 4.1 Acoustic insulation

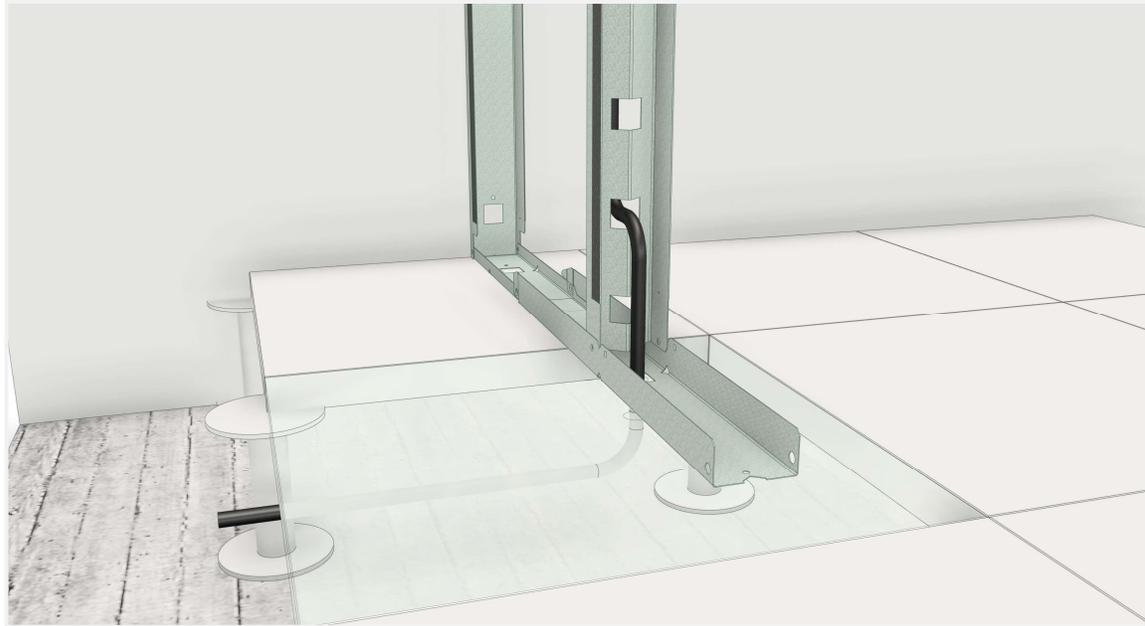
Standard panels fit perfectly between the vertical profile of the JUUNOO modules.



## 4.2 Cabling

In JUUNOO modules, we have provided 40 mm x 40 mm square openings for cabling. There is one opening each in the horizontal sections of the modules, and three openings in the vertical profile.

Through the openings in the horizontal profiles, it is possible to pull cables through from a technical floor or drop ceiling into the JUUNOO structure.



Cables can run above and below the vertical profiles; the maximum height between the horizontal and vertical posts is 39 mm.



## 4.3 Electrical outlets

### 4.3.1 Placement

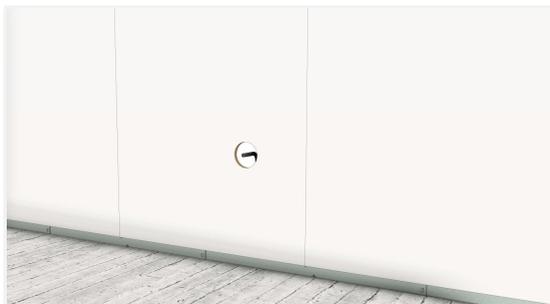
Electrical outlets can be easily installed in the JUUNOO wall.



Provide the necessary cables.



Attach the click panels to the modules.



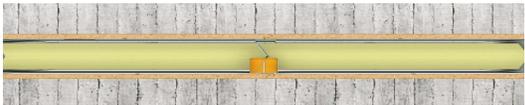
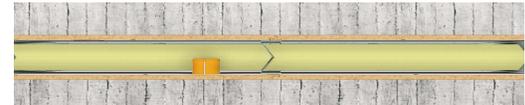
Make a hole at the desired position.



Fix the flush-mounted socket in front of the socket.

### 4.3.2 Optimize reusability

It is recommended that the outlet is inserted in the central area of a panel, and not on a joint. This way you will not need to make a cut-out in the steel modules.

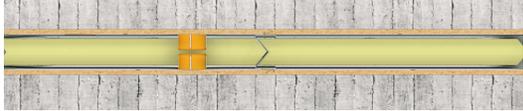
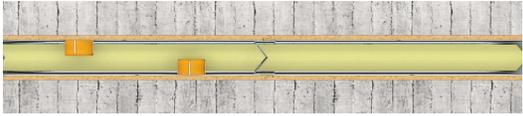
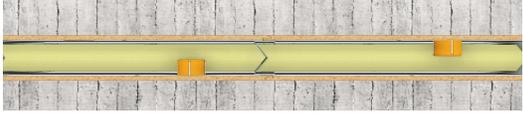
<p>Poor option Making a cut-out in the module will make it less usable. Also, due to the positioning, a hole is made in 2 panels.</p>	<span style="color: red; font-size: 2em;">✗</span>	
<p>Good option A hole is only made in 1 panel. The module is not affected, which increases its reusability.</p>	<span style="color: green; font-size: 2em;">✓</span>	

### 4.3.3 Acoustic positioning

Take care when installing electrical outlets in an *acoustic wall*.

Sockets along both sides of a wall are a major 'acoustic leak' when installed directly opposite each other.

It is better to leave some space between two opposite outlets.

<p>Poor option: Sound can pass through the wall in one straight line.</p>	<p>X</p>	 A cross-sectional diagram of a wall with a yellow acoustic batt. Two electrical outlets are installed directly opposite each other on the two sides of the wall. A blue arrow shows sound passing straight through the wall from one outlet to the other.
<p>Better option: The sound must travel a greater distance through the acoustic batt inside.</p>	<p>✓</p>	 A cross-sectional diagram of a wall with a yellow acoustic batt. Two electrical outlets are installed on opposite sides of the wall, but they are offset horizontally. A blue arrow shows sound traveling a longer path through the acoustic batt.
<p>Best option: The sound must travel a long way and will be partially absorbed by the modular style.</p>	<p>✓✓</p>	 A cross-sectional diagram of a wall with a yellow acoustic batt. Two electrical outlets are installed on opposite sides of the wall, offset horizontally. The outlets are modular, meaning they have a grid-like structure. A blue arrow shows sound traveling a long path through the acoustic batt, which is partially absorbed by the modular style.

There are plenty of pastes and foams, etc. on the market that you can use to make the back box etc. completely soundproof.

## 5 Panels

### 5.1 Mounting of panels on JUUNOO

#### 5.1.1 Fastening with JUUNOO blue tapes

If using both JUUNOO and click panels, you can use JUUNOO blue tapes. We recommend using screws for higher loads (> 25 kg per panel).

The advantage of using the JUUNOO tapes is the speed at which you can install them and how easy and simple it is to dismantle the panels from the wall.

If you want to install other finishing panels with JUUNOO tapes, we recommend you contact the JUUNOO technical service or [info@JUUNOO.com](mailto:info@JUUNOO.com).



JUUNOO tapes can be provided by JUUNOO as standard on the modules and clicker panels. The contractor also has the option to purchase the tapes in rolls of 25m.



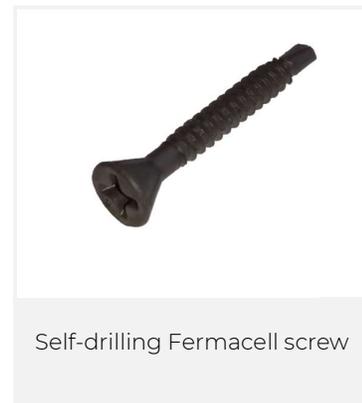
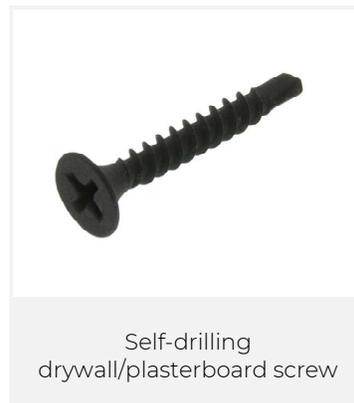
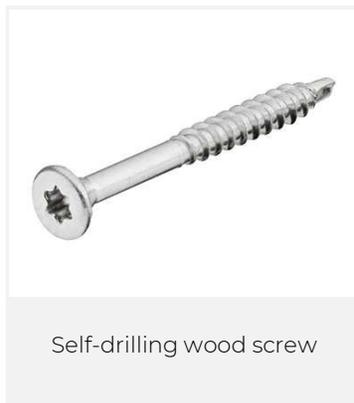
The JUUNOO tapes should be installed on a dust-free, degreased surface, at a temperature above 20 °C and at a humidity between 40% & 60%. After assembly, the JUUNOO tape must be pressed on firmly. The JUUNOO tape should be allowed to rest for at least 24 hours before loading.

### 5.1.2 Fastening with screws

When screwing in the finishing panels, use the appropriate screws and spacing as prescribed by the panel manufacturer. This is the case, for example, with fire-resistant walls.



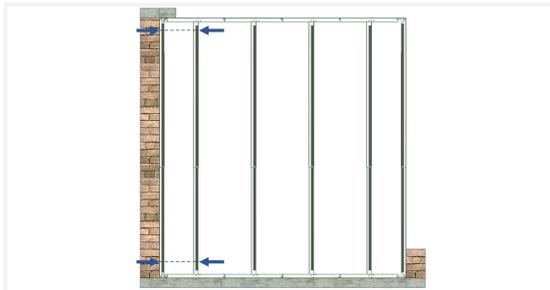
JUUNOO strongly recommends that you use a self-drilling version of these screws. This ensures that no lip is formed in the screw hole so that the profiles can continue to slide smoothly over each other after removal of the screw.



### 5.1.3 Additional information on acoustics and fire

In terms of acoustics, there is no noticeable difference between using screws or tape for attaching panels because the industrial JUUNOO blue tapes provide a very rigid connection. Information about test results can be found in chapter 10.1. For a fireproof wall, screws must be used on the panels against the structure since JUUNOO blue tapes are not made for this purpose.

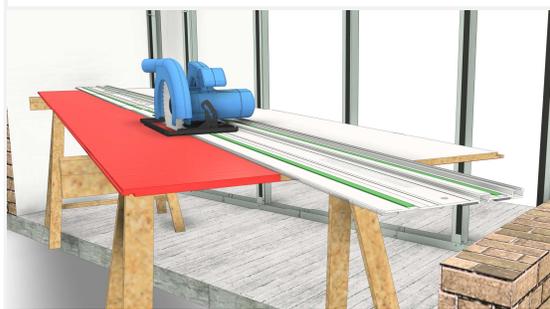
## 5.2 Mounting BaseClick & AcouClick



Measure the width of the wall up to the overall edge of the I-module.



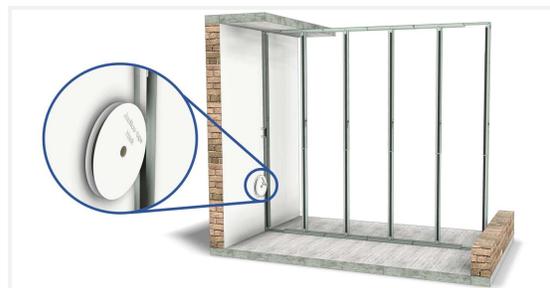
Mark this on the starting panel.



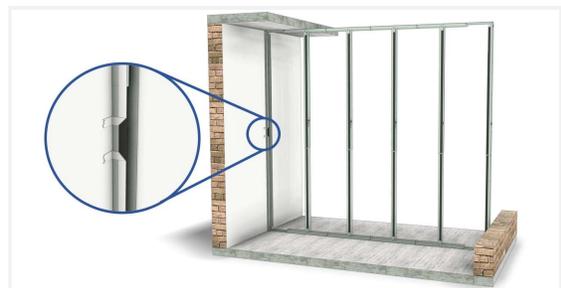
Shorten the panel.



Test to check the sawn panel fits.



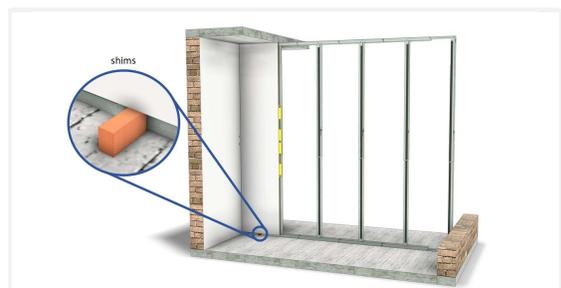
Stick JUUNOO tape (hook) on the C-modules.



Tear the backing sheet in two and fold 2 flaps over against the wall.



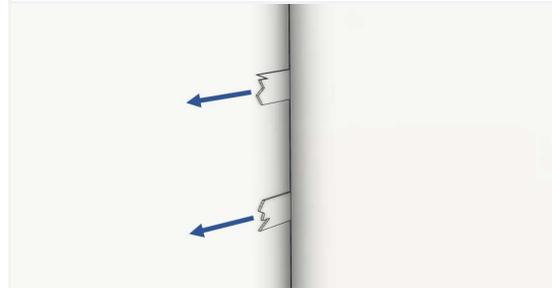
Install the first panel against the left wall and ceiling. Do not press the panel against the tape yet.



Using a spirit level, hang the first panel as straight as possible. Shims can be used to guarantee they are fully connected to the ceiling.



The panels are not placed directly on the floor to avoid possible problems with rising damp. Once level, press the panel firmly.



Pull off the backing sheet of the JUUNOO tape and press the panel.



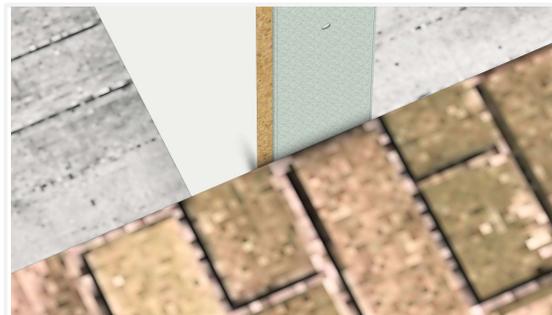
Apply the 2<sup>nd</sup> panel at an angle of  $\pm 30^\circ$ .



The tongue of the 2<sup>nd</sup> panel hooks into the groove of the first panel. Move back and forth until closed.



Put the rest of the panels in place.

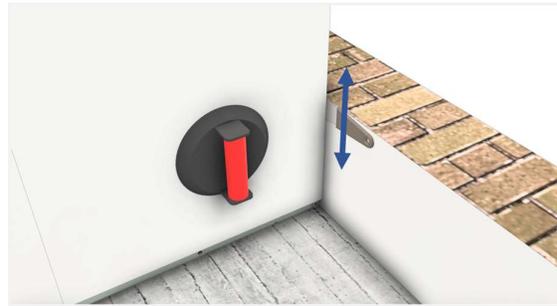


Saw the last panel to width. Provide at least 2 mm clearance between the wall and the panel.

### 5.3 Disassembling BaseClick & AcouClick



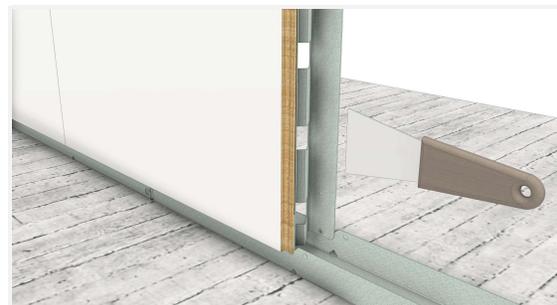
A putty or filling knife will be needed to loosen the JUUNOO tape between the first panel and the JUUNOO modules.



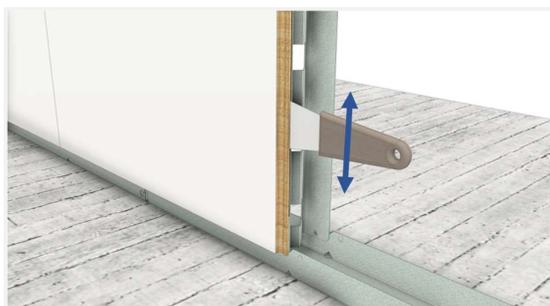
Hook the putty knife behind the click panel and score it up and down while pulling the panel backwards (using a suction cup if necessary).



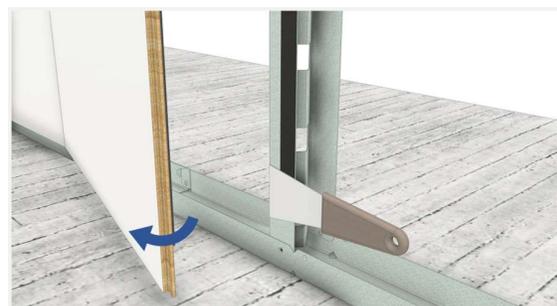
The panel can now be unfolded.



The rest of the click panels can be loosened with a straight spatula. Insert this between the panel and the module.



Move up and down to loosen the JUUNOO tape.



The panel can now be unfolded and clicked loose from the adjacent panel.

## 5.4 Drywall panels

Drywall can be perfectly screwed into the JUUNOO modules using black coated self-drilling screws.

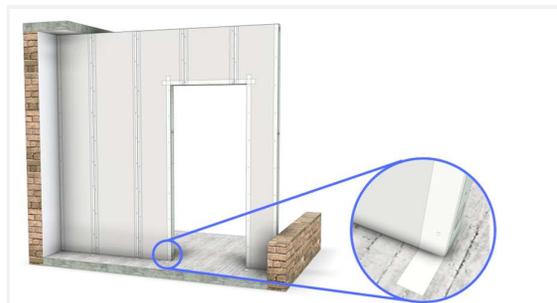
By ensuring you use extra strong circular joint sealing strips and the correct filler, the drywall panels can be reused numerous times.



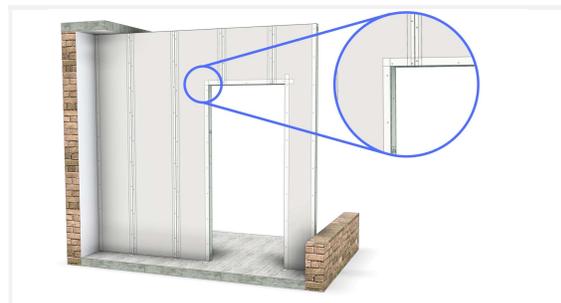
Put the JUUNOO structure in place. Use modules without JUUNOO tape.



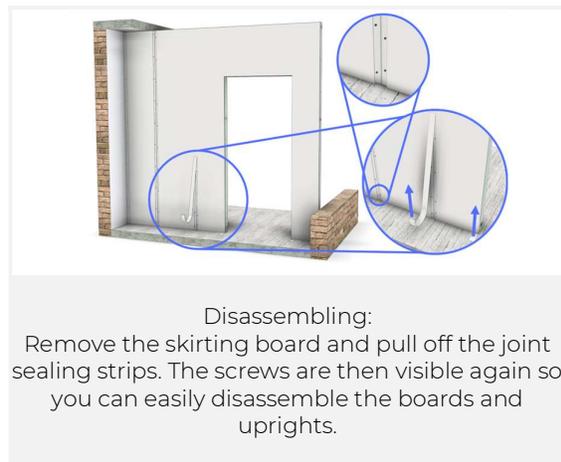
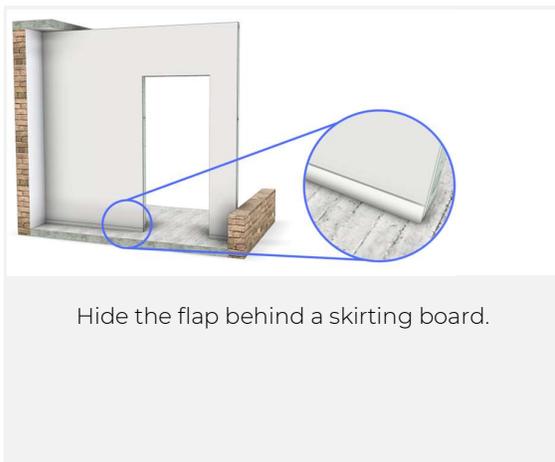
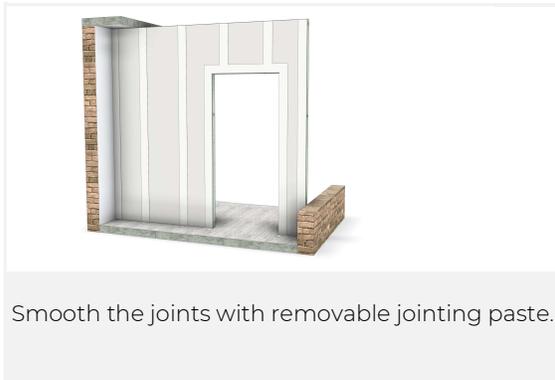
Screw the plasterboards to the structure using self-drilling screws. The drill point ensures that no collar forms around the holes. This increases the reusability of the modules.



Cover all of the joints and screws with extra strong circular joint sealing strips. Allow  $\pm 10\text{cm}$  to protrude at the bottom. For 120cm panels, the central row of screws should also be covered.



Ensure that intersecting sections of joint sealing strip overlap with each other.



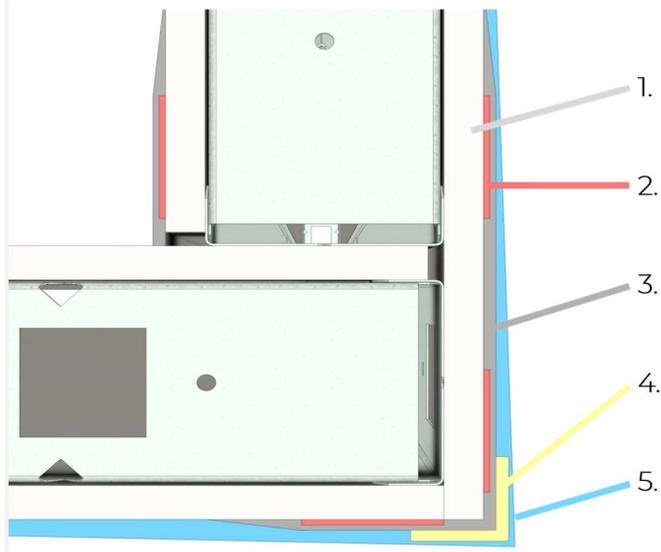
The general guidelines on installing drywall panels and jointing also apply to use on a JUUNOO structure.

When building a gyproc or habito wall, an expansion joint with expansion joint profile must be provided every 15 m.

Ensure the plasterboard and the joint sealing strips are properly centred.

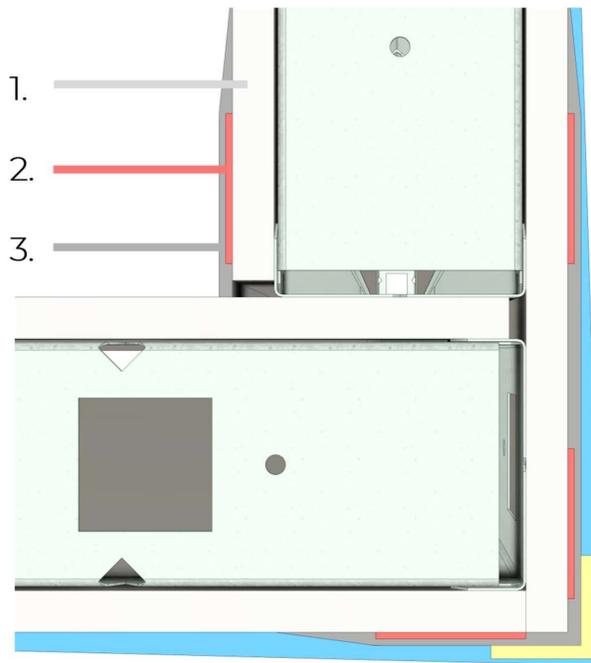
This reusable solution can be used in fire protection and acoustic systems without affecting performance.

## EXTERIOR ANGLE



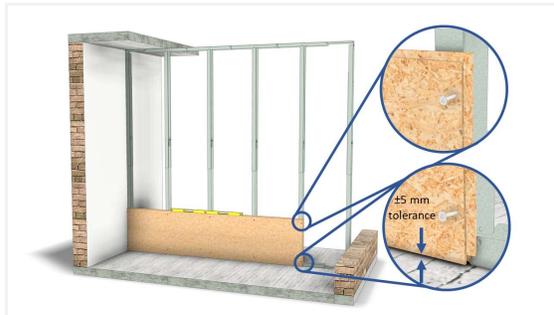
1. Drywall panel
2. Circular joint sealing strips. Leave  $\pm 10$  cm gap at the bottom
3. Circular jointing paste
4. Habito flex 83 (corner profile)
5. Smooth over using circular jointing paste

## INTERIEOR ANGLE



1. Drywall panel
2. Circular joint sealing strips. Leave  $\pm 10$  cm gap at the bottom
3. Circular jointing paste

## 5.5 OSB and Drywall Combination



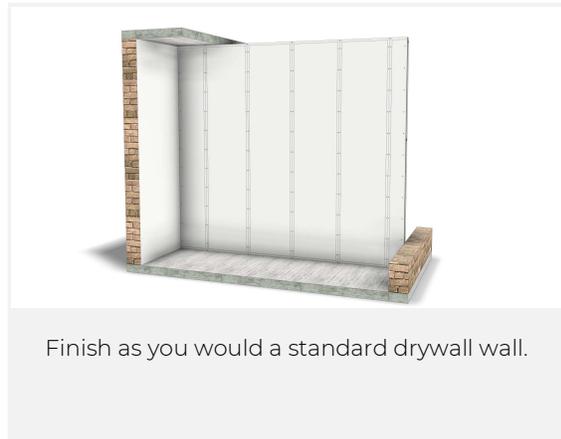
Screw the first panel only into the uprights. Make sure there is  $\pm 5$  mm clearance between the floor and the panel and that the panel is level.



Attach the next panels, using the remainder of the right panel as the start of the first panel. There is no need for the joint to be over a vertical strut.



Fix the drywall with standard black screws (not self-drilling). Make sure the screws do not go through the OSB.

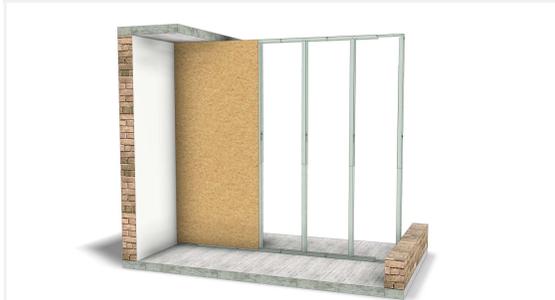


Finish as you would a standard drywall wall.

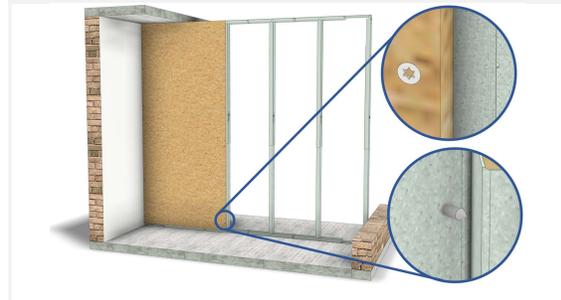
This construction is not recommended for long walls. Due to the different expansion coefficients of the wood and the Gyproc, cracks can occur over time. Provide an expansion joint at least every 15 m.

## 5.6 Chipboard / wood particle board + click panels

A thicker chipboard of 12 mm or 18 mm, whether FR or not, provides even higher acoustic performance and increased fire resistance. This is finished with click panels. These cannot (yet) be combined with a click panel in 1 structural sandwich construction like the AcouClick. The whole thing is screwed onto the modules.



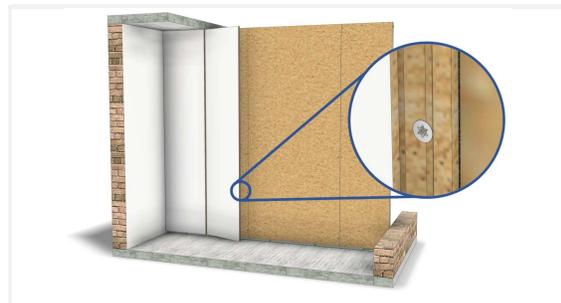
For modules that do not have JUUNOO blue tape on them, the panels can be fixed using self-drilling screws.



The edge of the panel will be on the centre line of the vertical struts. Note: if you use screws that are too long, they may destroy the interior structure.



Complete the surface with chipboard.



The click panel can be fixed in the groove with small screws and/or with structural adhesive.



Use structural adhesive for the last panel.

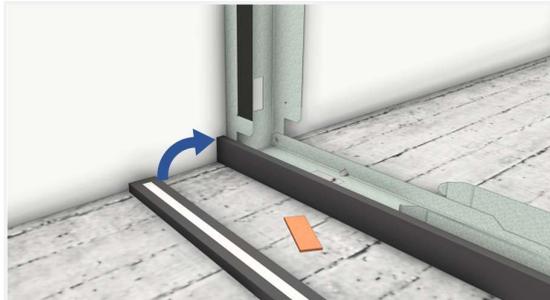


To dismantle the panels, use a multi-tool to saw off the edge of the last panel. The rest can be unscrewed.

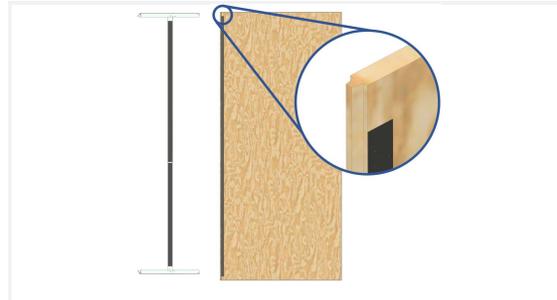
## 5.7 Wooden panels 120 cm

### 5.7.1 Wooden panel with tongue and groove

A variation of the type of boards noted are wooden boards with a tongue and groove joint. These then click into each other.



Glue a black MDF strip (30x10 mm) to the bottom of the modules using double-sided adhesive tape. This creates a shadow gap.



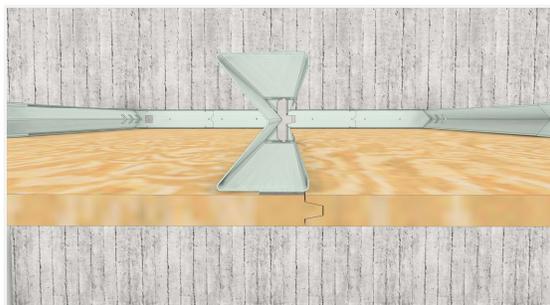
With this set-up, the normal modules are used together with 1 strip of JUUNOO tape. 1 strip of tape is also applied to the wooden boards.



Place the panel with the groove against the wall on the shadow gap and level the board using shims. Then press the panel against the modules.



Leave the next panel hooked in to the first. Align the height with the first panel and rotate the panel to close it. Make sure the joint is firmly pressed shut.

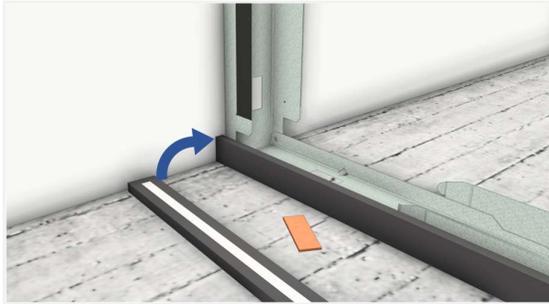


The panels connect to the modules in the following way.

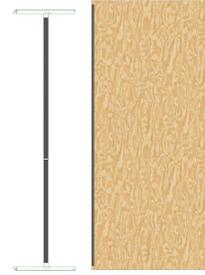


Finish the wall. Break off the shims under the panels, leaving a small piece under the panel. This ensures that the panel does not start to sag.

## 5.7.2 Wooden panel with flat edge



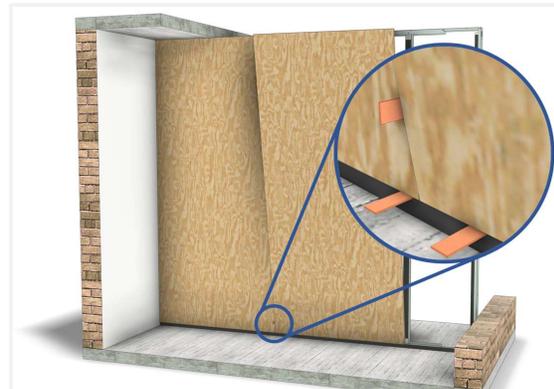
Glue a black MDF strip (30x10 mm) to the bottom of the modules using double-sided adhesive tape. This creates a shadow gap.



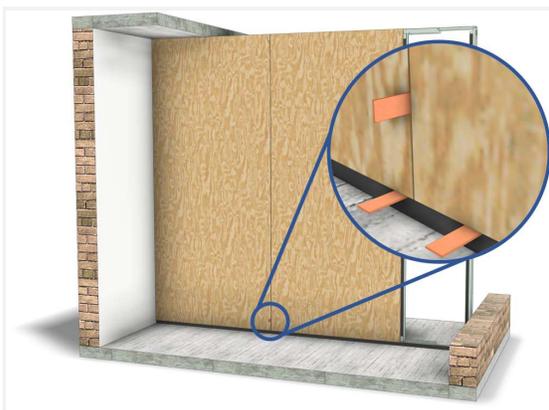
Here, the modules are provided with 2 strips of JUUNOO tape instead of 1 strip. The wooden panels also have tape on them.



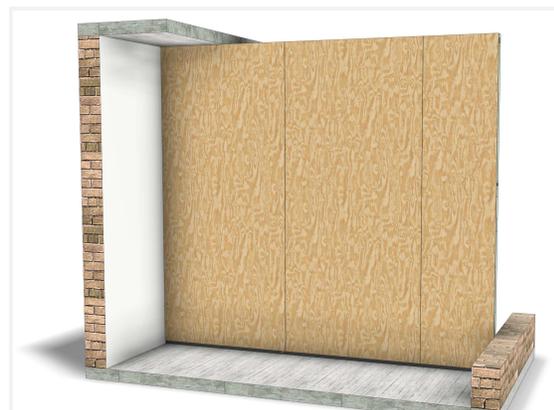
Place the wooden board on the shadow gap and level the board using shims. Then press the panel against the modules.



Place the next panel and create a joint between the 2 panels using shims at the bottom and top.



Press the panel in place. Break off the bottom shims, leaving a small piece under the panel. This ensures that the panel does not start to sag.



Finish the wall.

## 5.8 Painting of BaseClick or Acouclick

In addition to a variety of decorative finishes, the BaseClick and AcouClick panels also come in an option that is easy to paint over without the need to pre-treat it.

It is recommended that an acrylic primer is applied as a first layer and a high-quality solvent paint as the second layer. Brands like Levis and Bosch have a good range of these products.

If the surface of a click panel with a decorative finish has been damaged over the years, it is possible to apply a coat of paint to these panels. To do this, sand the wall gently with a scouring pad and some water with ammonia in it. After cleaning, you should apply a primer and then finish with the appropriate varnish or paint. To achieve the best result, contact the manufacturer for information about the best paint or varnish to use, as well as the ratio of water to ammonia.



## 5.9 Textile finish or whiteboard sheets

JUUNOO can be covered with different materials, like textiles or a whiteboard sheet. Panels that can be painted are available for this purpose, or it is also possible to give a new lease of life to old panels where the finish has been damaged over the years.



### Textiles.

Ensure the panels are dust-free, apply wallpaper glue, and then smooth the textile over the panels.



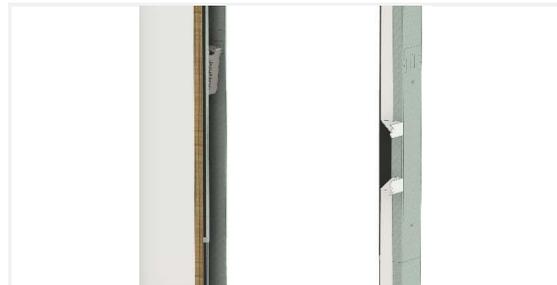
### Whiteboard sheets.

Make the panels dust free and laminate the whiteboard sheets over them.

## 5.10 Panel around a door



Mark the doorway on the back of the click panels. Do the same for each panel adjacent to the door. Saw off any excess. Make sure to leave a small gap between the panel and door frame (see below)



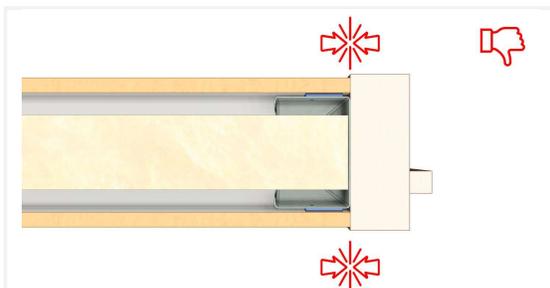
Apply JUUNOO blue tape to the uprights of the door and fold over the backing sheet.



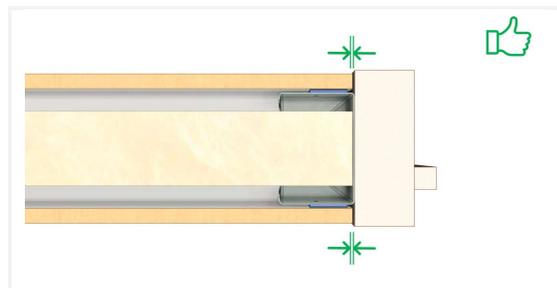
After sawing, thoroughly dust and degrease the back of the panel so that the JUUNOO tape will stick properly to the panel.



Finish the following panels using the same method.



Do not place the panel against the door frame but make sure there is a gap of a few mm.



This gap ensures that there will be no acoustic leaks. Moreover, the gap serves as an expansion joint.



## 5.11 Fixing items to a JUUNOO wall

A certain amount of weight can be mounted to a JUUNOO wall, e.g. a TV, table, etc. Installation can be done directly on the click panels. For weights above 250 kg, an additional reinforcing panel must be fitted behind the click panels.



## 5.12 Air-conditioning on click panels

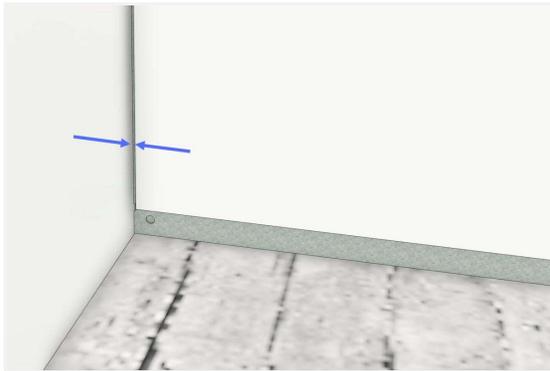
To avoid deformation before and after installation of the click panels, the following is recommended:

- Acclimatise the panels for at least 48 hours in their unopened packaging in the room where they will be installed. This should be at normal room temperature (15-20°C) and room humidity (50-60%). Keep the temperature and humidity constant during

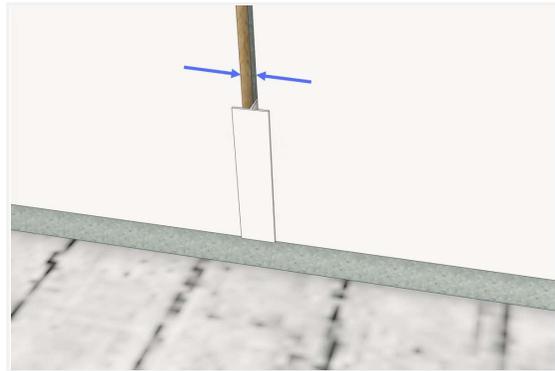
installation. The environment must be wind and watertight in order to control temperature and humidity.

- Do not remove the packaging until installation of the click panels has begun.
- The click panels are not suitable for use in damp and/or humid rooms, extremely dry rooms or rooms that are at extremely high temperatures.
- When cleaning the click panels, avoid using excessive amounts of water.

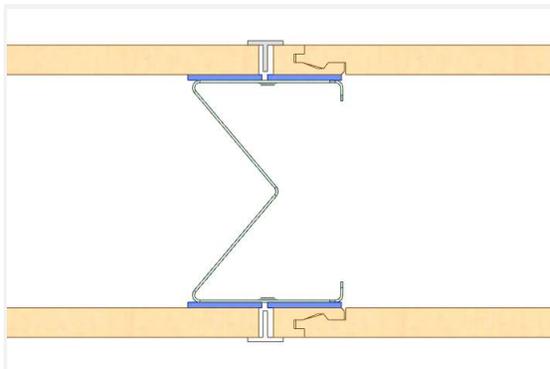
Differences in temperature and in the moisture levels present in the room can cause the wood of the click panels to expand and contract. It is therefore necessary to ensure there is an expansion joint of 1 mm for each metre of wall. For walls that are shorter than 8m, this can be done at the outer ends of the wall. The expansion joint can be finished with an aluminium profile or elastic sealant. For walls that are longer than 8m, it will be necessary to use extra expansion joints.



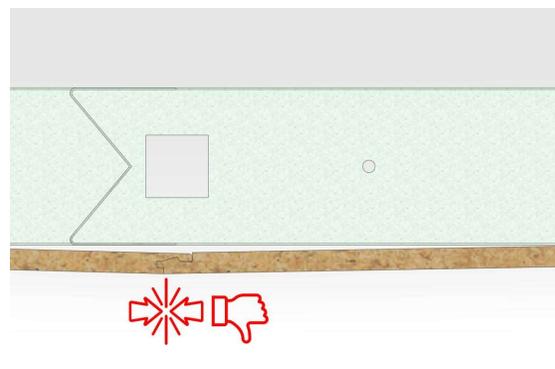
Walls shorter than 8 m:  
Expansion joints can be provided at the outer ends of the wall.  
Calculate 1mm per meter of wall.  
Finish with sealant and/or with an alu-profile.



Walls 8 m or longer:  
An extra expansion joint is required.  
This can be finished with sealant combined with a small T-profile.



The expansion joint of 5 mm is located on the I modules. Extra JUUNOO tape is added for support. With flexible silicon on the entire length of the seam a T profile ( $\pm 12 \times 10$  mm) is glued.



Without an expansion joint, there is a chance that panels will come loose and thus form irregularities in the wall.

## 6 Finishes

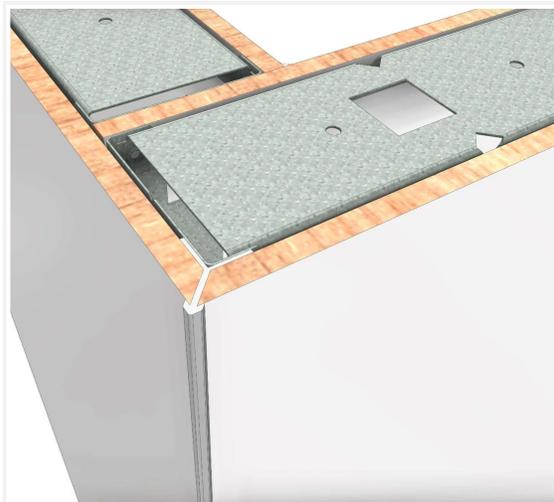
### 6.1 Outer corners

#### 6.1.1 Types of outer corners

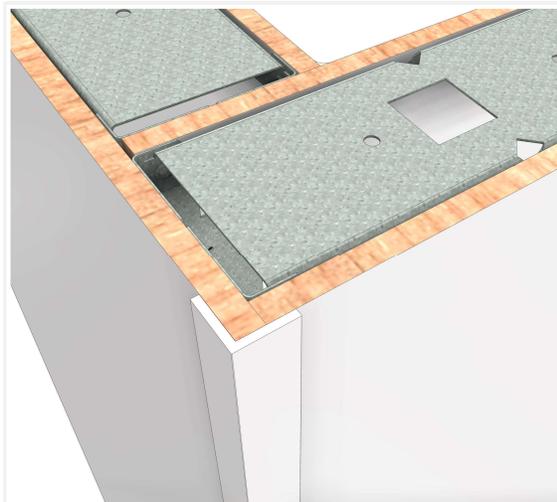
Outer corners are finished with an aluminium outer corner profile.

The recommended method to use on an outer corner with BaseClick & AcouClick panels is an aluminium profile with a visible 5x5mm side.

The profiles are delivered in white, black or anodised.



Option 1: Aluminium outer corner 5 x 5mm



Option 2: Aluminium outer corner 20 x 20mm.

## 6.1.2 Mounting of aluminium corner profile 90°



Saw a panel at 45°.



Apply JUUNOO tape (hook), pull the backing paper off, and degrease the panel on the back.



Apply sealant to the 'legs' of the corner profile, where there is contact with the panel. The profile does not need to be glued to the C-module.



Slide the profile over the panel.



Fold the panel. Slide the profile leg between the already mounted panel and the C-module.



To allow it all to dry, clamp the 2 panels together using masking tape.

### 6.1.3 Acouclick corner profile 90°

The standard corner profile for the click panel can also be used to create a finished corner with AcouClick. Because the AcouClick panels are thicker than the standard click panels, an extra cut-out is made in the bottom layer of the AcouClick.



First cut the mitre to the correct width.



Make an 8 mm deep cut in the back layer with a plunge saw  $\pm 30$  mm from the corner.



The remaining strip can easily be loosened with a chisel.



## 6.1.4 Installation of L-profile 90°

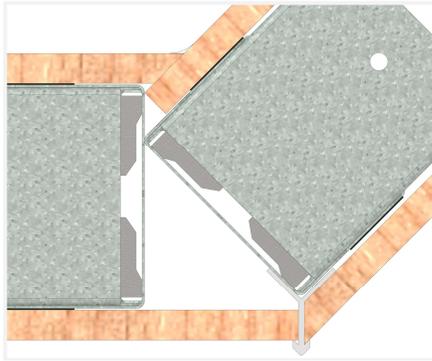


Apply sealant in the corner of the L-profile



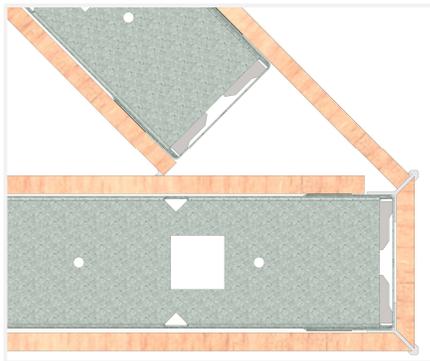
*Tip:* If you attach the profile to 1 panel, it is easier to reuse afterwards.

Corner > 90°



The construction of this corner is like a 90° angle.

#### 6.1.5 Corner < 90°

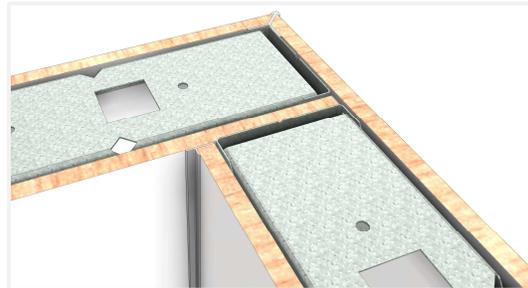
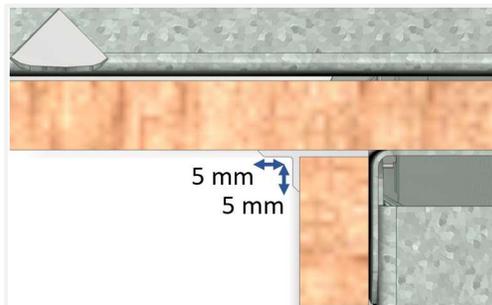


The construction of this corner is the combination of a 90° angle and a >90° angle. So, the effect is similar to both.

## 6.2 Inner corners

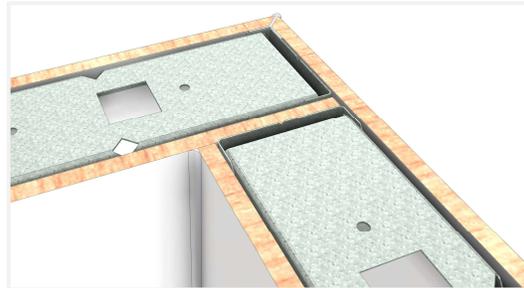
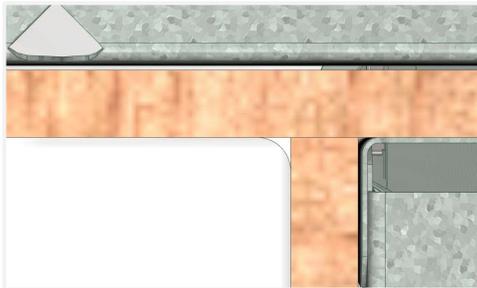
### 6.2.1 Aluminium inner corner profile

This profile is pushed between the panels. This can stay in place with tension alone and is easy to reuse afterwards.



### 6.2.2 Sealing

Sealing the inside corner is a quick and inexpensive method that gives the best acoustic result.



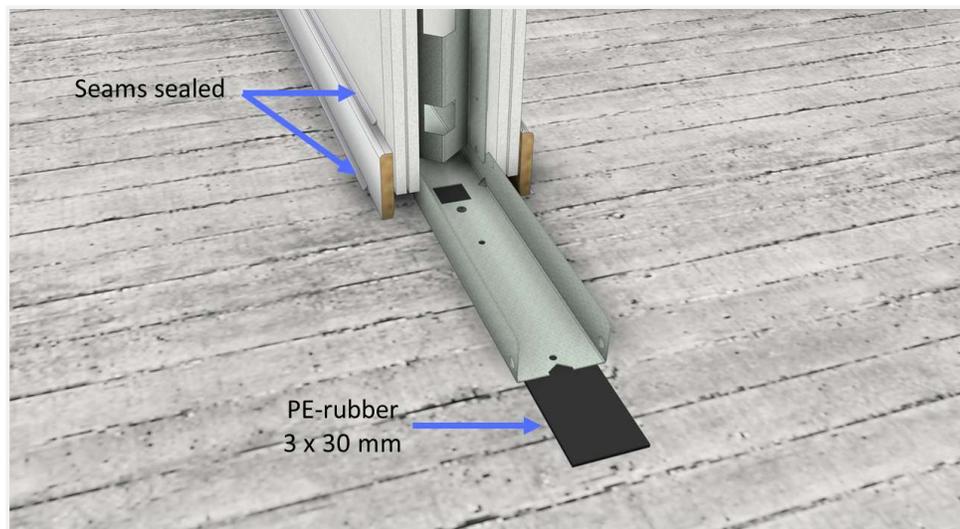
### 6.3 Acoustic decoupling of a wall

To meet technical fire and acoustic requirements, it is important to decouple the JUUNOO modules from the floor and ceiling. Furthermore, the perimeter of the wall must be sealed (including the top and bottom of the skirting board). A 3 x 30 mm PE foam tape is needed to ensure decoupling.

The modules should be fixed at the top and bottom, in the horizontal U-profiles, every 600mm with a screw or nail plug (6mm > Ø > 4mm). They should be ideally fixed in the openings provided by JUUNOO, as close to the upright struts as possible.

For vertical connections, they must be fixed every 750mm.

The connection between the finishing panels and the floor must be carried out according to the instructions provided by the manufacturer of the finishing boards.

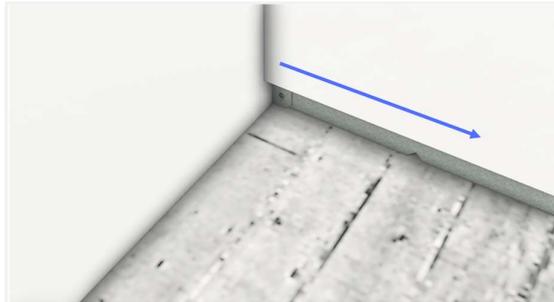


## 6.4 Floor connection

### 6.4.1 Skirting boards

Skirting boards are fixed to the JUUNOO wall by means of JUUNOO Glue. This double-sided tape has a very high adhesion from the start, hardly degrades over time and leaves no damage or glue residues when removed.

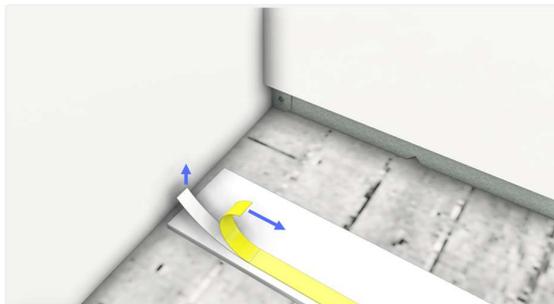
In this way, the panels and the skirting board are perfectly reusable.



Make sure the underside of the wall is dust-free.



The JUUNOO Glue is already applied to the skirting board. Textile tabs are included.



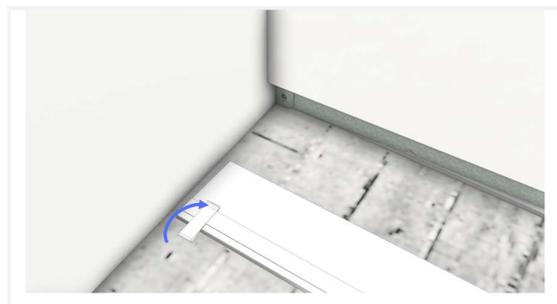
Detach the cover sheet and the first few centimeters of the tape.



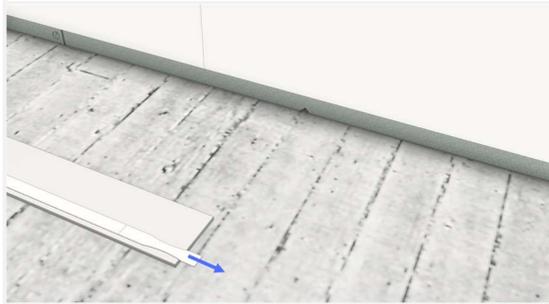
Insert a section of the textile tab under the tape. Make sure that the tab on the other side of the tape sticks out a little.



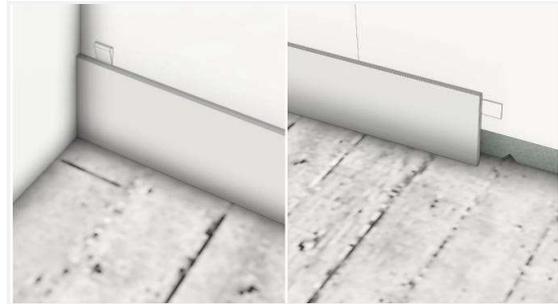
Stick the loosened tape over the tab again.



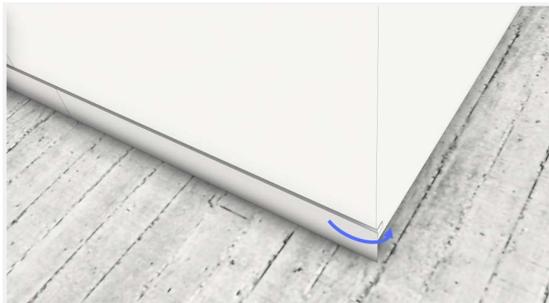
Fold the tab in half over the tape to create a small loop protruding from the skirting board.



On the other side of the skirting board, stretch a small piece of the tape and reattach it.



Stick the skirting board to the wall and press firmly.

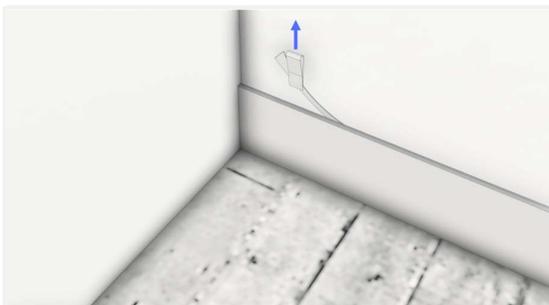


For the next skirting board, also provide a piece of stretched tape at the end. Attach this skirting board over the protruding piece of tape from the previous skirting board.

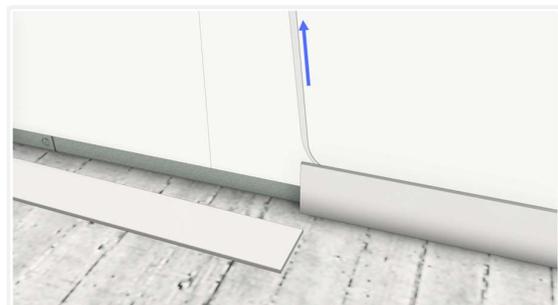


Continue building by connecting each skirting board with the previous one. A new textile tab must be used each time a new set of skirting boards is installed.

### Removing the skirting board



By pulling the textile tab, the tape is stretched and loses its adhesive power. In this way the JUUNOO Glue is pulled from between the skirting board and the wall panel.

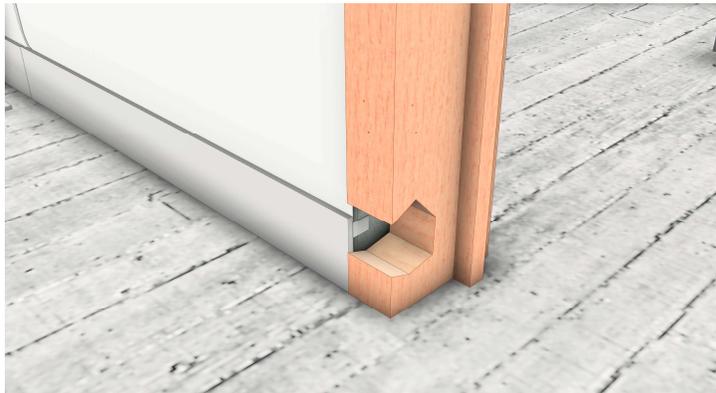


The overlap of the tape between 2 skirting boards ensures that all skirting boards can be removed in one series. There is no damage or glue residue to skirting boards or panels.

Tip:

Instead of a visible textile tab, a piece of JUUNOO Glue can also be hidden behind a door frame or in a corner.

Here you do run the risk that the ends of the tape are not easily found when dismantling.



Another possibility is not to provide a textile tab. Then the skirting board of the first/last panel has to be wrenched off in order to reach a piece of JUUNOO Glue. Then the first or last panel is damaged.

#### 6.4.2 Recessed skirting board

A recessed skirting board is a skirting board that is fitted under the panels instead of on them. This has a flush finish and provides extra load bearing capacity for the panels. Attachment is with silicone glue or double-sided tape.



#### 6.4.3 Shadow gap

A shadow gap can be used as a decorative element. A black MDF strip (30 mm x 10 mm) is glued to the bottom of the modules, next to the floor. The panels are then installed on top of this. Attachment is with silicone glue or double-sided tape.



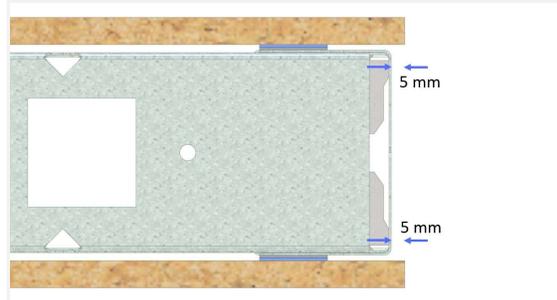
## 6.5 Edge finishing

If a wall has a free end, the end of this wall must be finished. Depending on visual preference, different finishes are possible.

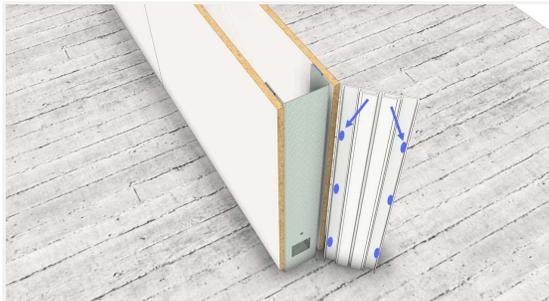
### 6.5.1 Finishing with aluminium profile



Apply a BaseClick panel on both sides.



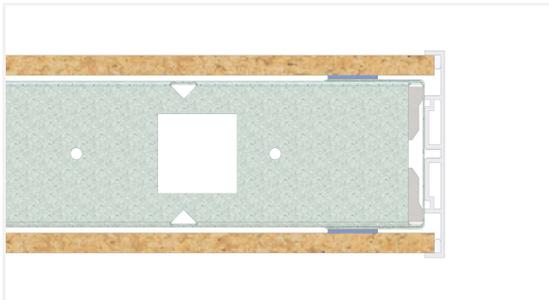
The panels should extend  $\pm 5$  mm beyond the C-module.



Apply small dabs of silicone adhesive to the inside corners of the cover profile.



Position the profile and press.



Cross section



Finish the wall with aluminum skirting (thickness 2 mm)

## 6.5.2 Finishing with melamine bar (18 mm x 126 mm)



Leave at least one side of the module structure open, so that the bar can be fixed along the inside of the structure.



Cover the C-module with JUUNOO tape.  
Remove the backing sheet



Completely seal the wall.



Attach the skirting boards.

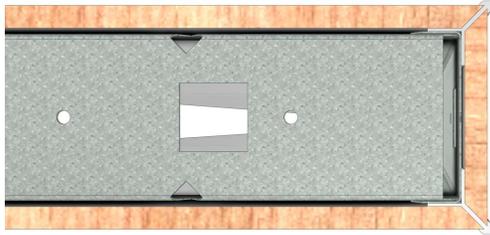


Finish off the joint between the click panel and end bar with sanitary silicone sealant.



### 6.5.3 Finishing with click panels

The advantage of this construction method is that the décor at the end is the same as the décor on the wall. The construction of this is like the construction of a corner with a click panel.



## 6.6 Ceiling and wall connection

### 6.6.1 Shadow gap

A shadow gap is used for decorative effect or when the ceiling must not be glued. EPDM rubber is applied to the modules before the panels are put against them.

A shadow gap of 5 mm looks very visually appealing, but for this to work properly, the ceiling needs to be very even so that the gap is the same width over the entire length.



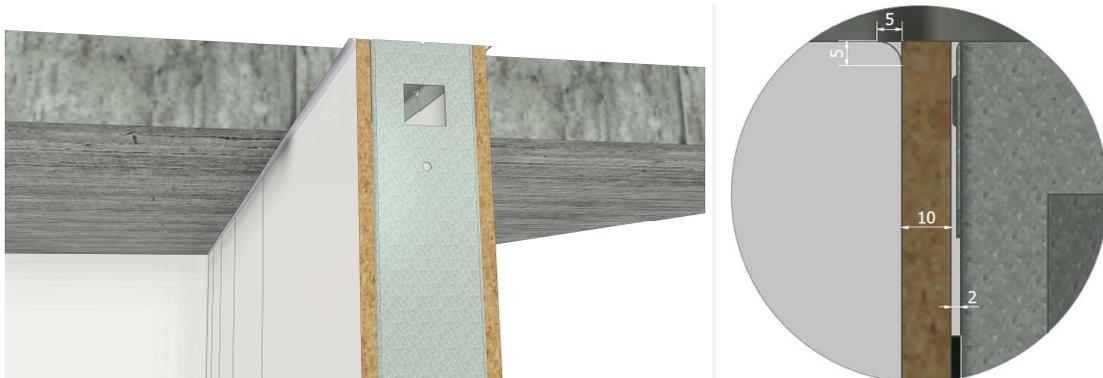
A shadow gap of **20 mm** gives more leeway for uneven ceilings or false ceilings, for example.



### 6.6.2 Sealing

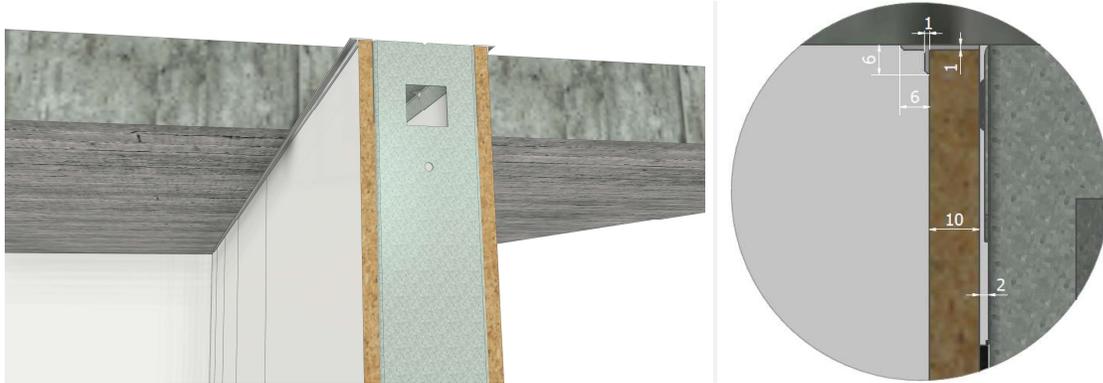
Sealing the top joint is the most commonly used finish today. The benefits in terms of speed and acoustic qualities are usually the deciding factors.

The prerequisite for this to work is that the ceiling is relatively flat so that the gap between the panels and the ceiling is not too large when the ceiling goes up.



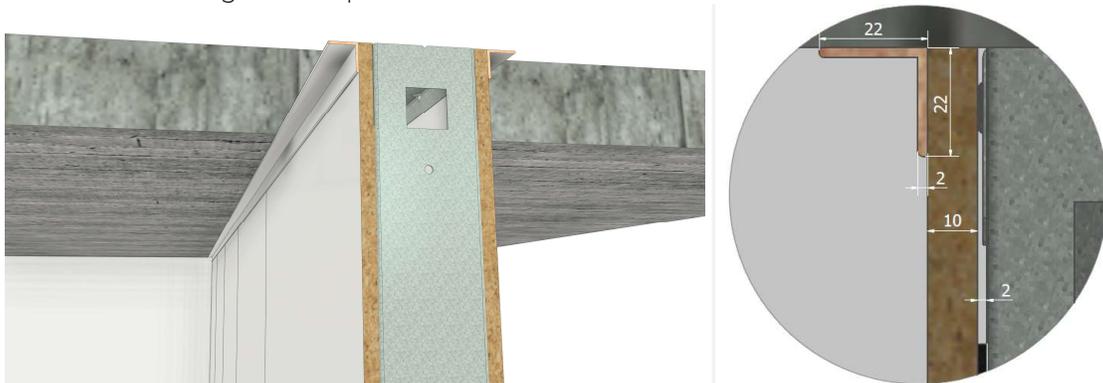
### 6.6.3 Aluminium corner profile

In addition to an internal corner profile between 2 walls, a corner profile can also be used as a finish against the ceiling. For this to work properly, the profile must extend between the ceiling and the panels, and the ceiling needs to be flat.



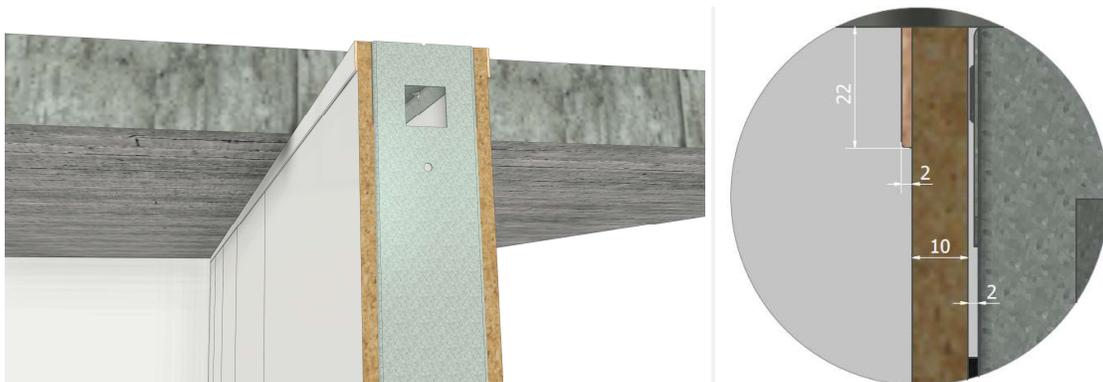
### 6.6.4 Angle moulding

The corner moulding is an MDF strip available in the same decorative finishes as the click panels. It is simple to apply with transparent sealant and can accommodate large gaps between the ceiling and the panels.



### 6.6.5 Half angle moulding

The angle moulding can easily be cut in 2 for a closer finish on false ceilings, for example.

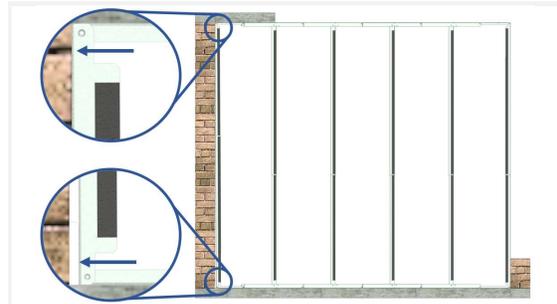


## 6.7 Connection to an existing building

### 6.7.1 Finishing on an existing skirting board



Place the C-module against the skirting board.



Fix the top and bottom of the C-module as closely as possible to the wall.

*Note:* the C-module may be angled slightly, just as long as the first I-module starts out level.



Make a cut-out in the click panel for the skirting board.



Let the click panel fit fully against the wall.

For acoustic reasons or if JUUNOO tapes are used, it is best if the C-module completely fits against the wall. Other possibilities for attaching the C-module to the wall are below.



Make a recess in the skirting board the width of the wall.



The wall fits into the recess.

## 6.7.2 Finishing around a recess



Fix the C-module under the recess. Ensure the I-module is level. You may need to cut a piece of this.



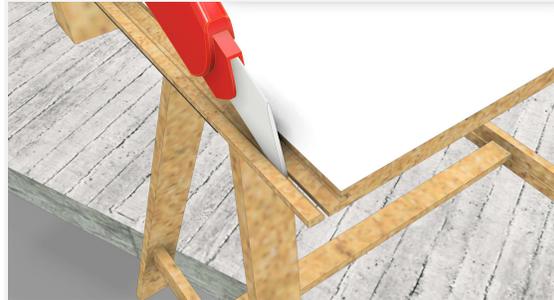
Fix the C-module bearing, cut I-module if necessary.

### 6.7.3 Finishing around pipes

Ideally, ventilation pipes etc. should be installed after the wall is in place. Then, you will only need to make a hole in the wall and insert the pipe through it. It goes without saying that this makes the finishing process nice and easy. However, it may be the case that there are already pipes in place. Follow the method below as an example of how this can be dealt with.



Insert all modules. In most cases, piping comes between the studs and you can attach the horizontal profiles above the pipes to the ceiling.



After installing the first click panel, cut off a piece of the groove of the 2<sup>nd</sup> panel.



A piece of the JUUNOO tapes is also cut off.



This panel is attached to the first panel in the normal way.



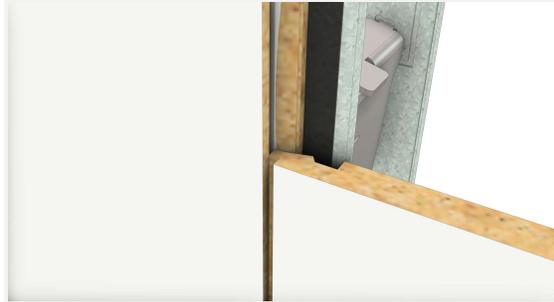
Apply a fine line of transparent silicone glue in the groove.



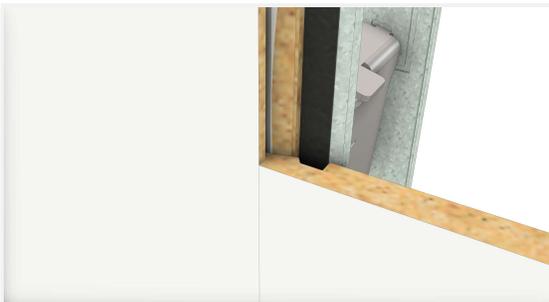
From the 3<sup>rd</sup> panel, make a cut-out for the pipe with a tolerance of 3 mm. Apply it from below, but do not press it against the tape of the I-module yet.



Without the pipe, the panel could rotate to snap into the 2<sup>nd</sup> panel. The pipe prevents this movement.



The cut groove allows the tongue of the 3<sup>rd</sup> panel to slide sideways into the 2<sup>nd</sup> panel. This requires a 3 mm clearance around the pipe itself.



The silicone glue holds the connection in place.



Put in place the top piece of the panel.



Slide the panel into the groove of the left panel before pressing down on the tape.



Construction can then continue as usual.

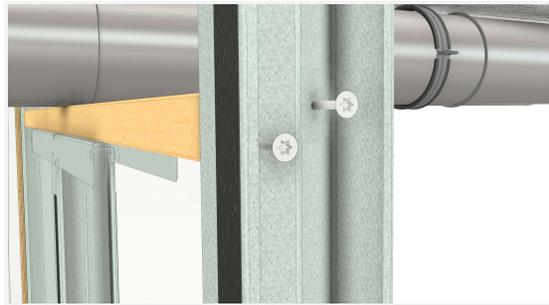
If the profile of the I-module cannot be inserted above the pipe, a piece of the profile can be cut off.

#### 6.7.4 Pipes ending on struts

If the strut of the I-module ends in a pipe, it is not usually possible to fix the module to the pipe.



Position timber under the pipes and between the I-modules on the left and right of the central module.



Fix the timber with self-drilling screws.



As described above, cut a strip from the groove of the first panel. Apply transparent silicone glue in the groove.



Make a cut-out in the panel. Again, cut a strip off the tongue. Apply it as described above. Finally, slide the panel to the left to lock in place.



Follow the same procedure for the next panel.



Slide to the left to fix. Continue building.

## 6.8 Connection to the window

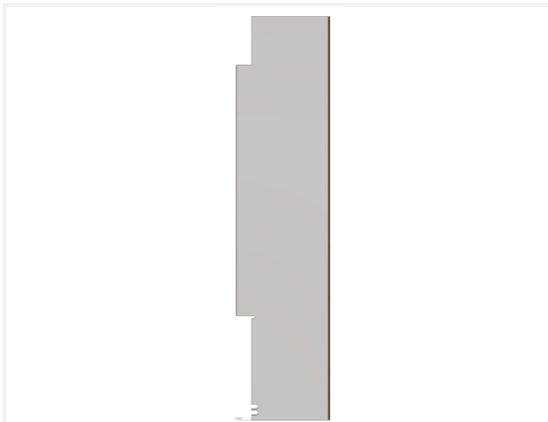


Fix the C-module as close to the window as possible.



Fix a wooden bar to the window to support the click-in panel. Apply JUUNOO tape to the C-module.

*Tip:* if the window is deep enough, a small C-module can also be used.



Cut the contour of the windowsill and pipes out of the panel, measured from the first I-module.



Be sure that everything is in the right place properly before pulling off the backing sheet from the tape.

*Tip:* before pulling the backing sheet from the JUUNOO tape, fit the panel to the contour

## 6.9 Different types of sealant

To achieve the best results, the correct sealant should be used for each application.

- Assembly sealant: gluing
- Sanitary sealant: finishing of the joints
- Acrylic sealant: finishing of the joints before painting

## 7 Doors

### 7.1 JUUNOO standard unpainted doors

It is very easy to install a door using the JUUNOO modules. Due to the flexible nature of the modules, they can be fixed to a free-standing door frame. The combination of the frame and sliding C-modules is easier to install than when the frame is mounted in a pre-made opening. This method works for both standard doors and frameless, flush doors.

The method has the following advantages:

- Easier to install
- No need for ribs
- No need for spacer screws, door wedges or installation foam
- Screws not visible

JUUNOO provides a total package with all parts needed to install a standard, ready-to-paint door. The frame and architrave are delivered to measure.



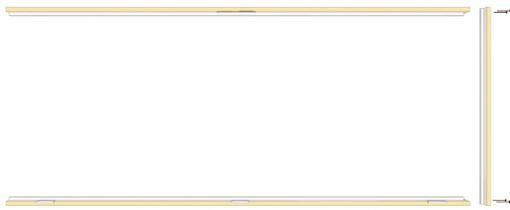
## 7.2 Installation of a standard, unpainted door



Position and fix the I-modules and the 120 cm door profile.



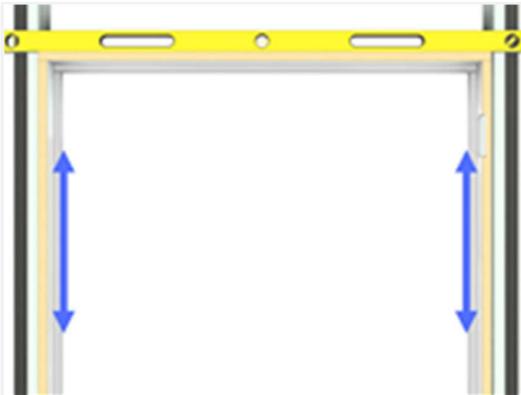
Place the C-modules in the doorway, but do not fix them yet.



Assemble the frame with the screws provided.



Place the frame between the C-modules and slide the C-modules against the frame.

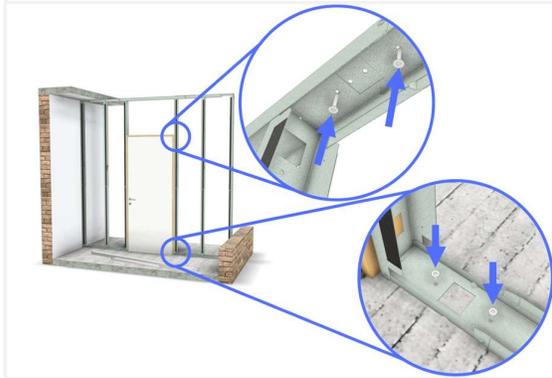


Level the top slat and fix both C-modules to the frame.

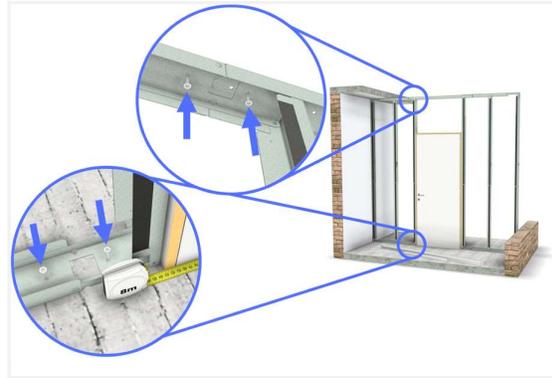
*A more detailed explanation of the installation is described below.*



Hang the door leaf.  
Level the C-module on the hinge side.



Fix the C-module at the bottom and the top.



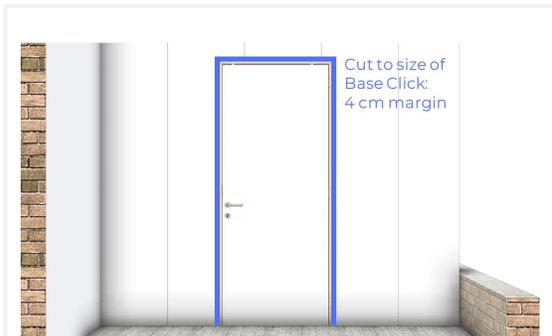
Align the C-module and frame on the strike side of the door with the door leaf. Fix this C-module in place.



Place the header on the frame and slide it open. No need to screw it on.



Attach the click panels to the modules.



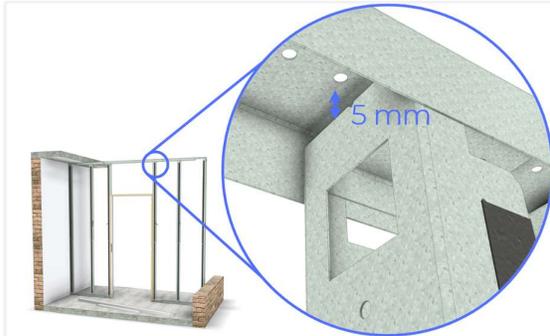
If the door frame has an architrave, the click panels do not have to be perfectly aligned with the frame. A margin of 4 cm is possible. In any case, ensure that the panels do not touch the door frame so that acoustic leak is avoided.



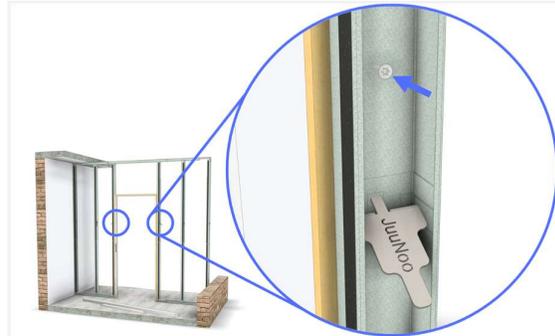
The architraves are prefabricated and cut to size. Attach them to the frame.

### 7.3 Levelling a door

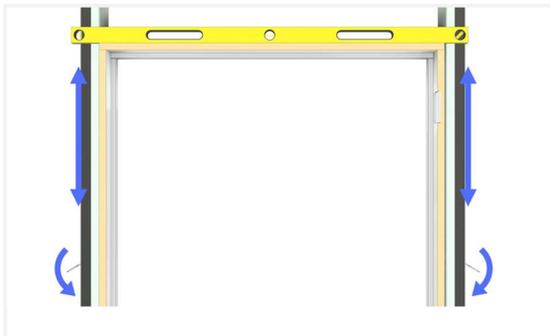
When installing a door, it is important to pay attention as to whether the floor slopes. This can cause the door to drag or leave an unsightly gap between the door leaf and frame. By using JUUNOO modules, the door frame can easily be levelled to avoid these problems. Below are some additional steps to align the door frame perfectly in a horizontal orientation.



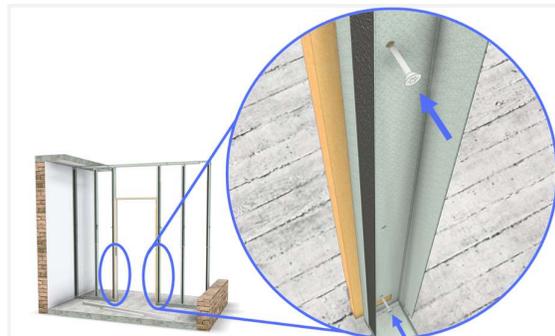
When fitting the C-modules: leave  $\pm 5$  mm clearance between C-modules and door profile. Leave the Quickspans open.



First screw the top vertical profiles of both C-modules to the frame.



Level the top side of the frame. Raise the side that is hanging lower by gradually tightening the Quickspan.



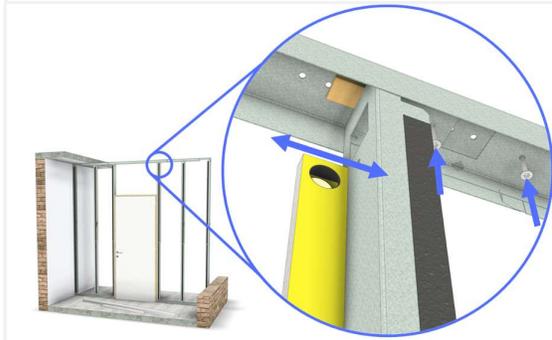
Screw the frame on the bottom against both C-modules. If necessary, fold down the Quickspan completely.



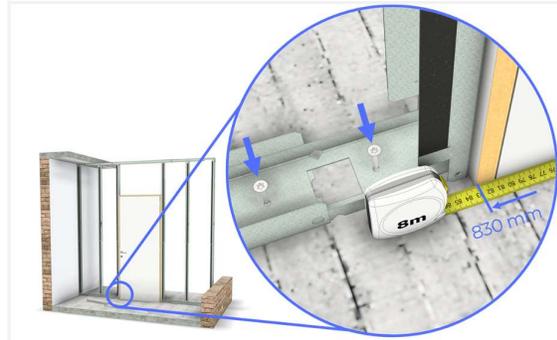
Hang the door leaf in the door frame.



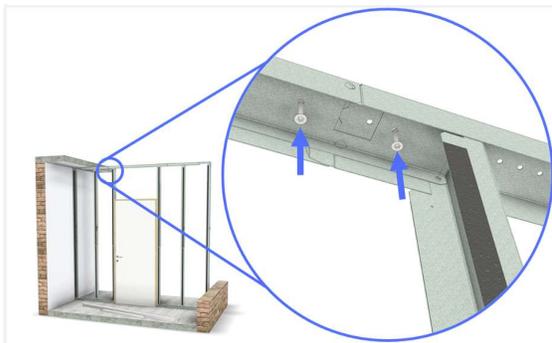
Level the bottom of the C-module on the hinge side and fix the base.



Level and fix the top of this C-module. Put a wooden block between the C-module and the door profile if there is too much play.



Set the bottom edge of the door frame to the correct width. Fix the base of the C-module.



Finally, fix the C-module to the door strike side. Put a wooden block in between if necessary.



Finish the wall with the header, architrave and click panels.

## 8 Probox

JUUNOO walls can also be used in a box concept: Productivity Box (Probox for short). These are stand-alone rooms in an office and therefore acoustically isolated from their surroundings. Possible uses could be: meeting rooms or individual call booths.

3 types of Probox are offered as standard: the Probox UNO (for one person), the Probox DUO (for 1 or 2 persons) and the Probox Quattro (for 4 persons).

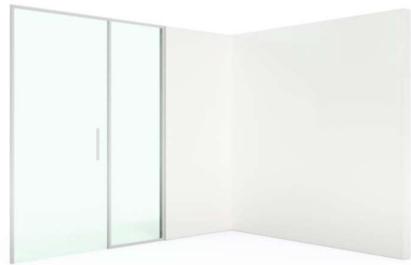
These are equipped with insulation, ventilation, electrical outlets, a work surface, etc.

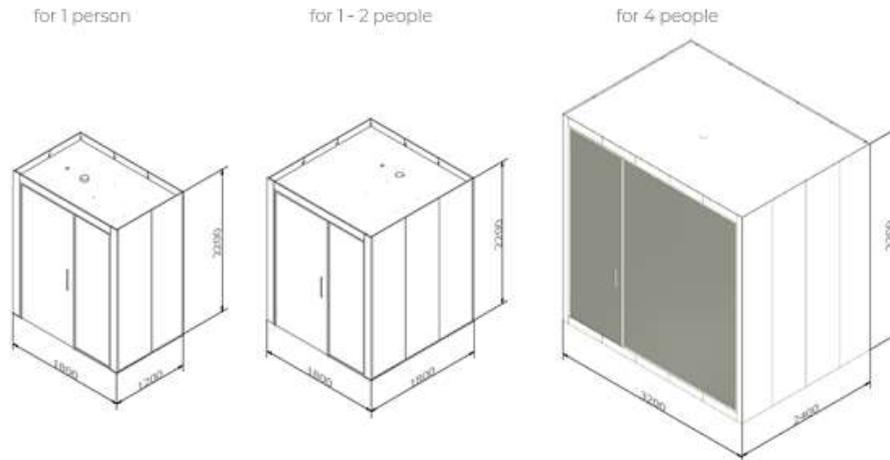
It is of course possible to have a customised Probox. Please feel free to contact us for more information and options.

The size, colour and finish can be customized.



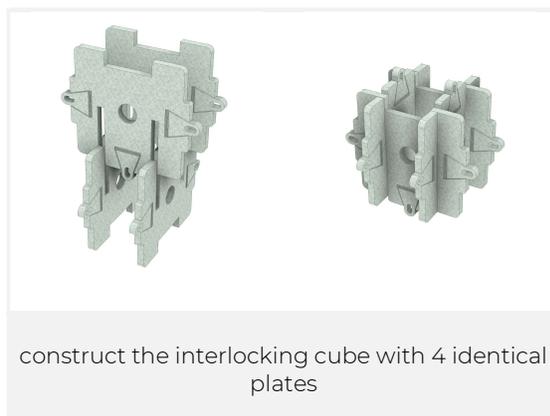
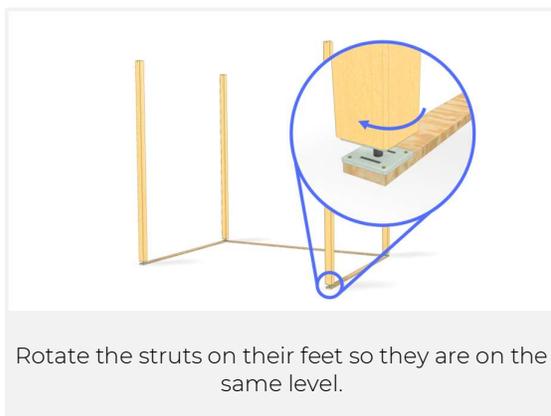
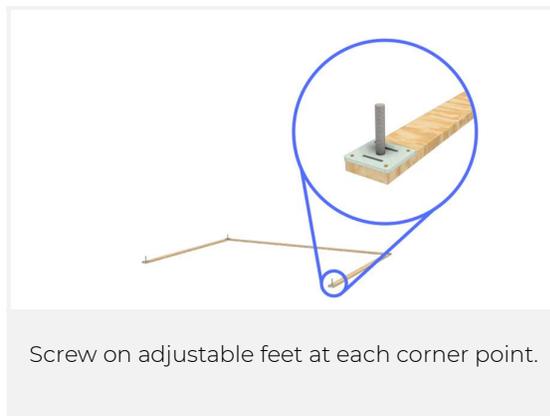
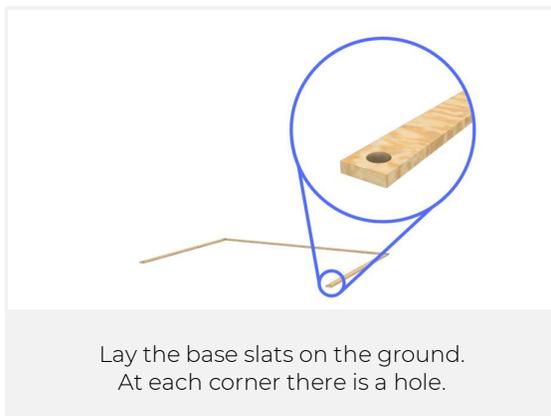
The Probox can be converted into a wall and vice versa.

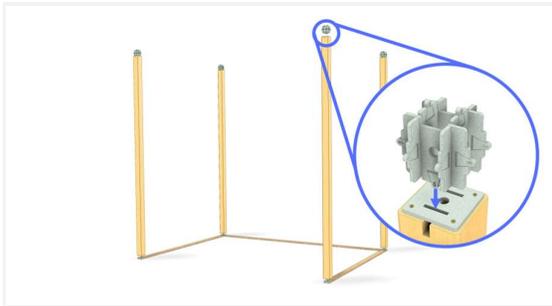




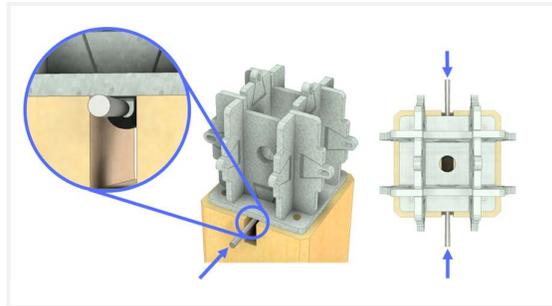
## 8.1 General principle of made-to-measure Probox Quattro and ProBox

Larger Proboxes (e.g. for 4 persons) have a wooden frame as the supporting structure; this is called an interlocking frame. After building this interlocking frame, fill it with modules and snap panels in a similar way to building a wall.

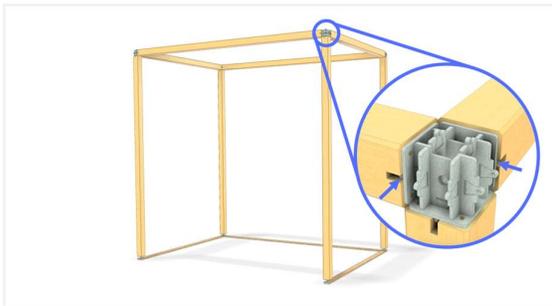




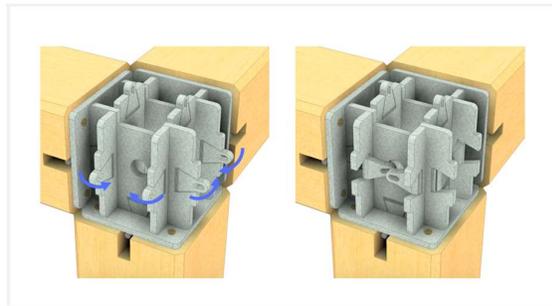
Put a cube on each strut.



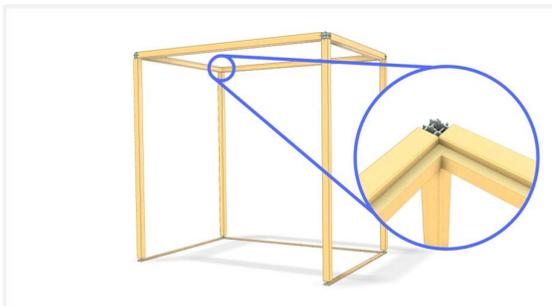
Fix the cube with 2 taper pins.



Attach the transverse cross bars to the cube and fix them with the taper pins.



Fold the outer flaps so they do not interfere with the BaseClick.



Attach CLS's around the ceiling contour. The suspended ceiling will later be attached to this.



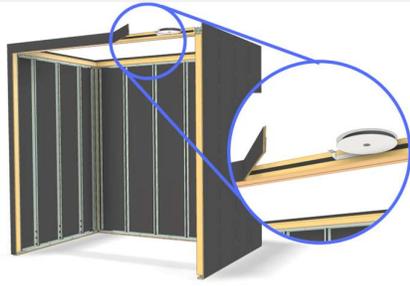
Place the JUUNOO modules between the wood structure in the same way as a normal JUUNOO wall.



Temporarily brace the structure at right angles. Do this for each wall.



Attach the outer BaseClick panels to the modules. These will ensure the structure is rigid.



Mount the front small panels using JUUNOO tape.



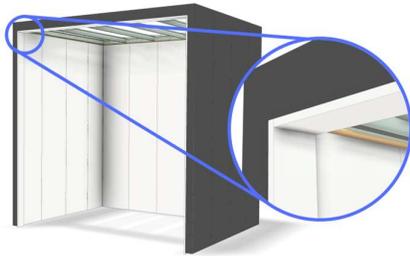
Place acoustic insulation between the modules.



Attach the inner BaseClick panels.



Fill up the ceiling with JUUNOO modules.



Fix the finishing slats with sealant.



Fill the top edge of the ceiling with OSB.



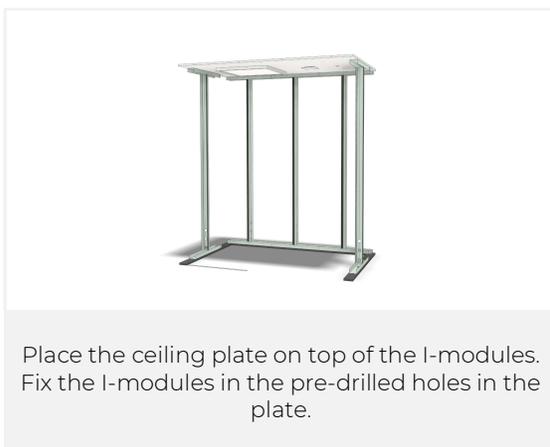
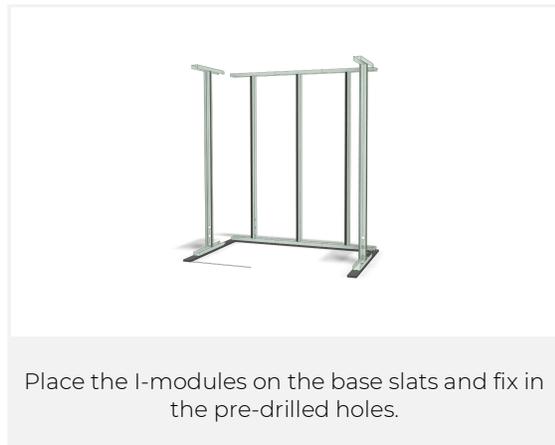
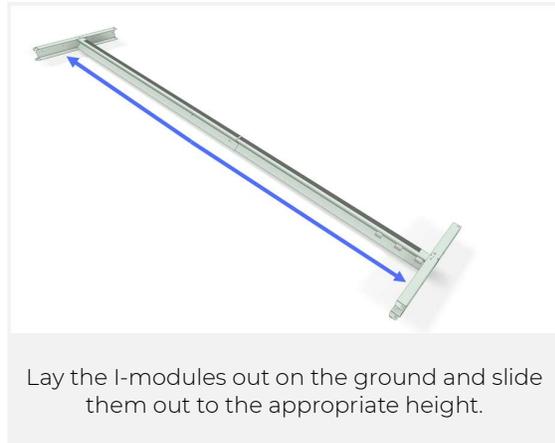
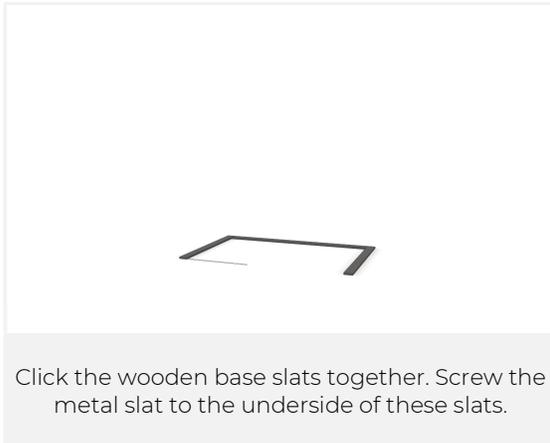
Install a suspended ceiling with the proper lighting, ventilation and motion sensor.



Finish off with plinths, glass and furniture

## 8.2 General principle Probox UNO & DUO

With the Proboxes UNO and DUO, the modules and panels are assembled using a ceiling plate so that they form a sturdy, stand-alone structure.





Level the reverse side and glue the Petac panels to the modules on the inside.



Place the remaining 2 C-modules against the Petac panels.



Level the side of the Probox and attach the reinforcement panels between the modules



Glue the Petac panels to the sides inside the Probox.



Click and screw the end bars to the front of the Probox.



Attach the pre-made click panels to the reverse side.



Attach the pre-made click panels to the sides.



Finally, mount the table top and glass wall.

## 9 Glazing

### 9.1 General principle



The JUUNOO Glass can be reused cost-effectively if we standardize the glass. The remaining height and width of the wall are completed with the JUUNOO modules and panels.

If still required, the glass can also be supplied to measure.

Standard glass pane size: 900 x 2335 mm (for opening height 2360 mm)

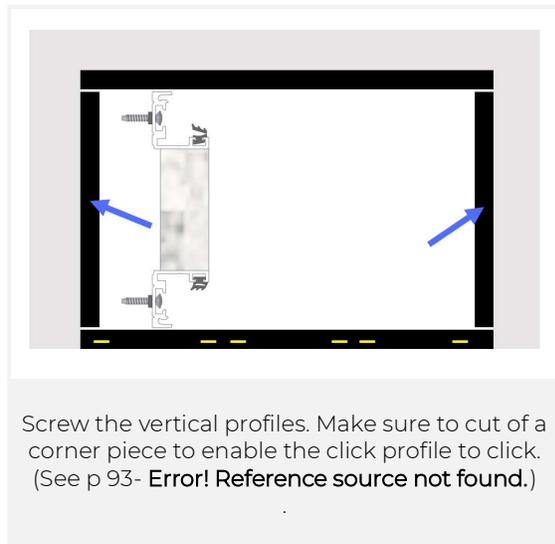
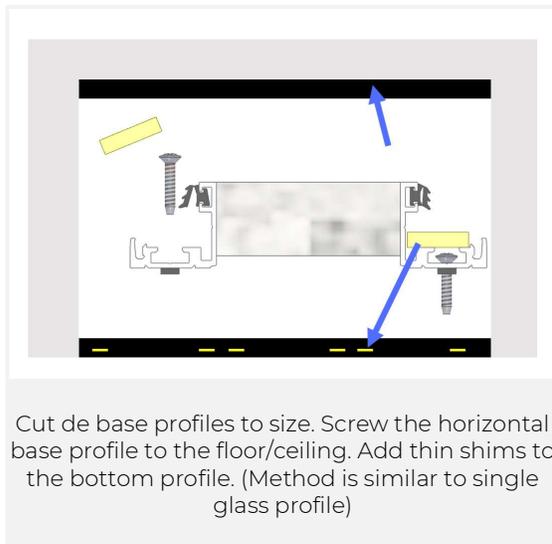
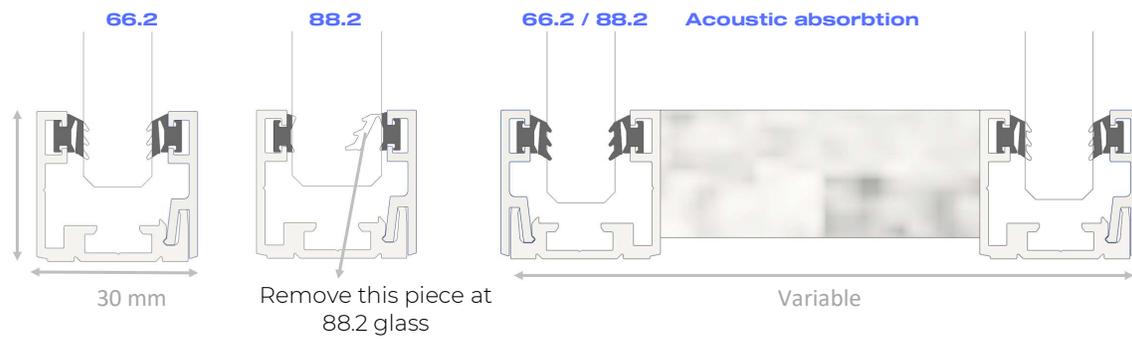
Weight of a standard glass pane: 68,3 kg for 66.2(A) glass / 83,3 kg for 88.2(A)glass

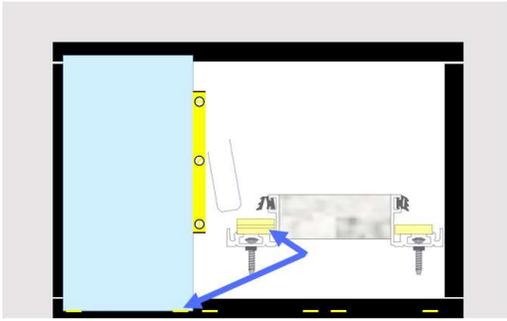
### 9.2 Installation

Tools required:

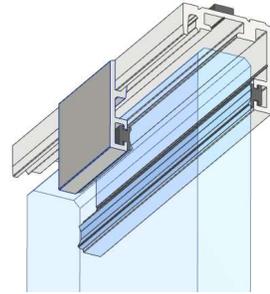
- Drill and screwdriver
- Metal drill bits (3mm) and possibly stone bits
- Crosscut saw for aluminum
- Laser
- Glazing paddle (for loosening the snap-in profiles)
- Rubber hammer
- Glass carrier
- Seaming tools
- Setting blocks in different thicknesses
- Cleaning agent for glass + some clean fiber cloths
- Meter
- Box cutter

## 9.2.1 Glazed wall





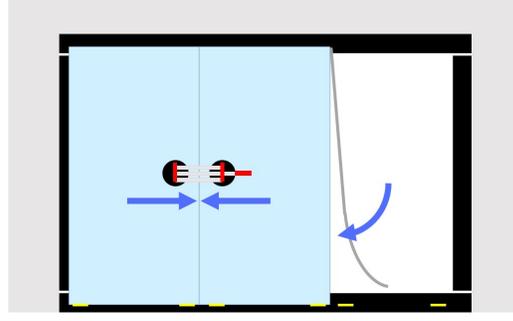
Place the first glass sheet. If necessary, add extra shims under the glass until the glass sheet is level.



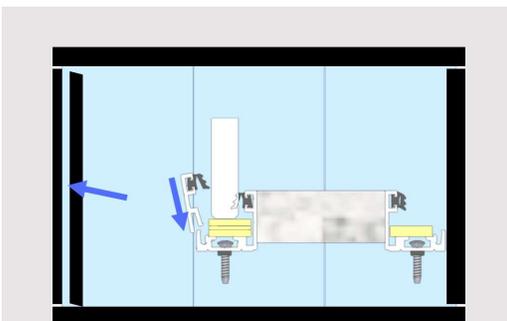
Tip: the glass panes can be temporarily secured during installation using a short piece of click profile.



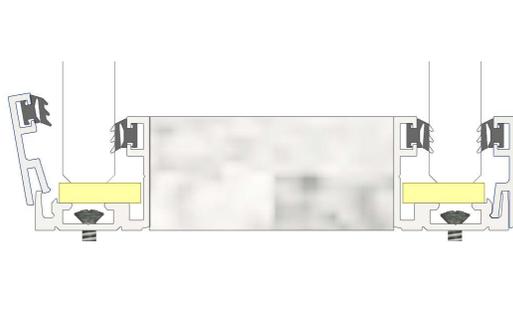
Remove dust and grease from the glass edge. Apply the G2G (Glass to Glass). Press firmly.



Place the second glass sheet. Add shims to make it level. Stick it firmly to the first glass sheet using glass tensioners. Add a G2G.



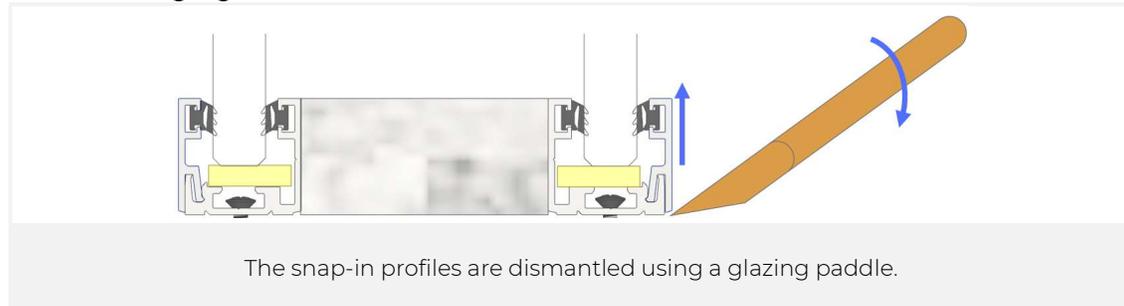
Cut the click profiles to size. Fix the glass with these. It helps to push against the glass while hammering the profile with a rubber hammer.



Clear the glass on the inside and vacuum the acoustic felt. Place the second layer of glass like the first layer.

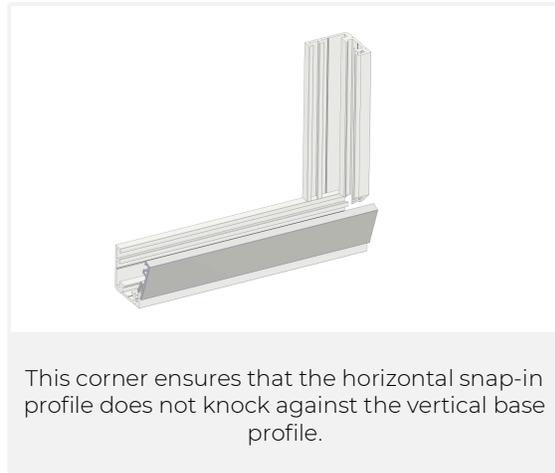
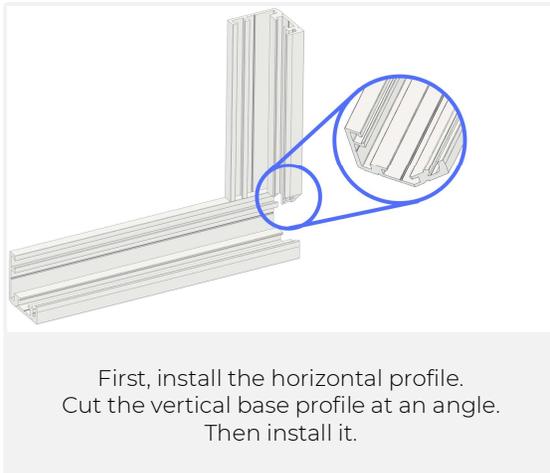
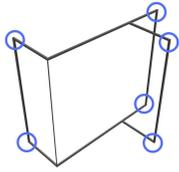
Instead of screwing into the floor, JUUNOO Glue can also be used.  
This is only possible on a flat and clean surface. Impact tests have been performed on these parts (see reverse of this bundle).  
The vertical glass profiles can also be attached using the tape.  
Horizontal glass profile at the top *must* be screwed in.  
When using the JUUNOO Glue, no PE sealing rubber is used.

### Disassembling a glass wall

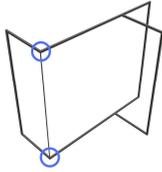


## 9.2.2 Corners

To create an upright angle with the glass profiles, proceed as follows:



A horizontal angle is made in the manner below. If the snap-in profile is on the inside of the corner, the method is the same.

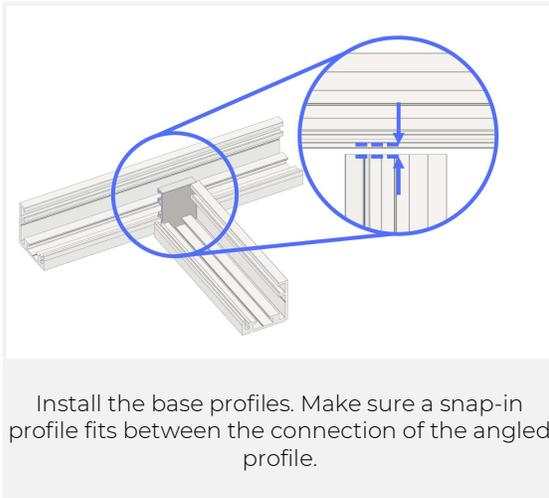
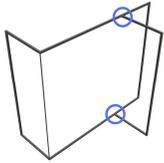


Cut and fix the base profiles at a 45° miter (or other desired angle).  
Measure the snap-in profile to be cut and use a leftover snap-in profile to identify the exact over measurement.

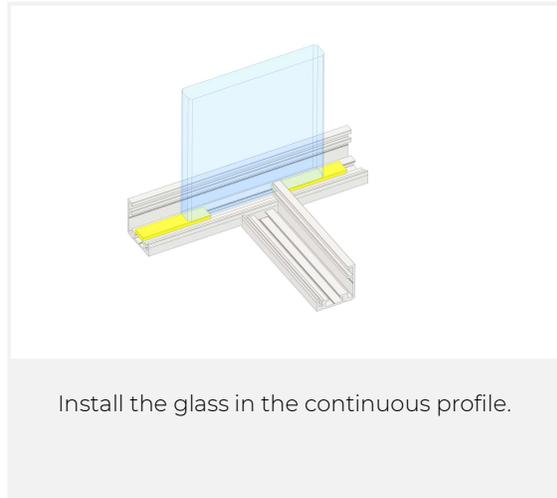


Cut the snap-in profiles to the correct angle and click in place.

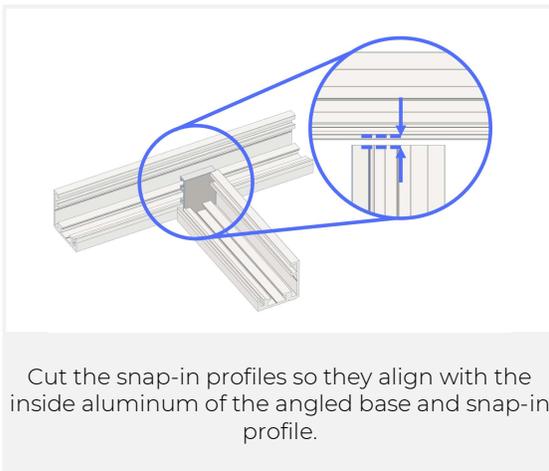
To create a T-joint proceed as follows:



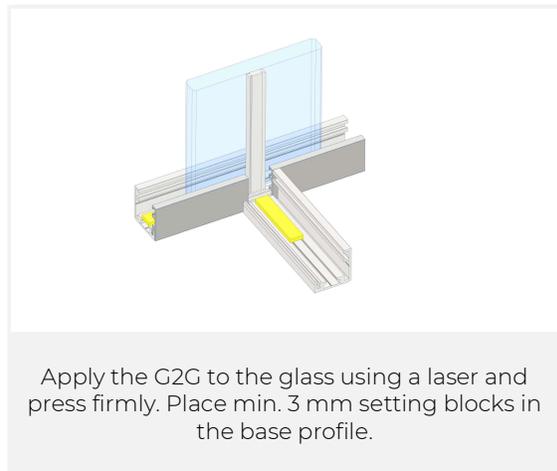
Install the base profiles. Make sure a snap-in profile fits between the connection of the angled profile.



Install the glass in the continuous profile.



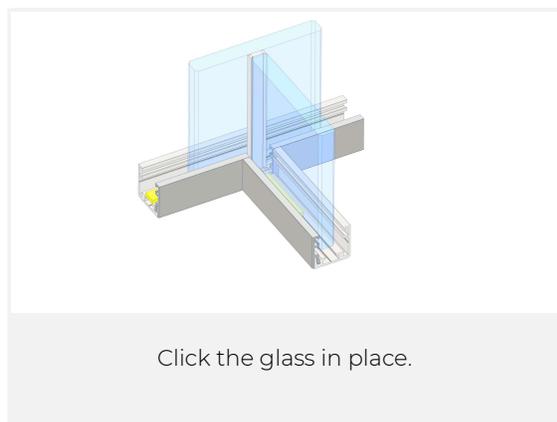
Cut the snap-in profiles so they align with the inside aluminum of the angled base and snap-in profile.



Apply the G2G to the glass using a laser and press firmly. Place min. 3 mm setting blocks in the base profile.

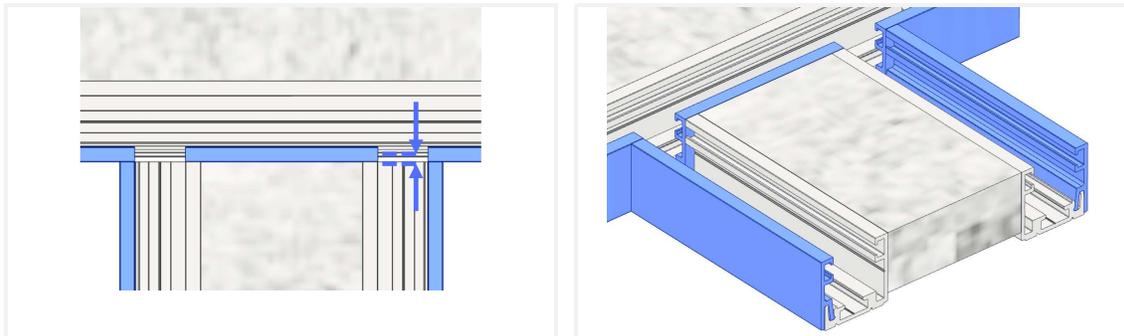
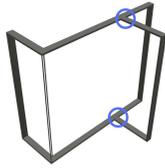


Insert the glass and press it very firmly against the G2G.



Click the glass in place.

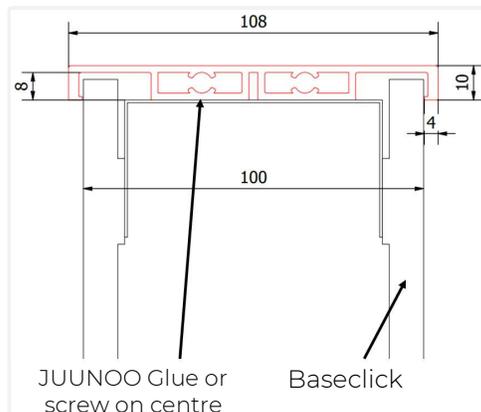
For a T-joint with double glazing, the principle remains the same. At the level of the acoustic absorption, a piece of snap-in profile is placed in between.



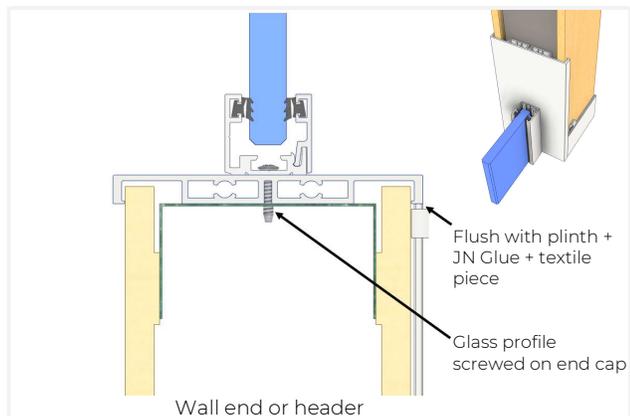
## 9.2.3 Connection of glass wall to a JUUNOO wall

### 9.2.3.1 SINGLE GLAZED WALL

The end of a wall clad with BaseClick is finished with an aluminium U-profile. Against this, all kinds of things can be mounted, among which single glass profiles.



The BaseClick panels stick a little bit out from the back of the C-modules (max 0.3 in). The end cap is glued with JUUNOO Glue or is screwed on the centre of the profile<sup>1</sup>.

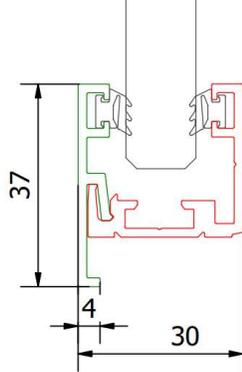


The single glass profile is screwed on the center. The outer legs of the end cap lay flush with the plinth (incl. JUUNOO Glue and the textile piece to <sup>2</sup>)

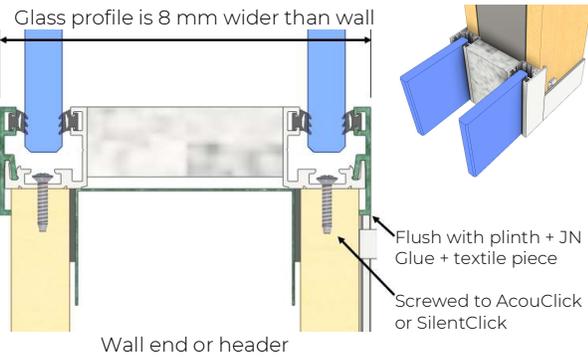
<sup>1</sup> More info, see p.65 - **Error! Reference source not found.**

<sup>2</sup> More info, see p.62 - **Error! Reference source not found.**

### 9.2.3.2 DOUBLE GLAZED WALL

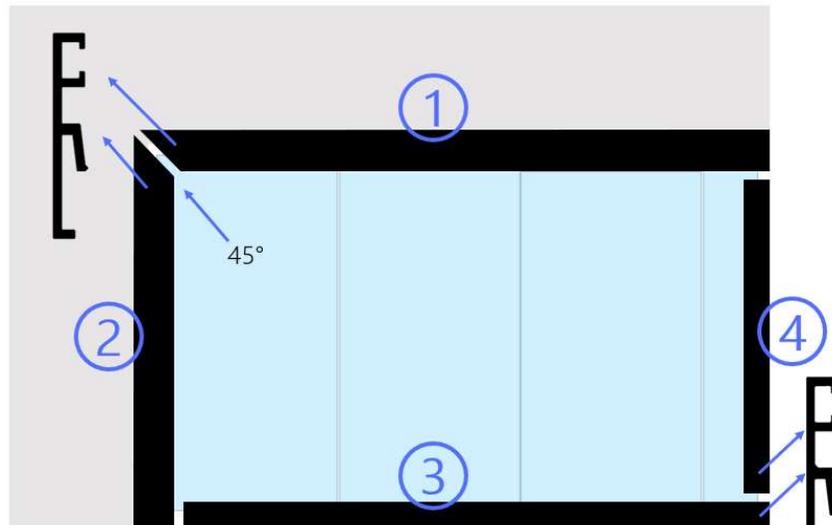


The overlapping click profile has a longer leg than the normal click profile. It's clicked in the same way. The longer leg overlaps the adjacent click panel, so edge imperfections are covered.



The double glass profile is screwed to the AcouClick or SilentClick. The outer legs of the overlapping click profiles lay flush with the front of the skirting board (incl. JUUNOO Glue and textile piece for dismantling<sup>3</sup>)

The mounting of the overlapping click profile is done in the order as below. The adjacent overlapping click profiles are cut to 45°. The connection of an overlapping click profile and a standard click profile is as usual 90°.



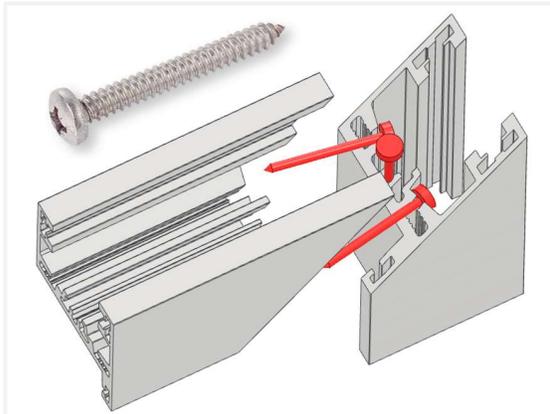
### 9.2.4 Door

The profiles of the door are supplied to measure. These are already fitted with a recess for the lock latch bolt and a marking gauge to mark the fixing holes of hinges.

The door frame is screwed together with self-tapping screws with a 3.9x32 or 38mm cylinder head. These can be found at [www.Berner.eu](http://www.Berner.eu).

<sup>3</sup> More info, see p.62 - **Error! Reference source not found.**

Alternatively, connecting pieces can be used (see below). However, screws are more efficient to install and the connection is slightly more solid.

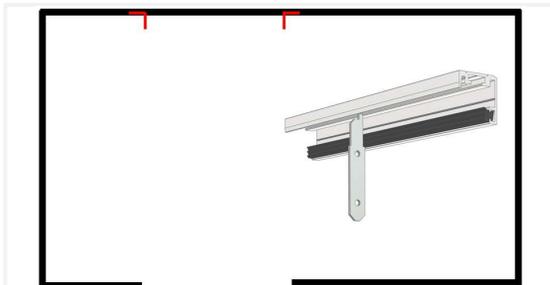


Connecting with screws

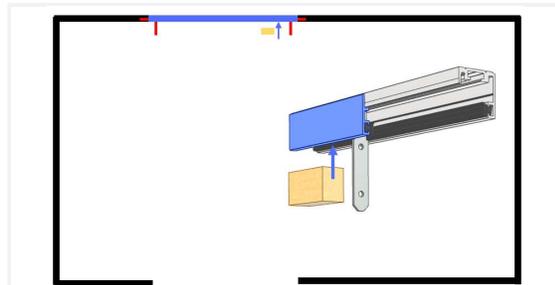


Alternative: connection with corner pieces

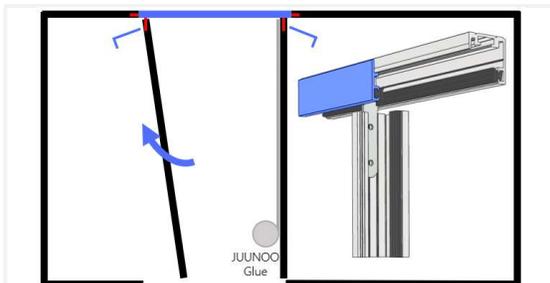
#### 9.2.4.1 INSTALLING THE DOOR AT ROOM HEIGHT



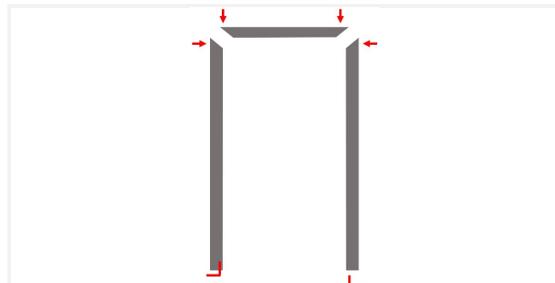
Install the base profiles. Leave an opening at the bottom for the door. Make sure all the connection pieces\* are in position beforehand.



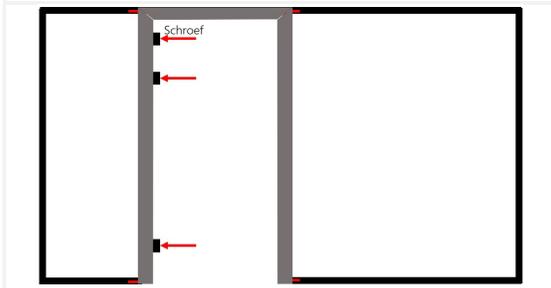
Click a snap-in profile the same width as the door frame into the base profile against the ceiling. Hold the snap-in profile in place with a 12-mm-thick block.



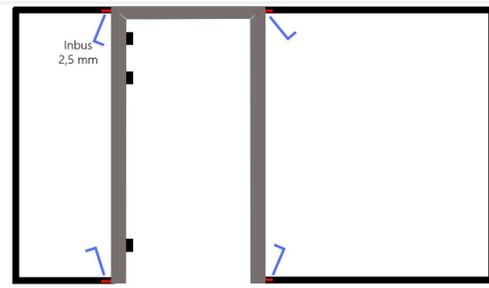
Insert a base profile over the connection pieces. Apply JUUNOO Glue to the back of the glass profile on the *lock side* of the door.



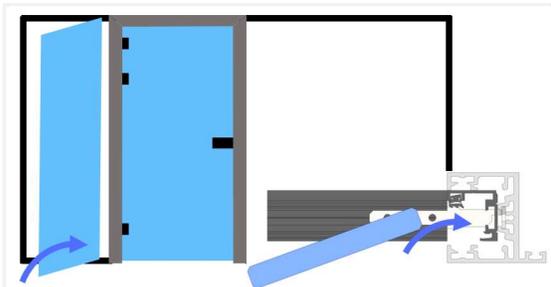
Assemble the door profile. Insert 2 connection pieces at the bottom.



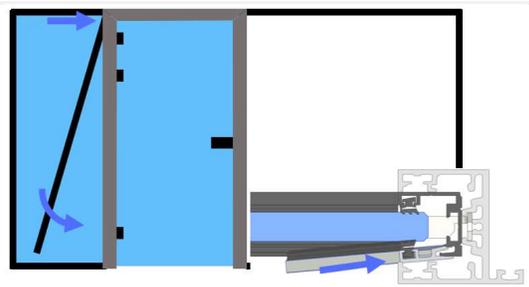
Screw the hinges to the door profile. To do this, pre-drill a 3 mm hole. Use the screws\*\* below to secure the hinge, door profile and glass profile together.



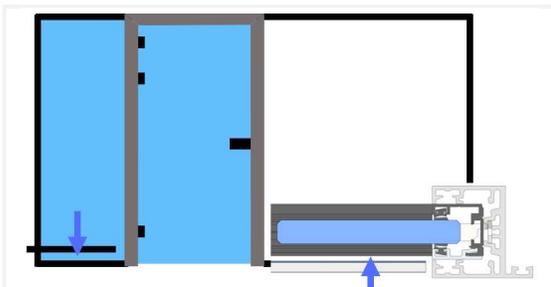
Put the entire unit in a level position. The connection pieces can then be tightened. The frame is now ready for hanging the door leaf inside.



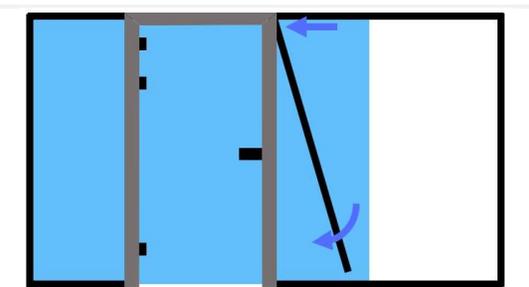
Position the glass pane beside the door.



Install the vertical snap-in profile. Some soapy water on the rubber reduces friction.

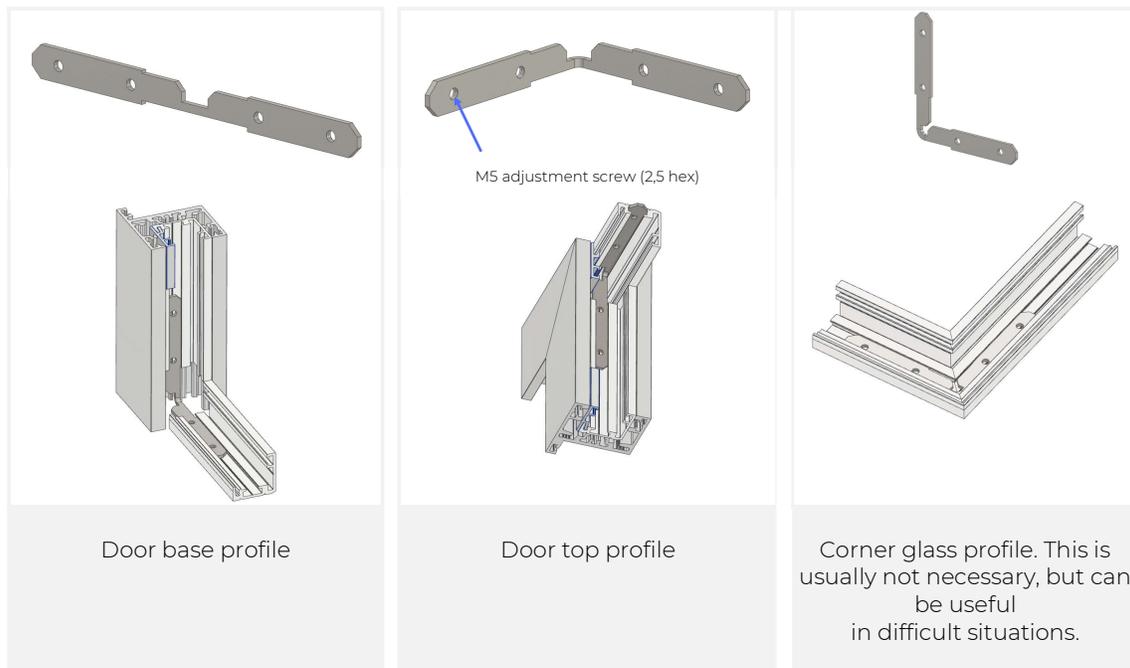


Install the horizontal snap-in profiles.



Do the same on the other side of the door.

\* The connection pieces are delivered flat including M5 hex screws. They can be folded in different ways depending on different situations.

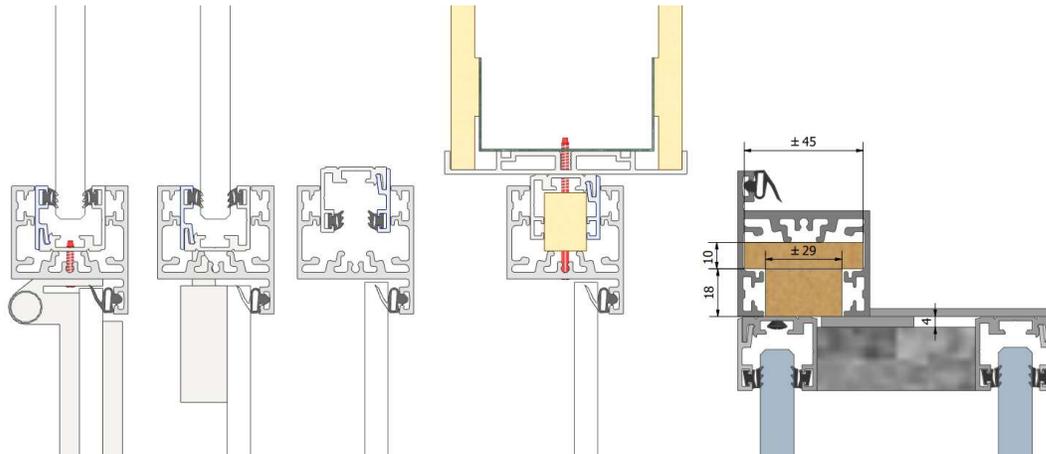


\*\* To fasten the hinges, use countersunk 3.9x22mm parkers without a drill point. These can be found at [www.Berner.eu](http://www.Berner.eu).



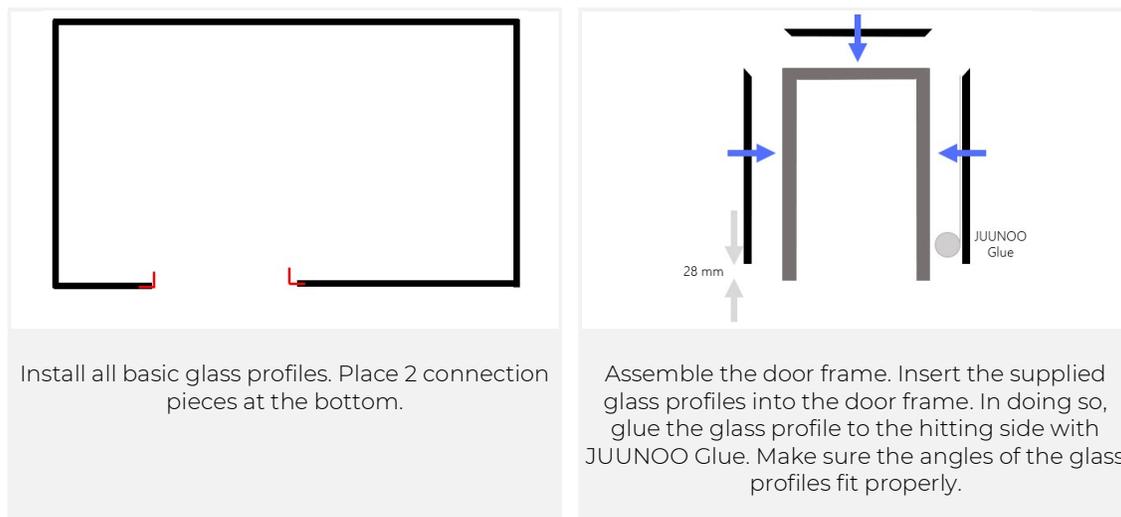
Various connections: cross-sections from left to right:

- Hinge side, vertical side & glass
- Lock side, vertical side & glass
- Horizontal profile door & glass profile ceiling
- Vertical side & full wall / existing wall
- Double glass wall & single glass door. Work is currently underway on a double-glazed door that will match the double-glazed wall in terms of acoustic performance.



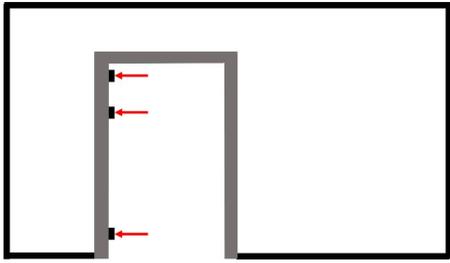
#### 9.2.4.2 INSTALLATION OF AN NON-ROOM-HEIGHT DOOR

When a glass pane is installed over a door, a glass profile is inserted into the horizontal profile of the door frame.

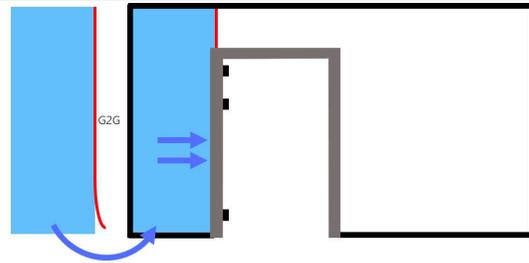


Install all basic glass profiles. Place 2 connection pieces at the bottom.

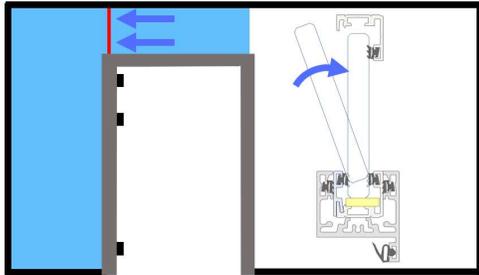
Assemble the door frame. Insert the supplied glass profiles into the door frame. In doing so, glue the glass profile to the hitting side with JUUNOO Glue. Make sure the angles of the glass profiles fit properly.



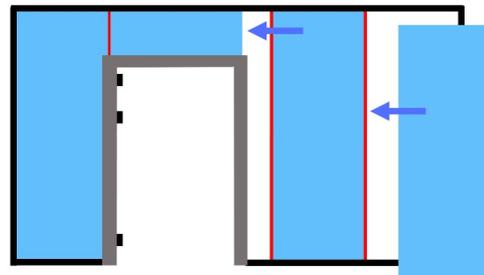
Screw on the hinges. This also fixes the glass profile.



Apply a G2G to the glass pane on the hinge side along its entire length. Press it against the door frame. Make sure the door frame is level.

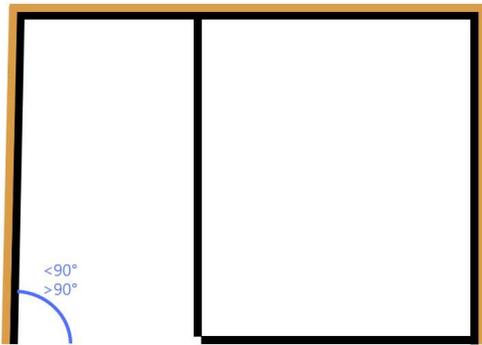


Insert the glass pane above the door frame and press firmly against the glass pane on the left.

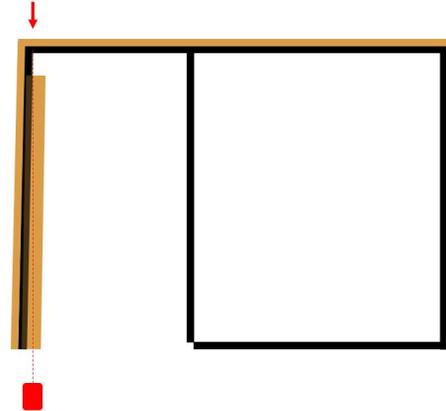


Apply a G2G to across the entire length of the next glass pane. Press it firmly against the door frame. Now complete the rest of the glass wall.

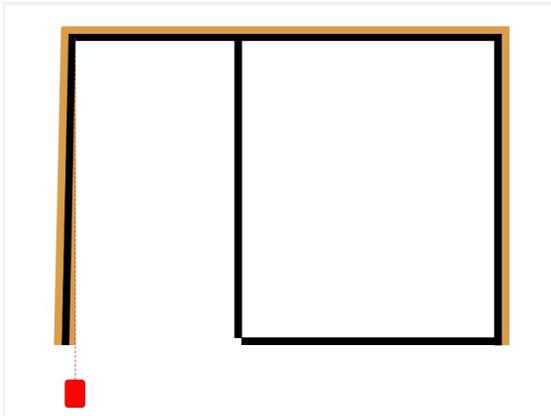
#### 9.2.4.3 INSTALLING A DOOR AGAINST AN EXISTING WALL



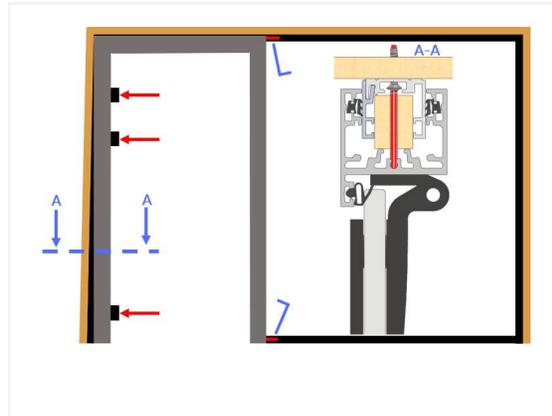
Secure all the base glass profiles in place. Note that the side of the doorway against the wall is not level.



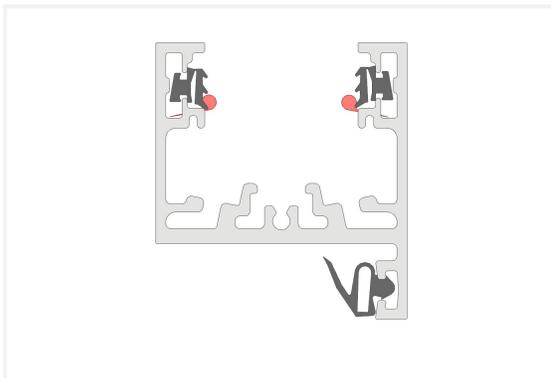
Insert a thick wooden batten (18 mm) into the profile and mark a level line using a laser.



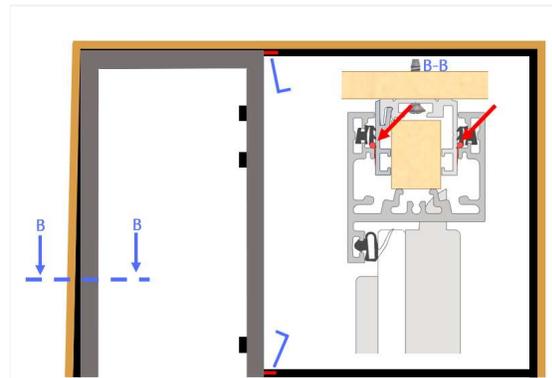
Cut off the excess wood. Insert the batten back into the glass profile.



Secure the door frame using long screws or dowels (red) along with the hinges. Due to the batten, the door frame is now level. Section A-A shows the final construction.



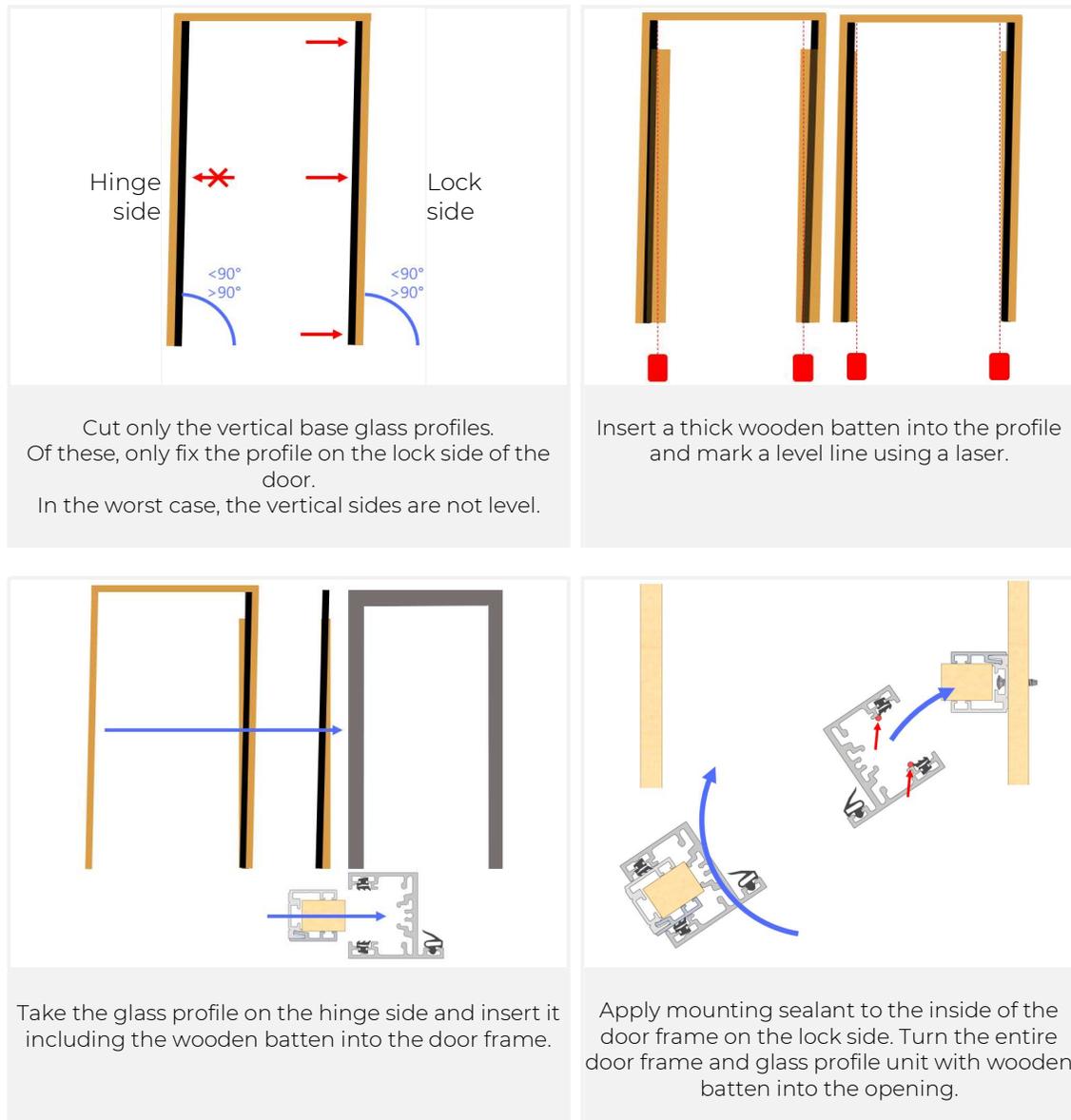
If the lock side of the door is against a sloping wall, this side cannot be screwed down because the screws will be highly visible. Therefore, it is best to use with some dabs of mounting kit.

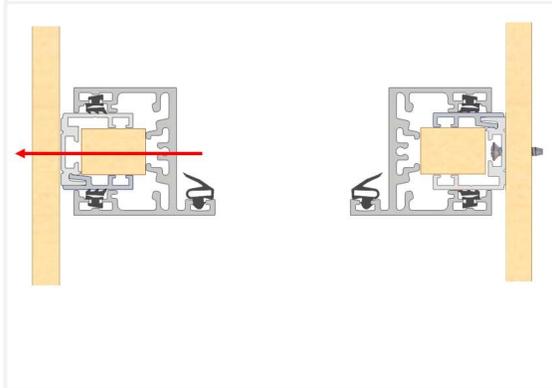


Slide the door profile over the glass profile and allow to dry.

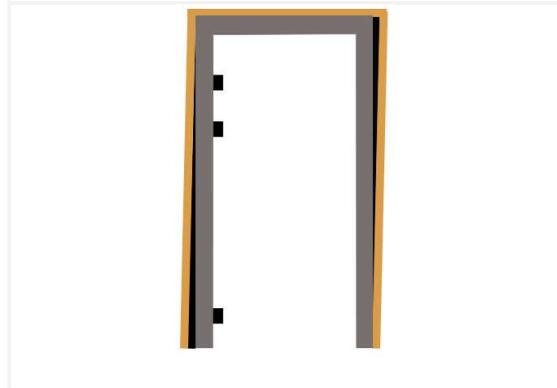
#### 9.2.4.4 INSTALLATION OF A DOOR BETWEEN 2 EXISTING WALLS

The construction of a wall between two existing walls is very similar to the previous method.





Using a long screw or dowel, fix the hinge side of the door frame.  
Do this at the height where the hinges will be, so the screw head is covered



Apply the hinges at the correct height. A small seam will be visible if the connecting walls are crooked.

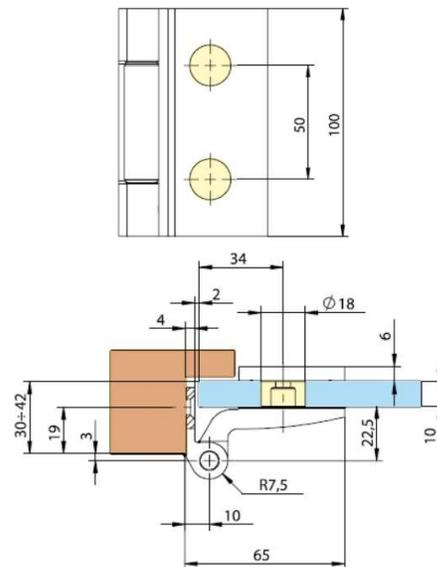
## 9.2.5 Door hardware

The following door hardware is provided as standard.

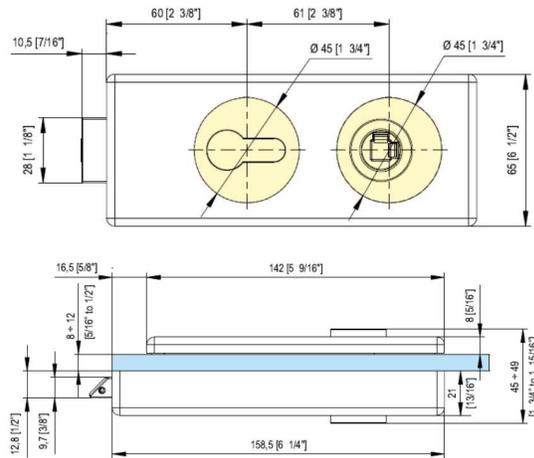
It can all be obtained in black, white and anodized.

In addition to the following, drop sills and door stops can also be provided.

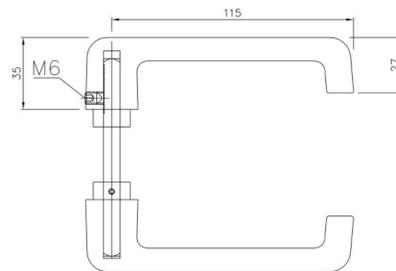
### 9.2.5.1 HINGE



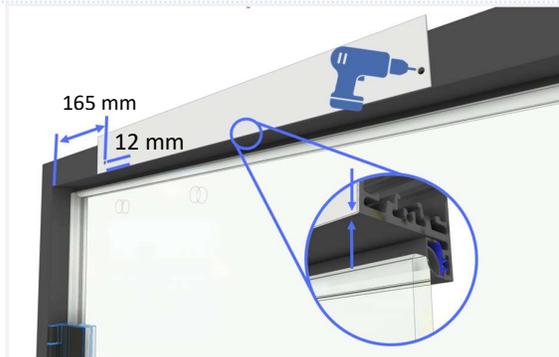
### 9.2.5.2 LOCK CASE



### 9.2.5.3 LEVER HANDLE



### 9.2.5.4 OVERHEAD CLOSER

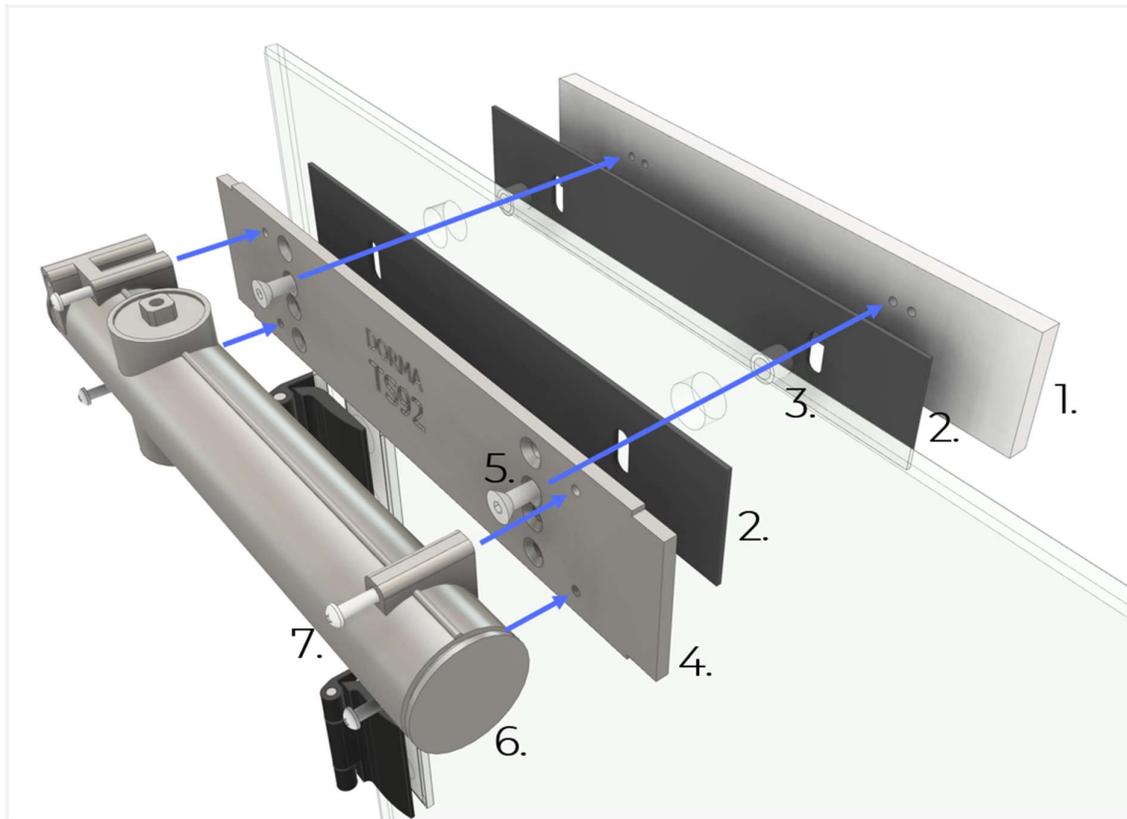


Place the hole template at 165 mm from the inside of the door profile.  
Bottom side is flush with door profile.  
Drill the two holes of 3 mm.



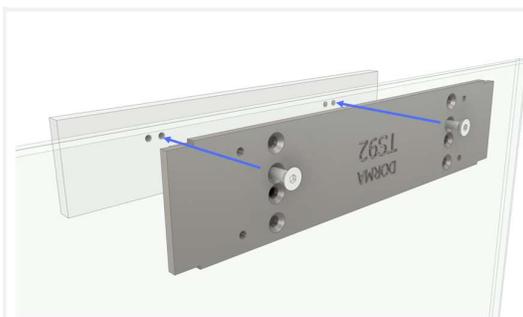
Screw the sliding rail with the attached screws.  
When a *hold open function* is required, follow the steps in this QR-code:





1. Aluminum cover plate. Choose the right hole so that this plate aligns with the mounting plate (4.)
2. Rubber spacers
3. Plastic bushes. Sit in holes of glass.
4. Mounting plate. When overhead closer on left side of door, put text upright.\* Choose the hole second from the top.

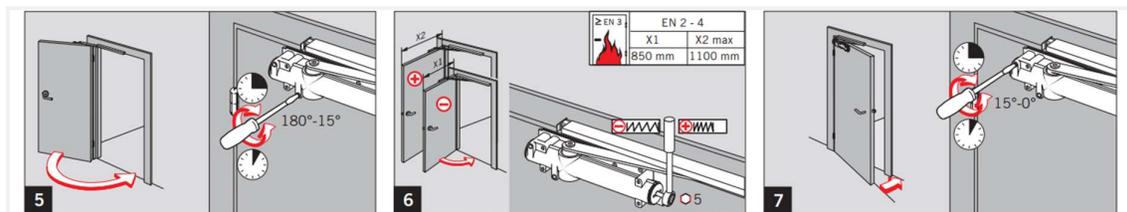
5. Screw parts 1 till 4 together with an allen key 5.
6. Screw the pump to the mounting plate with attached screws (7. Philips 2)



\*Mount the mounting plate *upside down* when the overhead closer is located on the *right side* of the door.  
Make sure the cover plate is aligned with the mounting plate.



The assembly should look like this by now.

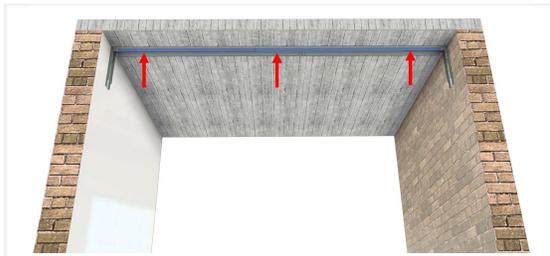


### 9.2.6 Header

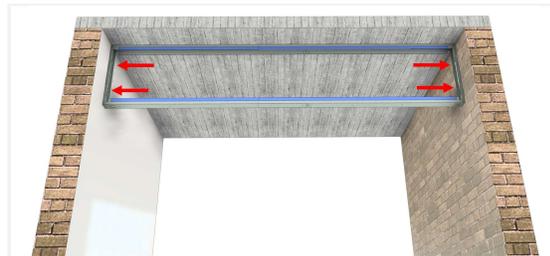
For a circular construction of a glass wall, the glass wall is a standard height of 2.36 m. The remaining height of this wall is filled with an header. In essence, the header is a wall mounted against the ceiling. A glass wall can then be placed underneath.

Depending on the height of the header, a different configuration of modules is used. Below is an overview.

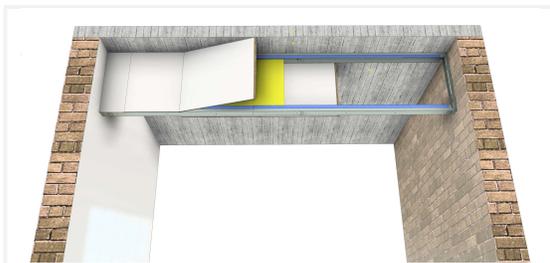
Header is **lower than 700 mm** high: use horizontal C modules.



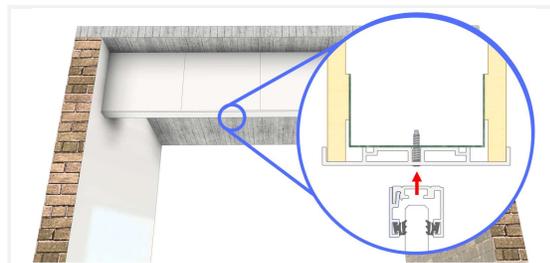
Secure a C module to the ceiling.



Hang a 2nd C-module under it at the desired height.  
Secure it with the feet against the wall.



Install the insulation material and line the C modules with snap panels or drywall.

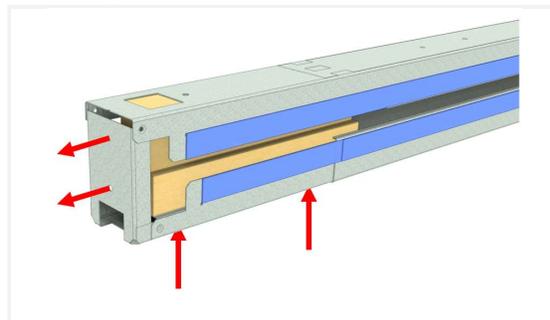


Screw the finishing profile against the underside.  
Make sure the screws are countersunk. Against this comes the glass profile.

If the header becomes even smaller, the foot sections of the C modules can be cut or completely folded in, allowing the styles to be closer together.

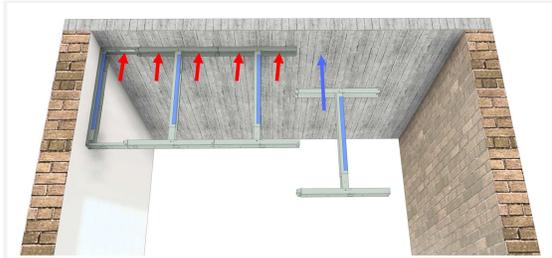


The foot profiles are trimmed and folded inward.  
This structure has a minimum height of 250 mm.

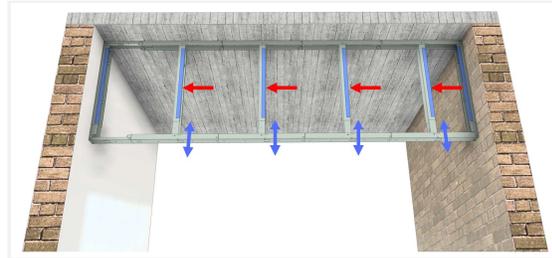


The foot profile of the upper C-module is shortened and fixed against the wall. The foot profile of the lower C-module is completely folded down.  
This assembly has a minimum height of 50 mm

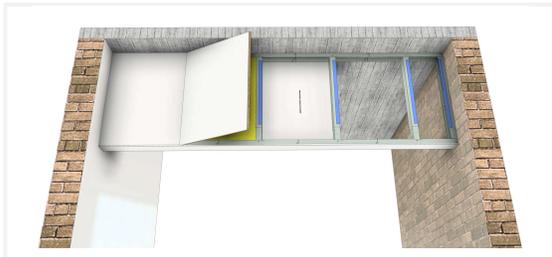
Header is **higher than 700 mm** high: use vertically suspended I- and C-modules.



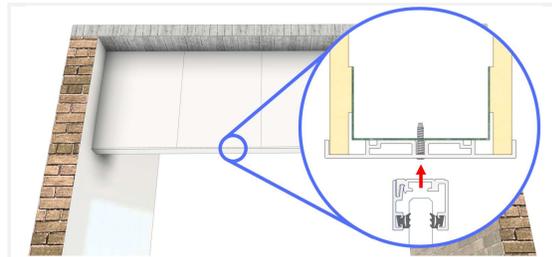
Fix the I and C modules against the ceiling like a normal wall. Click them together.



Slide the modules in or out to the desired height. Secure the posts with a self drilling screw.

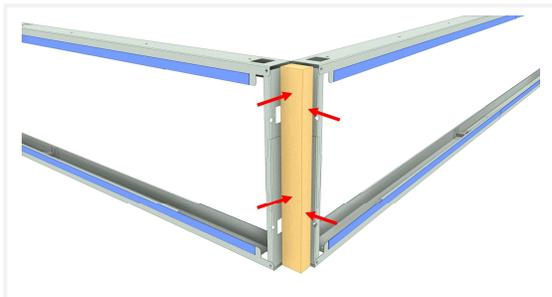


Install the insulation material and line the modules with snap panels or drywall.

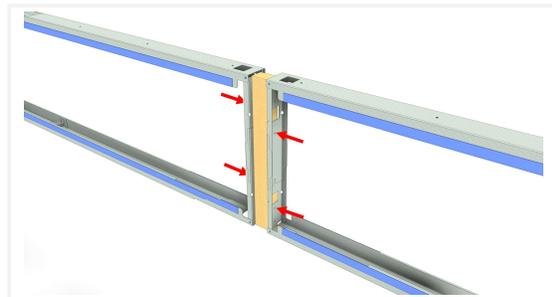


Screw a finishing profile against the underside. Make sure the screws are countersunk. The glass profile will be fitted against this.

90° and 180° connections can be made using a wooden beam. This method is similar for vertically suspended modules.



90° connection  
This method is similar with vertically suspended modules.



180° connection

## 9.3 Measuring a glass wall

### 9.3.1 Height

A standard glass wall is 2.36 m high. For this purpose, the **glazed panels are 900 mm x 2335 mm**. This height fits about 80% of projects. It ensures that when recycled, the glazed panels will fit each time.

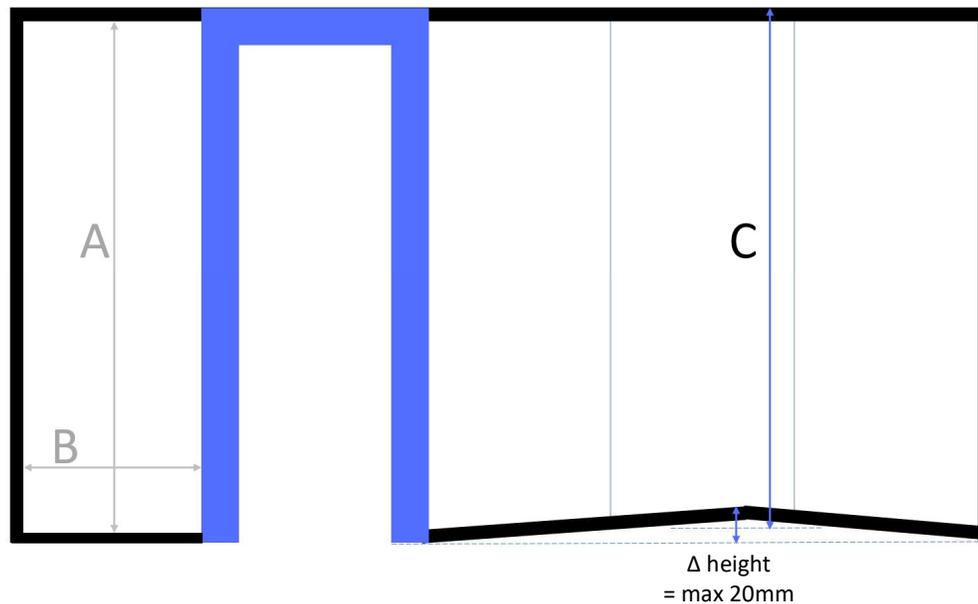
Weight of these standard glass pane sizes:

68,3 kg for 66.2 and 66.2A glass

83,3 kg for 88.2 and 88.2A glass

A standard **glass door** dimension is **10 x 930 x 2305 mm**.

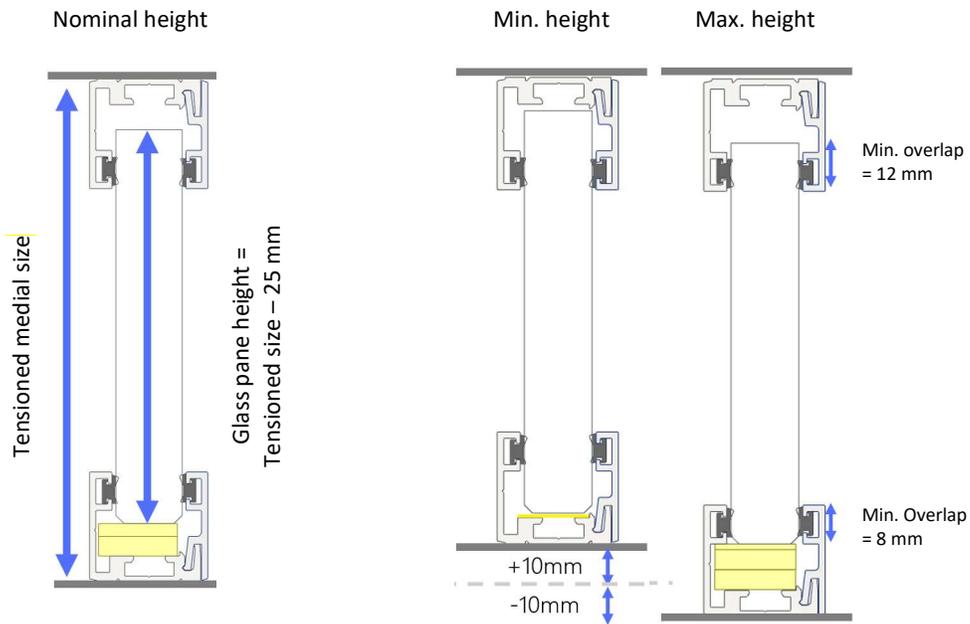
You can also choose to work at room-height. To do this, measure the height and width of the wall every meter.



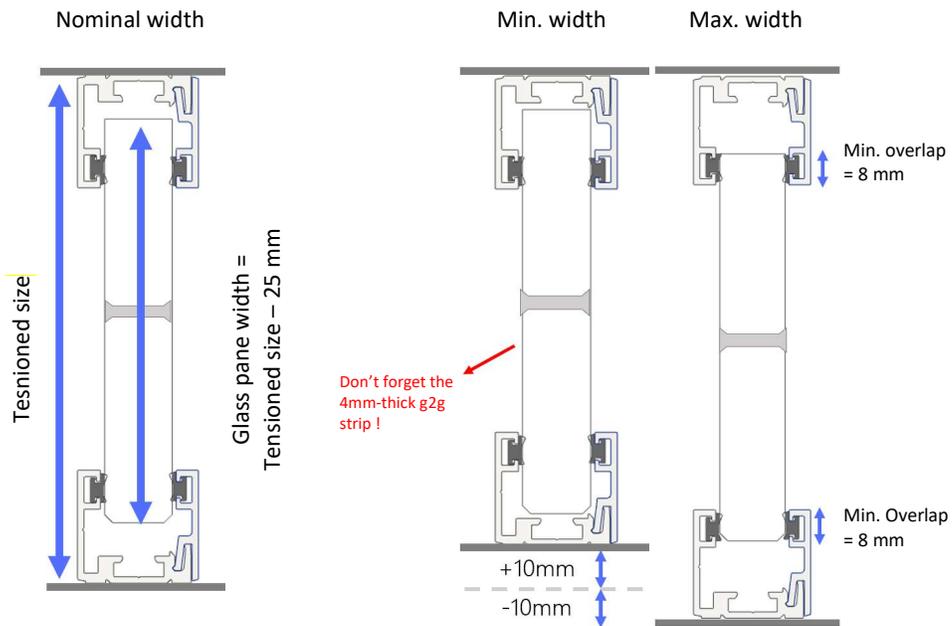
A = Standard glass pane height = 2335 mm

B = Standard glass width = 900 mm

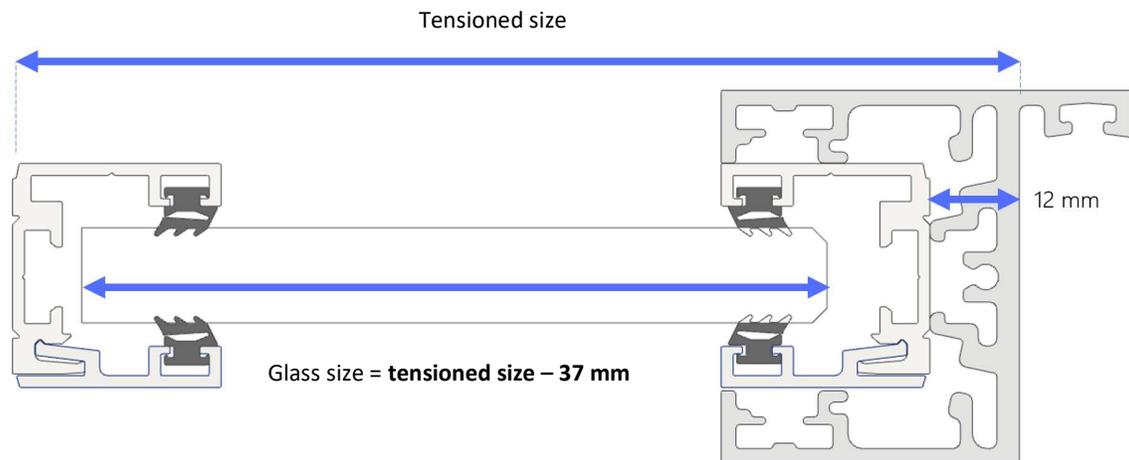
C = Tensioned size = median ceiling height (not average!)



### 9.3.2 Width



### 9.3.3 Door in a wall



### 9.4 Additional information on acoustics

When choosing a wall with higher acoustic properties, it is important that the glass also has higher acoustic properties. If this is not the case, most of the sound will escape through the glass, irrespective of how efficiently the wall insulates the sound. In general, the difference in acoustic attenuation ( $R_w$ ) should not exceed 10 dB.

# daidalos peutz



Chris Van de Voorde  
JuuNoo, Nelson Mandelaplein 2, 8500 Kortrijk

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project: 2019-AK-JuuNoo.Insul  
opdracht: Insul berekeningen JuuNoo scheidingswanden  
opdrachtgever: JuNovation BVBA, Oudenaardsesteenweg 281, 8500 Kortrijk  
datum: 26 april 2019

inhoud: Overzicht van Insul berekeningen en meetresultaten in laboratorium

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#### Doel van deze studie

Het JuuNoo kadersysteem kan met verschillende beplatingen worden opgebouwd. De beplating heeft een significante invloed op de luchtgeluidsisolatie wand een scheidingswand.

Er zijn in het verleden met het JuuNoo systeem enkele metingen van de luchtgeluidsisolatie in een geaccrediteerd laboratorium uitgevoerd.

Deze meetresultaten worden in de studie aangevuld met een reeks berekeningen van de luchtgeluidsisolatie van verschillende types beplating toegepast op het JuuNoo kader (enkel en dubbel kader).

De akoestische berekeningen van deze wandsystemen werden uitgevoerd met de software INSUL 6.2.

De volgende tabel geeft een overzicht van de akoestische prestatie (uit metingen en berekeningen) van verschillende scheidingswandssystemen gebaseerd op het JuuNoo kadersysteem.

De akoestische prestatie is uitgedrukt in de akoestische verzwakingsindex voor luchtgeluid  $R_w$  en de bijbehorende aanpassingstermen  $C$  en  $C_{tr}$  (correctie voor specifieke geluidsbronnen).

test	Kader	Geluidsabsorptie in spouw	Ophanging	Beplating	Rw (C;Ctr) in dB
1	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	JuuNoo tapes	1 x 10mm ClickWall	43 (-4;-10) *
2	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1 x 8mm Spaanplaat + 1 x 10mm ClickWall	52 (-3;-10) *
3	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	JuuNoo tapes	1 x 8mm Spaanplaat + 1 x 10mm ClickWall	52 (-3;-10) *
4	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	JuuNoo tapes	2 x 8mm Spaanplaat + 1 x 10mm ClickWall	57 (-3;-10) *
5	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1 x 12,5mm Gyproc A	43 (-3;-9) *
6	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	2 x 12,5mm Gyproc A	49 (-2;-9) *
7	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1 x 12mm OSB + 1 x 12,5mm Gyproc A	51 (-3;-10) *
8	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	2 x 12,5mm Soundblock (gyproc)	56 (-3;-8)
9	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1 x 10mm Clickwall + 12mm Multiplex	50 (-3;-9)
10	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1 x 12mm OSB + 1 x 12,5mm Soundblock	55 (-3;-9)
11	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	3 x 12,5mm Gyproc A	60 (-3;-8)
12	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1 x 12mm OSB + 2 x 12,5mm Gyproc A	59 (-2;-7)
13	JuuNoo 75mm	50 mm rotswol 33kg/m <sup>3</sup>	Schroeven	3 x 12,5mm Soundblock	61 (-3;-7)
14	2 x JuuNoo 75mm (ontdubbeld, zonder verbinding intern)	75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1 x 8mm Spaanplaat + 1 x 10mm ClickWall	58 (-4;-11)
15	2 x JuuNoo 75mm	75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	2 x 8mm Spaanplaat + 1 x 10mm ClickWall	64 (-3;-11)
16	2 x JuuNoo 75mm	75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	2 x 12,5mm Gyproc A	66 (-4;-11)
17	2 x JuuNoo 75mm	75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	3 x 12,5mm Gyproc A	73 (-4;-11)
18	2 x JuuNoo 75mm	75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1 x 12mm OSB + 2 x 12,5mm Gyproc A	72 (-4;-11)
19	2 x JuuNoo 75mm	75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	3 x 12,5mm Soundblock	75 (-4;-11)
20	2 x JuuNoo 75mm	75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1 x 12mm OSB + 2 x 12,5mm Soundblock	74 (-4;-11)
21	2 x JuuNoo 75mm	2 x 75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	2 x 8mm Spaanplaat + 1 x 10mm ClickWall	66 (-4;-11)
22	2 x JuuNoo 75mm	2 x 75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	3 x 12,5mm Soundblock	77 (-4;-11)
23	2 x JuuNoo 75mm	2 x 75 mm rotswol 33kg/m <sup>3</sup>	Schroeven	1x 12mm OSB + 2 x 12,5mm Soundblock	76 (-4;-11)

\* Voor de wandsystemen 1 t/m 7 zijn de waarden gebaseerd op metingen in een geaccrediteerd akoestisch labo volgens ISO 10140-2

Detailed reports can be requested from the JUUNOO technical service department via email [info@juunoo.com](mailto:info@juunoo.com).

10.2 Glazed walls: Acoustic test reports - summarized - daidalos peutz  
 Tested according to NBN EN ISO 17025:2017

Glas type	Rw (C; Ctr)	Aansluitend op ... <sup>4</sup>
Single 66.2A Profile width: 30 mm	36 (0; -3) dB	BaseClick wall
Single 66.2 Profile width: 30 mm	35 (-2; -3) dB	BaseClick wall
Single 88.2A Profile width: 30 mm	38 (-1; -3) dB	BaseClick wall
Single 88.2 Profile width: 30 mm	37 (-2; -4) dB *	BaseClick wall
Double 66.2 Cavity: 84 mm Profile width: 127 mm	50 (-2; -6) dB	AcouClick wall
Double 66.2A Cavity: 75 mm Profile width: 120 mm	50 (-2; -8) dB	AcouClick wall
Double 66.2A Cavity: 106 mm Profile width: 149 mm	54 (-1; -6) dB *	SilentClick wall
Double 88.2A Cavity: 80 mm Profile width: 127 mm	54 (-2; -6) dB *	AcouClick wall
Double 88.2A Cavity: 102 mm Profile width: 149 mm	57 (-3; -8) dB	SilentClick wall
Double 66.2A+ 88.2A Cavity: 102 mm Profile width: 149 mm	56 (-2; -7) dB	SilentClick wall

\* These values are simulations.

10.2.1 JUUNOO Glass partition walls - Single 66.2A glass

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 Vital Decosterstraat 67A – bus 1  
 B-3000 Leuven  
 Belgium  
 VAT: BE 0454.276.239  
[www.daidalospeutz.be](http://www.daidalospeutz.be)

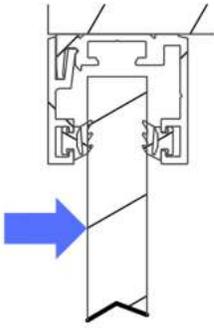


NBN EN ISO 17025:2017  
 EA MLA signatory

**NOISE LAB**  
**TEST REPORT Number A-2021LAB-079-I151-44466\_E**

<b>R</b>		<b>SOUND REDUCTION INDEX according to ISO 10140-2</b>																																																																																																																				
<b>Laboratory measurement of airborne sound insulation between rooms</b>																																																																																																																						
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<i>Description of the test setup:</i>																																																																																																																						
JUUNOO Glazed Partition Wall - one single glass panel 66.2A																																																																																																																						
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Total thickness of the glazed partition wall is ± 30 mm																																																																																																																						
<b>Area S of separating element:</b>	9,84 m <sup>2</sup>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"><b>Temperature:</b></td> <td style="width: 25%;">source room</td> <td style="width: 25%;">receiving room</td> </tr> <tr> <td></td> <td>20,8</td> <td>20,3 °C</td> </tr> <tr> <td><b>Atmospheric pressure:</b></td> <td>1010,2</td> <td>1010,3 hPa</td> </tr> <tr> <td><b>Relative humidity:</b></td> <td>72,3</td> <td>74,4 %</td> </tr> </table>		<b>Temperature:</b>	source room	receiving room		20,8	20,3 °C	<b>Atmospheric pressure:</b>	1010,2	1010,3 hPa	<b>Relative humidity:</b>	72,3	74,4 %																																																																																																							
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<b>Date of test report:</b>	17/05/2022	<b>Lab-engineer:</b> Gert-Jan Loobuyck																																																																																																																				



RESULTATEN VAN DE PROEVEN		
➤ Proeven met dubbele band		
❖ Proef 1	schokproeven op glazen scheidingswand	
 <p><b>Impactzijde</b></p>	 <p><b>Impactplaats : midden van de beglazing</b></p>	
<b>Beglazing</b>	- 66.2 (de zijden zijn afgeslepen)	
<b>Montage</b>	- Bovenprofiel is geschroefd. - Onderprofiel is met dubbelzijdig kleefband "JUUNOO Glue" op de grond gekleefd.	
<b>Gebruik-categorie</b>	<b>Valhoogte (mm)</b>	<b>Opmerking</b>
B	450	- Geen opmerking - Geen losse voorwerpen
C/D	700	- Geen opmerking - Geen losse voorwerpen
➤ <i>Classificatie: volgens TV 275: voldoet aan de eisen van categorieën A, B, C en D wanneer een doorvalrisico bestaat</i>		

#### 4 SUMMARY

This document includes a comparative study between 4 different commercial interior wall systems in terms of mechanical strength and stiffness. The wall systems are typically used in combination with plasterboard. The wall systems that are compared in this study are:

- A wooden structure built from rectangular beams of 38 x 89 mm,
- A wooden structure built from rectangular beams of 38 x 58 mm,
- A Metal Stud structure, and
- The JuuNoo system

Testing methods for the determination of the strength and safety of interior partition walls in Belgium are given in the technical WTCB report TV 233 of December 2017. For this comparative study, three of those testing methods were considered:

- A dynamic load due to a collision of a heavy soft body,
- A vertical static eccentric load, and
- A differential pressure

The results are presented in Figure 1 and Figure 2 in which the different systems are ordered from best to worst.

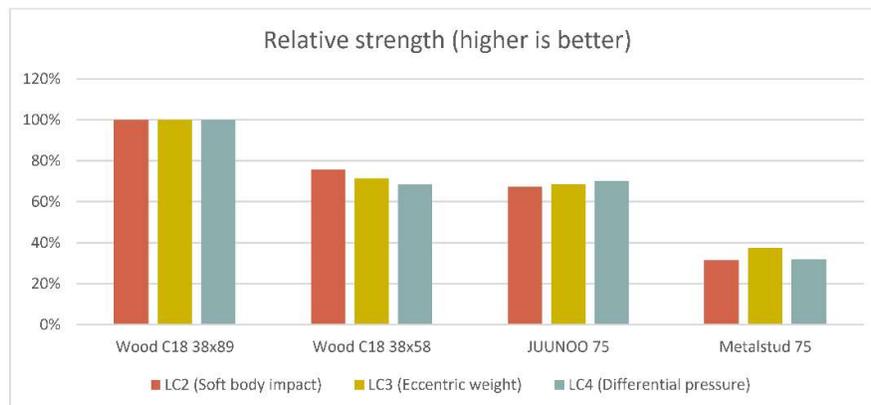


Figure 1 - Relative strength

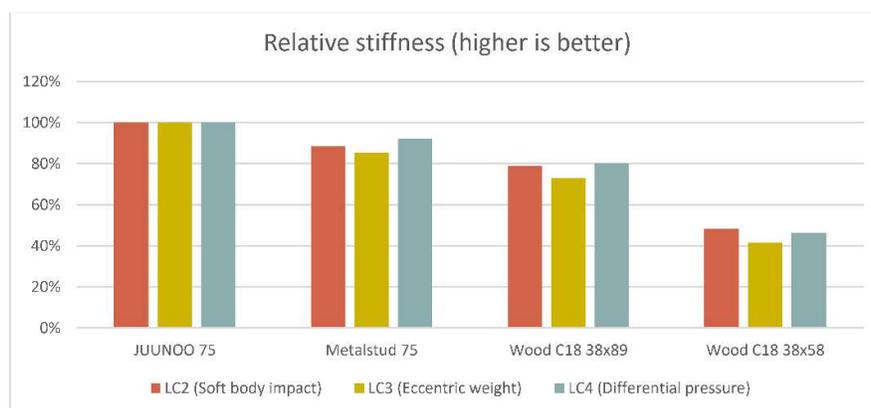


Figure 2 - Relative stiffness

### 3 Classification and field of application

#### 3.1 Reference of classification

This classification has been carried out in accordance with clause 7 of EN 13501-2:2016.

#### 3.2 Classification

The element, type: JuuNoo 75 mm structure + 2 x gypsumboard 12.5 mm, is classified according to the following combinations of performance parameters and classes as appropriate. No other classifications are permitted.

The classifications are valid for both sides of the non-loadbearing wall.

**EI 60 , EI 45, EI 30, EI 20, EI 15**

**EW 60, EW 30, EW 20**

**E 60, E 30, E 20**



UNILIN, division Panels

Ingelmunstersteenweg 229  
8780 Oostrozebeke – België  
+32 56 66 70 21

Oostrozebeke, 16/09/2019

Betreffende : UNILIN Clicwall gemonteerd op JuuNoo metalen structuur

Geachte,

Namens UNILIN Panels, bevestigen wij dat de JuuNoo metalen structuur in combinatie met UNILIN Clicwall panelen gebruikt kan worden.

Voor de JuuNoo metalen structuur zijn de aanbevelingen en condities voor plaatsing van toepassing, zoals beschreven in de algemene installatiegids voor metalen onderstructuren.

Indien verwerkt en geïnstalleerd volgens de richtlijnen, gelden de beloftes en garanties voor UNILIN Clicwall.

Hoogachtend,

A handwritten signature in black ink, appearing to read 'Heleen Verhamme', written over two horizontal lines.

Heleen Verhamme  
Product Manager Clicwall

A handwritten signature in black ink, appearing to read 'Bénédicte Lobel', written in a cursive style.

Bénédicte Lobel  
Business Manager Clicwall

UNILIN PANELS  
[www.unilinpanels.be](http://www.unilinpanels.be)



Kallo, 30 april 2019

T.a.v.: JUUNOO  
Chris Van de Voorde

Betreft: Gelijkwaardigheid vervanging Gyproc® Metal Stud® door JUUNOO-stijl

Hierbij bevestigen wij Saint-Gobain Gyproc®, dat de wandsystemen met door Juunoo ontworpen metalen structuur, gelijkwaardige resultaten behalen op het vlak van:

- Stabiliteit
- Akoestiek
- Brandweerstand

als de overeenkomstige Gyproc®-systemen.

Dit geldt wanneer de systemen opgebouwd worden conform de richtlijnen en met producten van Gyproc®.

De bovenvermelde verklaring werd gebaseerd op basis van testen uitgevoerd bij zowel externe, geaccrediteerde labo's als in het testlabo van Gyproc® te Kallo.

Met vriendelijke groeten,

A handwritten signature in blue ink, appearing to read "G. Schepens", written over a horizontal line.

Gerrit Schepens  
Technical Support Manager Gyproc

A handwritten signature in blue ink, appearing to read "H. Van der Schoepen", written over a horizontal line.

Herman Van der Schoepen  
Key Account Manager Industry & Prefab



**Saint-Gobain Construction Products Belgium NV/SA**  
Sint-Jansweg 9 - B-9130 Kallo - Tel.: +32 (0)3 360 22 11 - Fax: +32 (0)3 360 23 80 - [www.gyproc.be](http://www.gyproc.be)  
BTW/TVA BE 0400.865.465 - RPR Dendermonde - ING 320-0069176-85 - IBAN BE 69 3200 0691 7685 - BIC BBRUBEBB  
A Saint-Gobain Company



## QUICK

Quick and easy installation without dust or noise



## ATTRACTIVE

Great quality and a great look matched with top acoustics



## CIRCULAR

Endless options to reuse in other set-ups, spaces or buildings

Based on your feedback, we are constantly updating our technical info. Therefore, this edition is probably already out of date when you get it in your hands. For the most recent version, we would like to refer you to [www.juunoo.com/technical](http://www.juunoo.com/technical)

Or scan:



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**JUUNOO**  
THE WALL  
THAT PAYS OFF.