C1

Building Elements

01

EcoCocon Panel Types

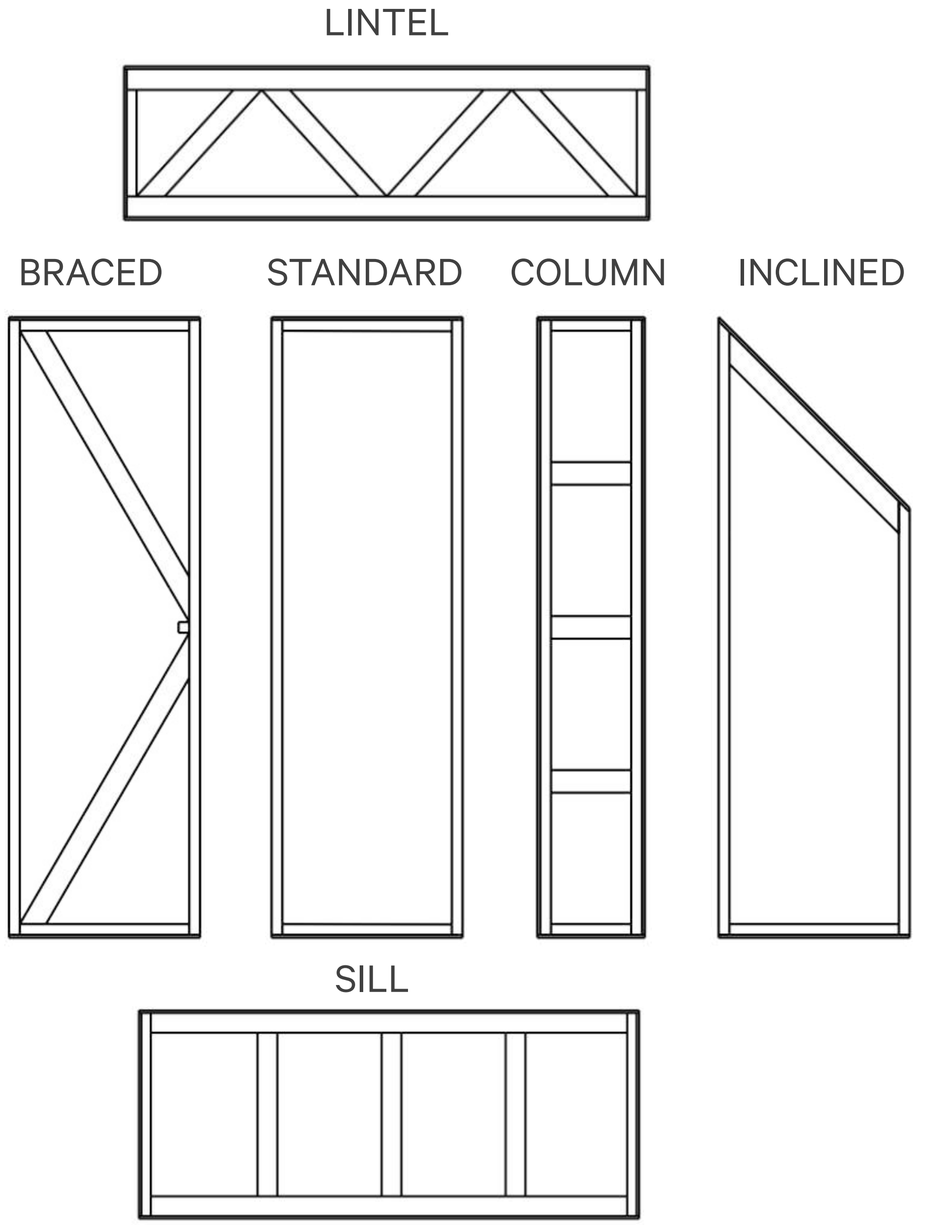
Panel types

EcoCocon panel types include standard panels, braced panels, lintels, sills, and inclined gable wall elements. They can meet different structural demands by placing panels closer together or by using plywood-reinforced column elements.

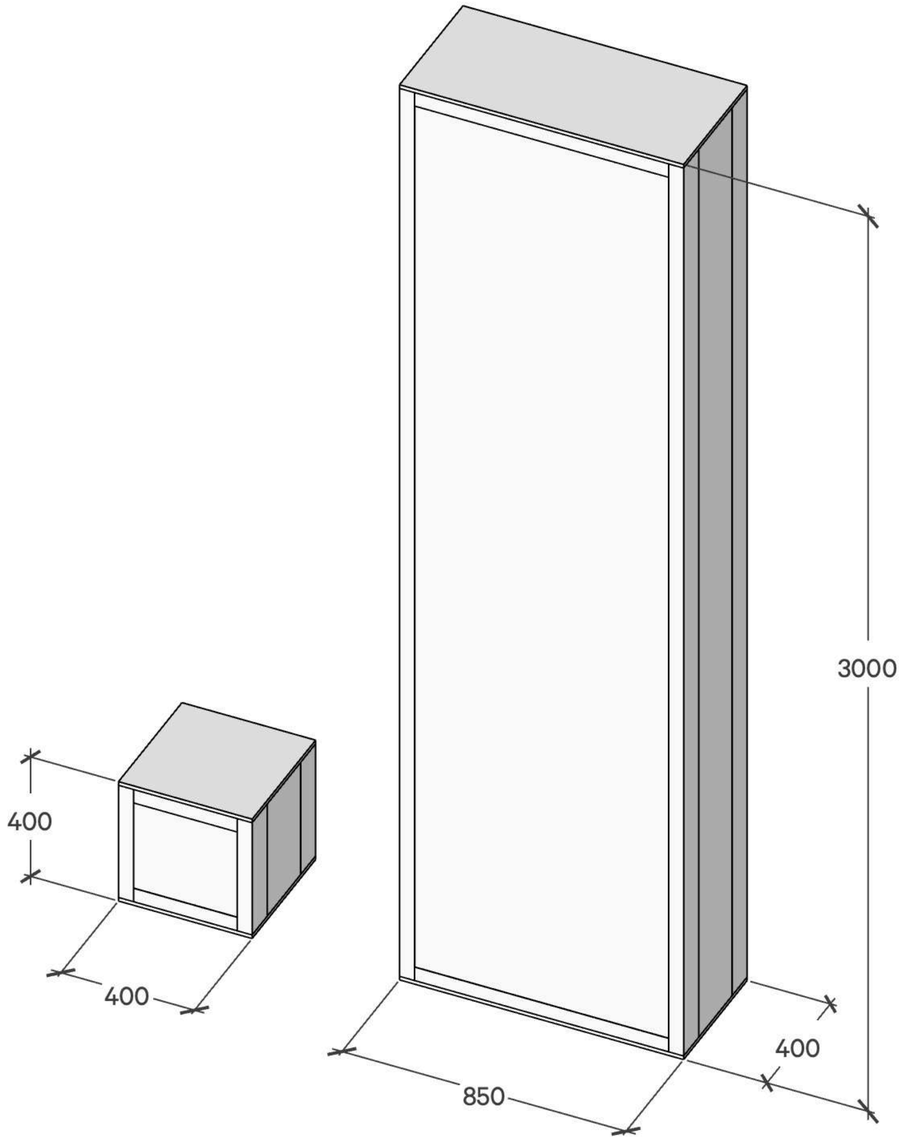
The twin-stud timber frame of panels ensures structural capacity for up to 6 storeys and easily supports ceilings, roofs or facades. The system is designed to be load-bearing without creating any thermal bridges.

Note

- The standard panel thickness is 40 cm
- Thickness of 30-40 cm is possible, but does not have the same level of certification
- Made in 1 mm increments to adapt to any kind of building design.



Standard panel

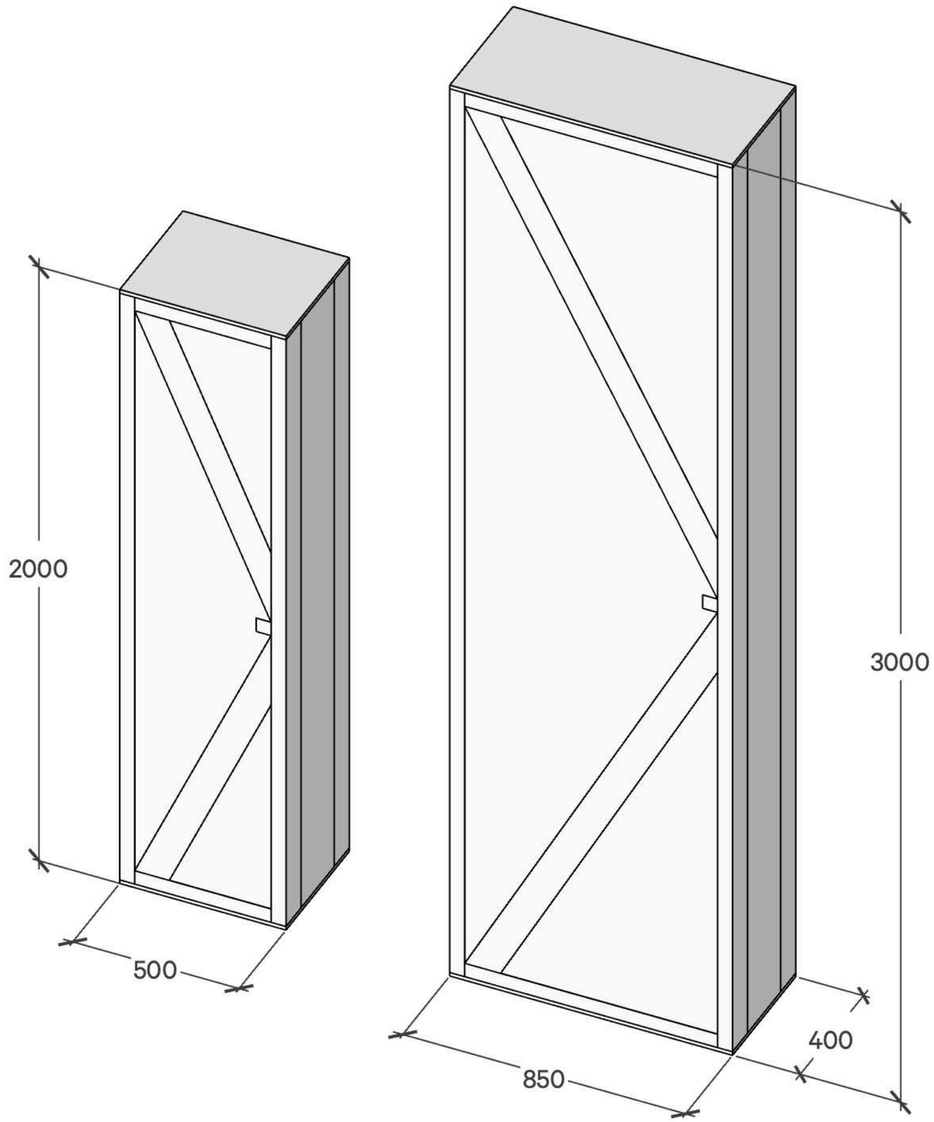


- Used for standard wall areas
- Used for sills if sill is not wider than 85 cm

Note

- Narrow panels will increase load capacity kN/m
- Produced also as standard size 800x2800 mm

Braced panel



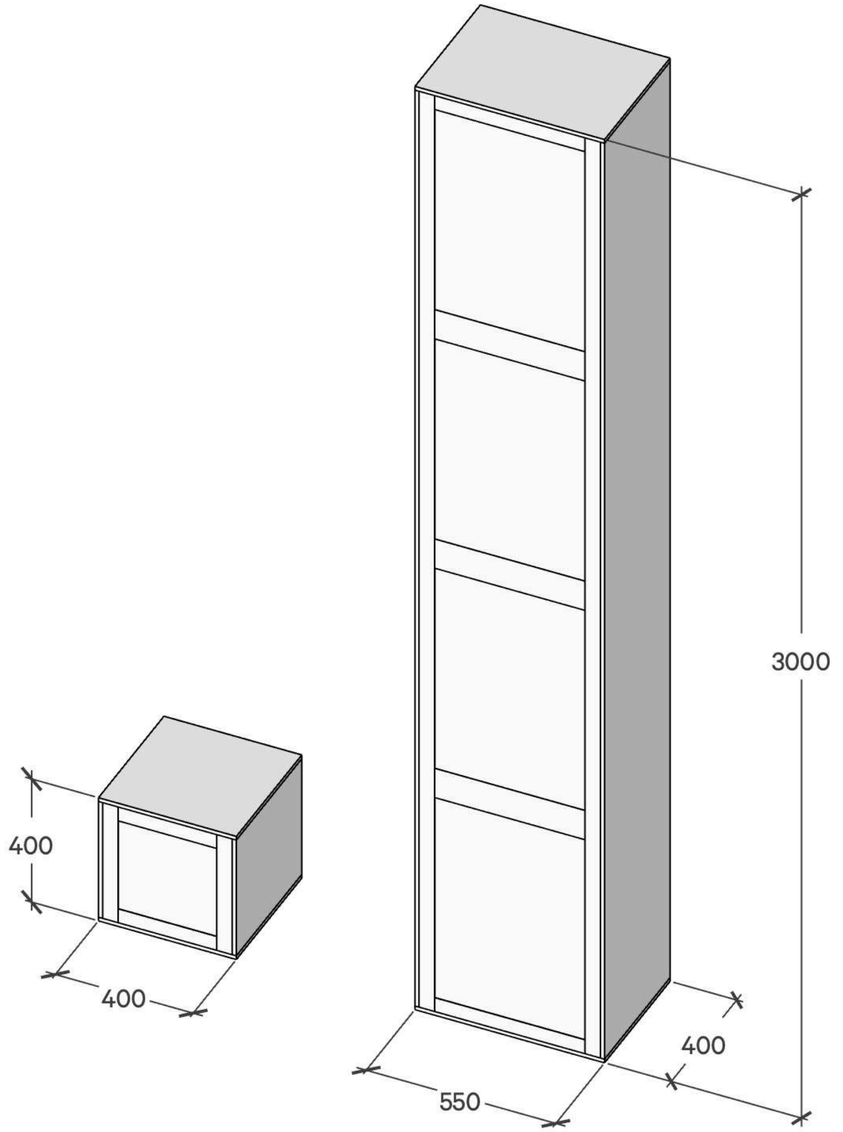
» Reinforcement against lateral forces
» 2 panels used for each wall
» Typically 8 panels per building floor

Note

» Standard braced panel 800 x 2800 mm

Column panel

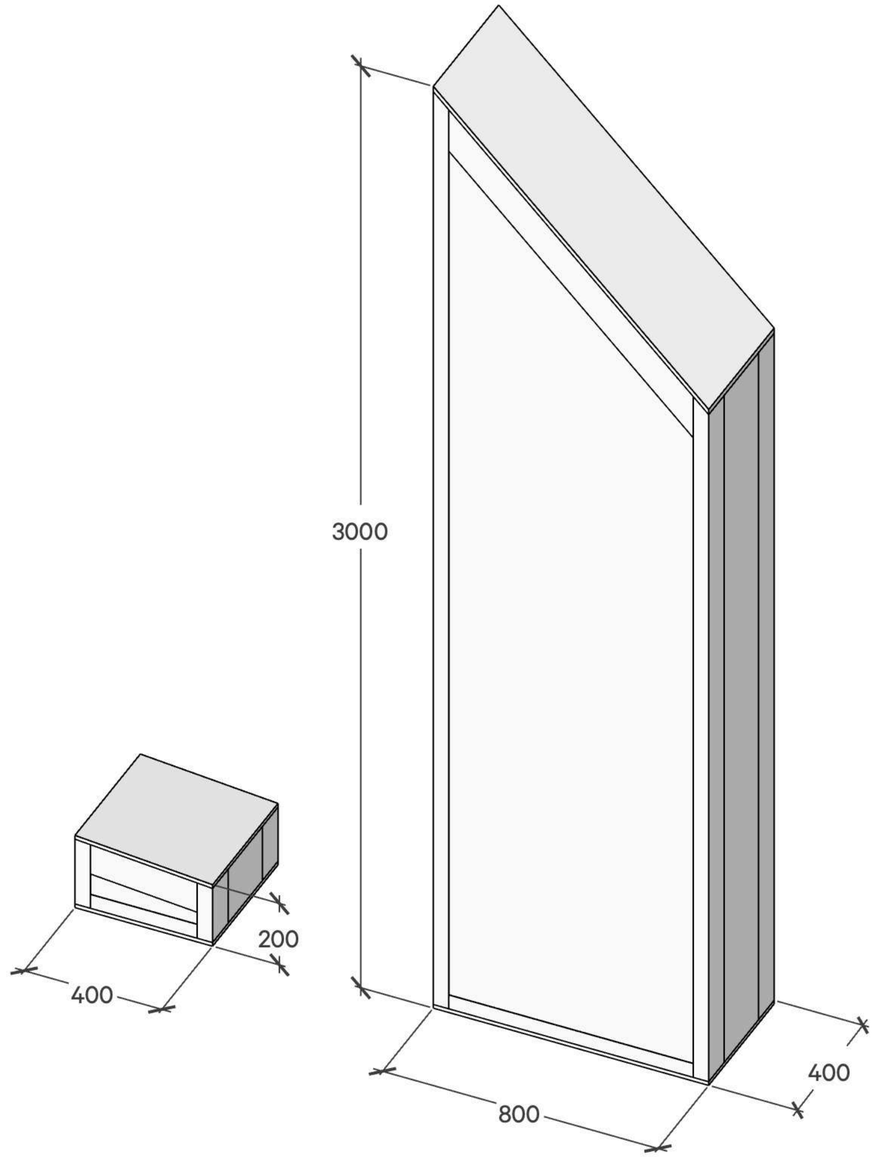
- For panels with 40-55 cm width
- Plywood added also on the sides
- Used for reinforced support between windows or in corners



Note

The plywood on the sides (2x12 mm) is included in the overall dimensions of the panel

Inclined panel

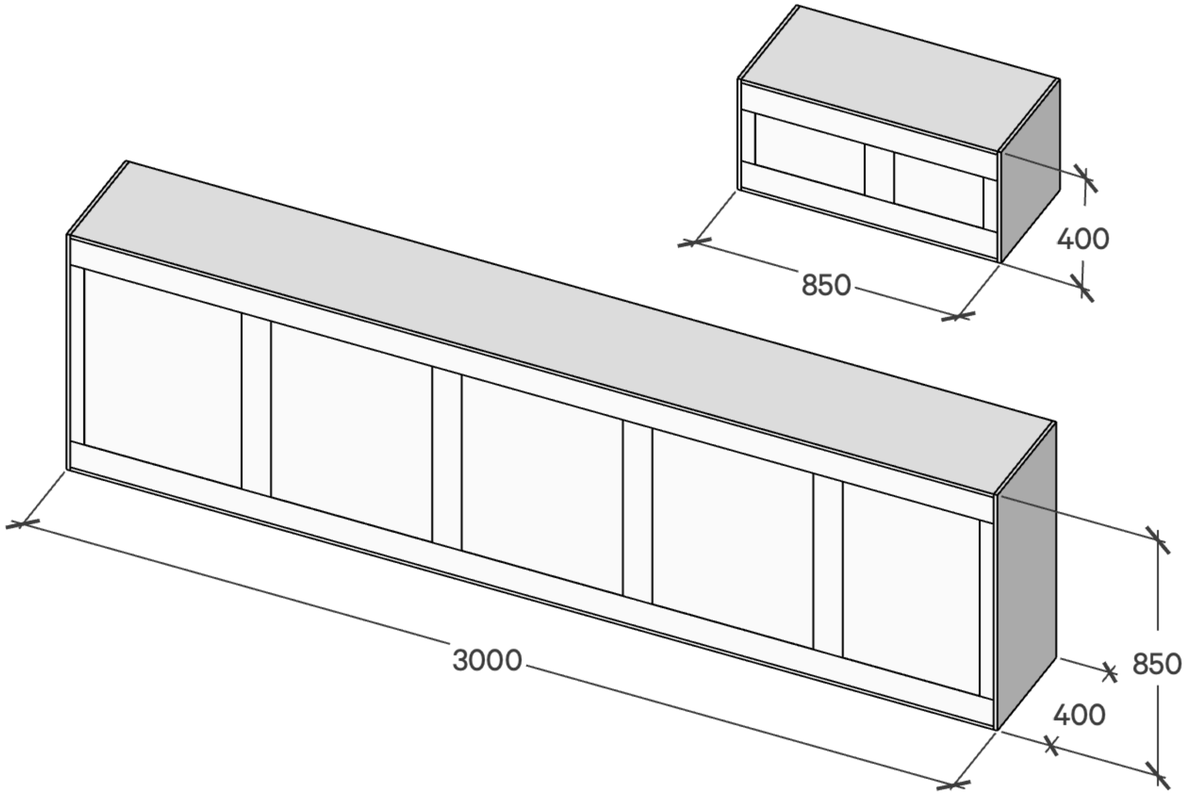


- Max. inclination 50°
- Min. inclination 1°
- Max. height of panel (long side) 300 cm
- Min. height (short side) 20 cm

Increments

- At 1° inclination of angle

Sill panel

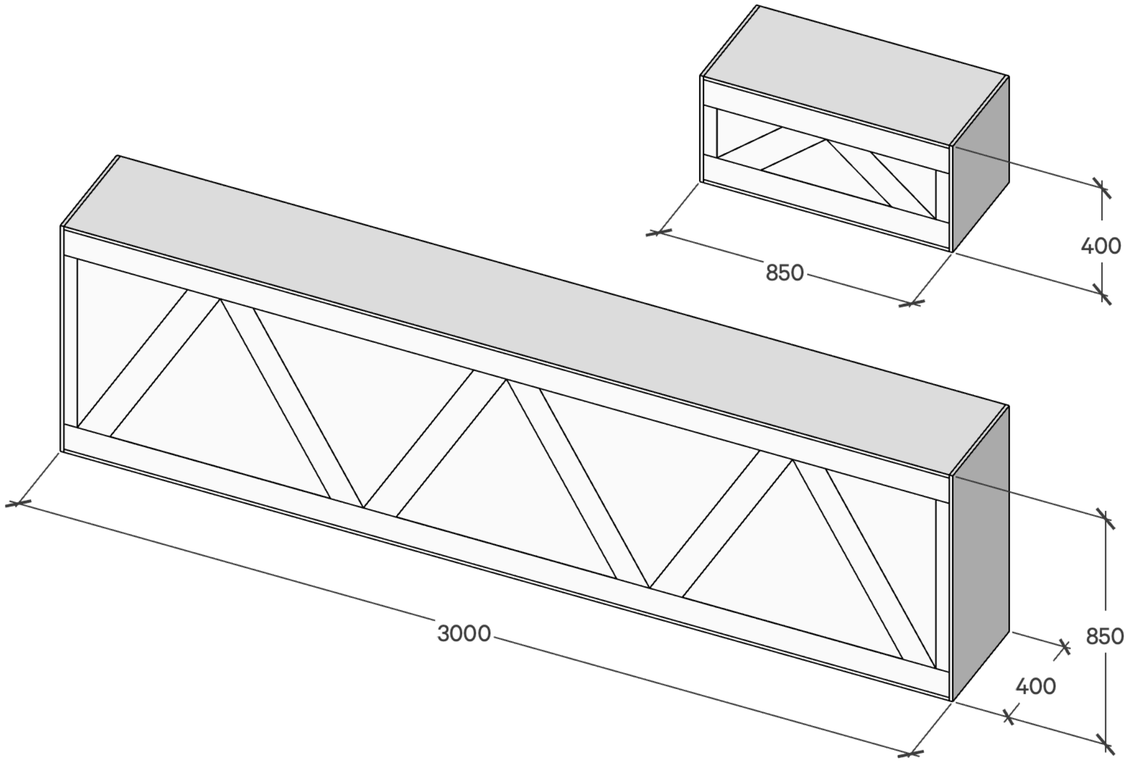


» For openings 850 - 3000 mm wide
» Height 400 - 850 mm

Note

» Vertical posts distance max. 800 mm, depending on width of sill
» For sills narrower than 850 mm, standard panels are used

Lintel panel



- Used for openings 850 - 3000 mm wide
- Height 400 - 850 mm

Note

- If window has a shutter box, the height of the lintel needs to be adjusted
- For lintels narrower than 850 mm, standard panels are used

02

Inside and Outside Layers

Inside layers

Standard layers (certified)

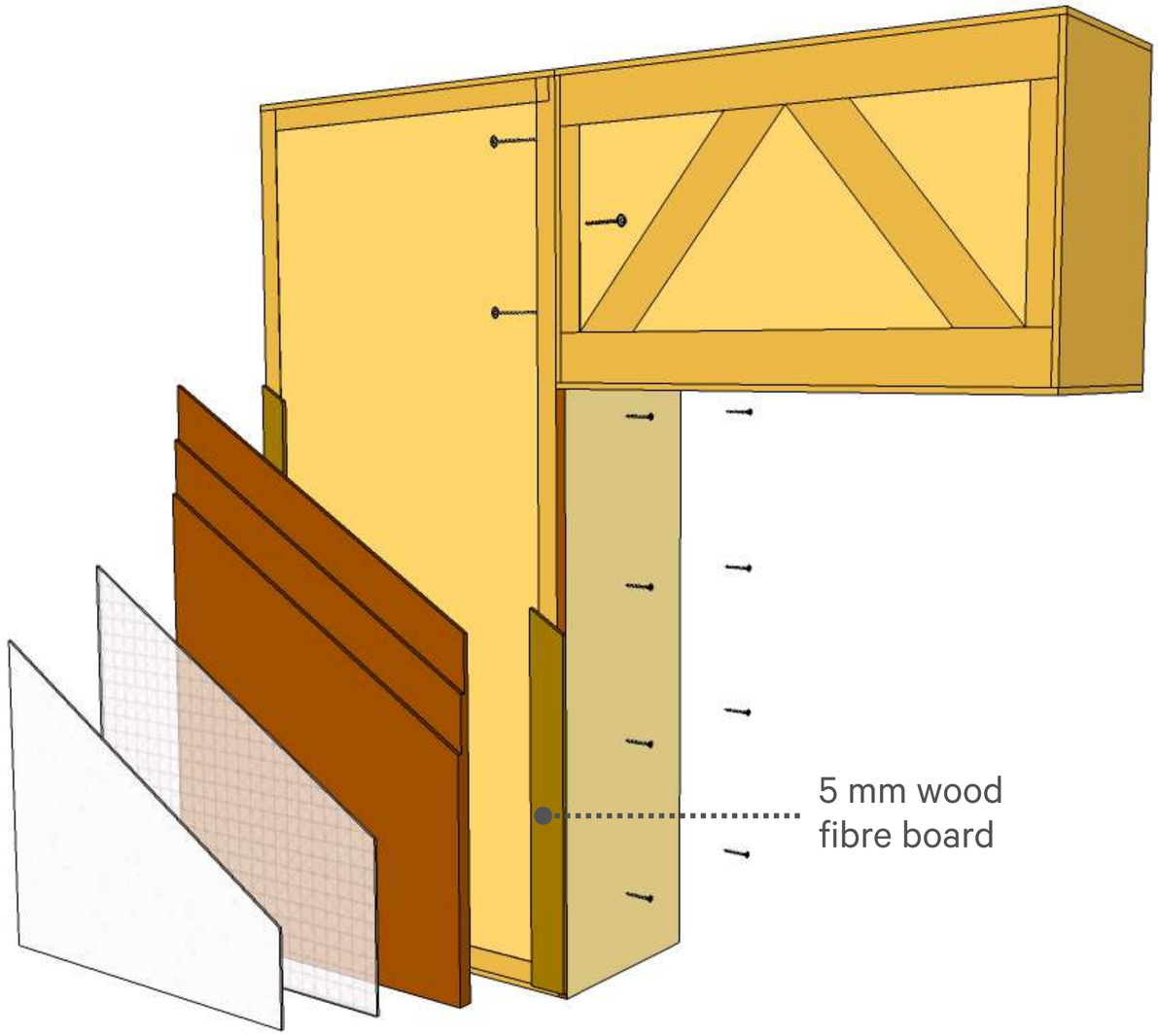
1. EcoCocon timber-straw panel
2. Thin 5 mm wood fibre boards tacked onto the wood before plastering
3. Base coat clay plaster 25 mm (2-3 layers)
4. Reinforcing mesh
5. Fine clay plaster

Variations

» Gypsum board, gypsum fibre board, gypsum plaster
» Plywood or OSB behind cupboards, kitchens & plumbing

Note

» The sd-value of the inside layers has to be higher than the outside layers



Outside layers

Standard layers

1. EcoCocon straw wall panels
2. Airtight, diffusion-open membrane (Sd<0.2m)
3. Plywood strips to fix the membrane
4. Wood fibre board (6 - 10 cm)
5. Waterproof plaster system certified for wood fibre boards

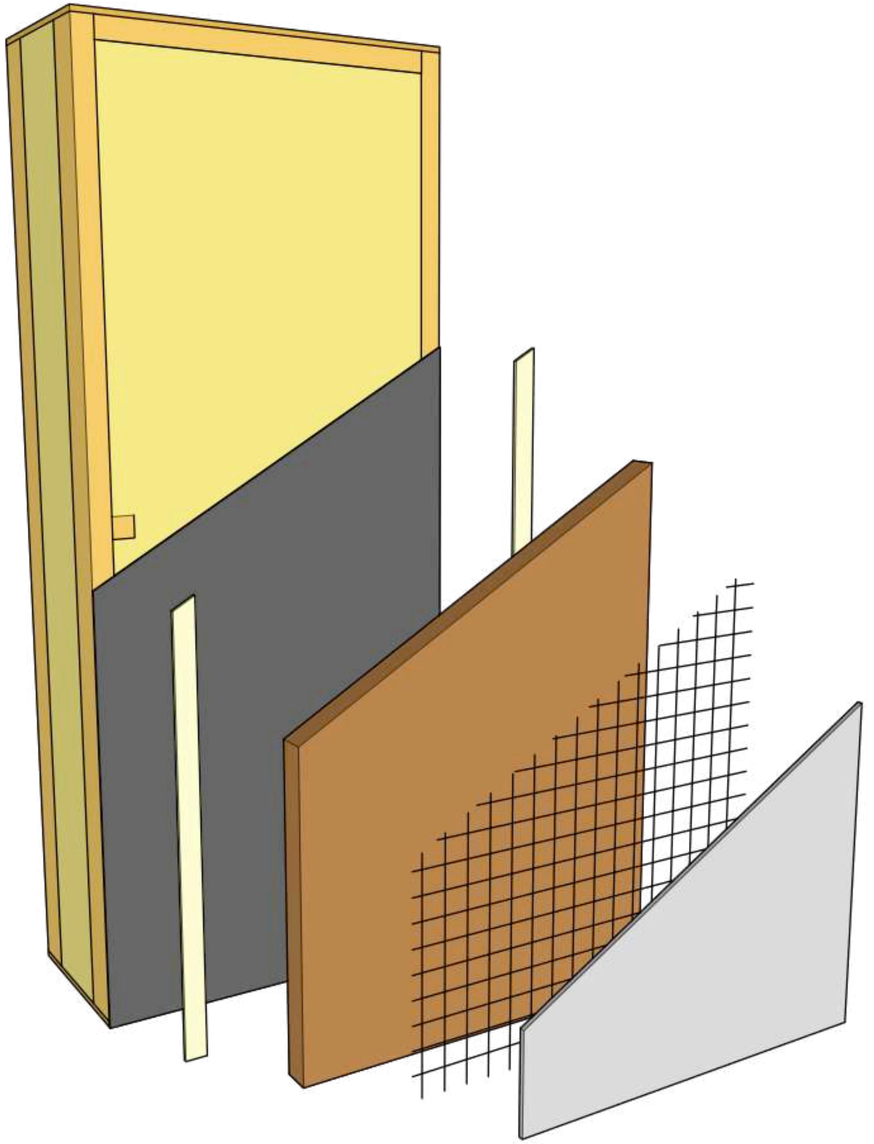
Variations

» Any kind of ventilated facade

Note

» Be careful to always design a proper airtight, yet diffusion-open layer

» Verify your variations with a WUFI calculation



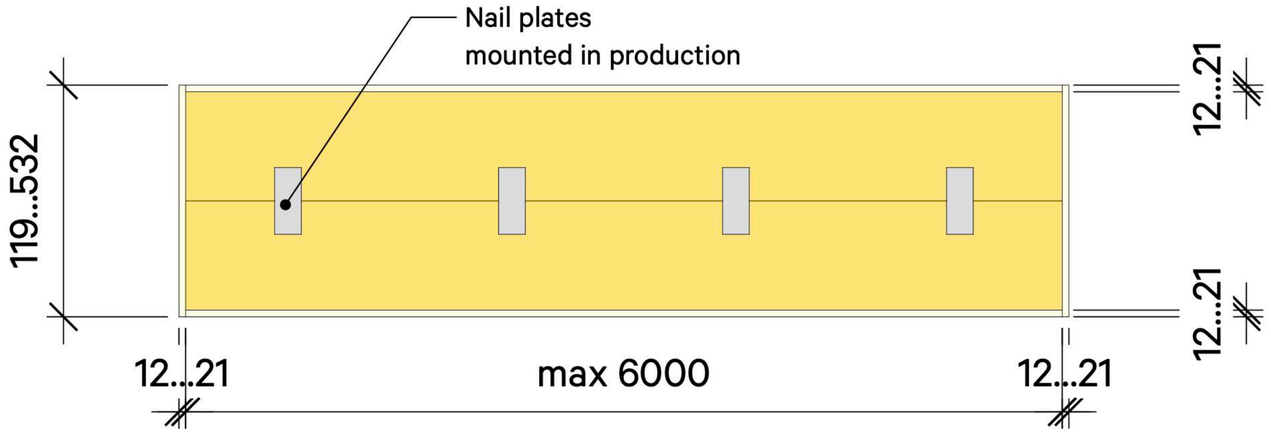
03

Box Elements

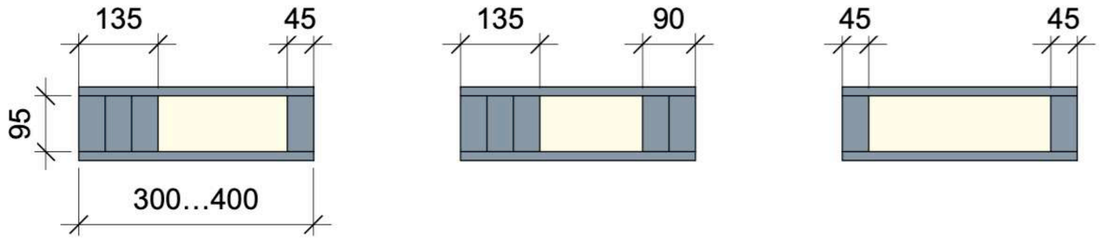
Box elements

» Special structural timber elements insulated with Steico Flex offered as a complementary solution to EcoCocon panels. They redistribute the load and are applicable for:

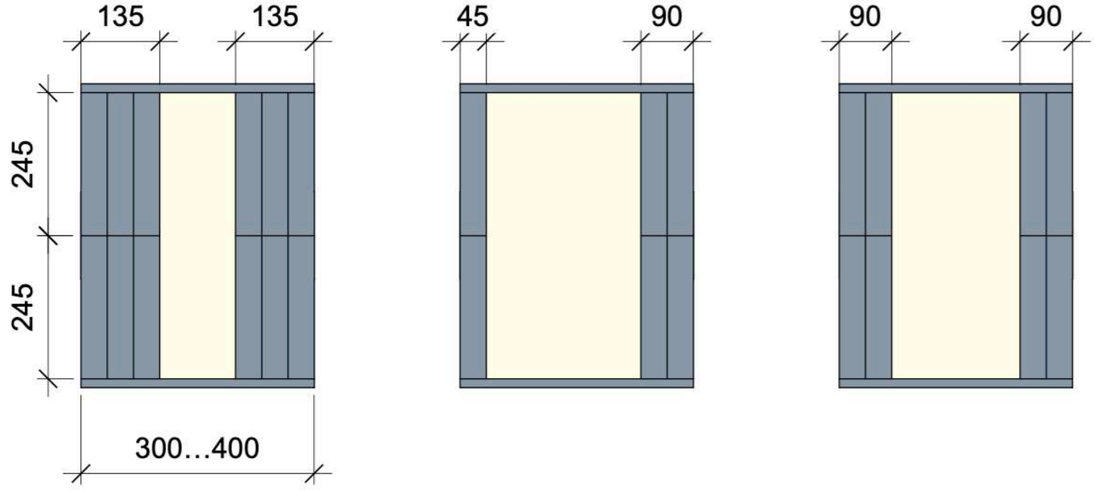
- » Openings which are longer than 3m
- » Direct connection for the ceiling
- » Low lintels
- » Corner opening with or without a column



Min. height Box Element: 119 mm

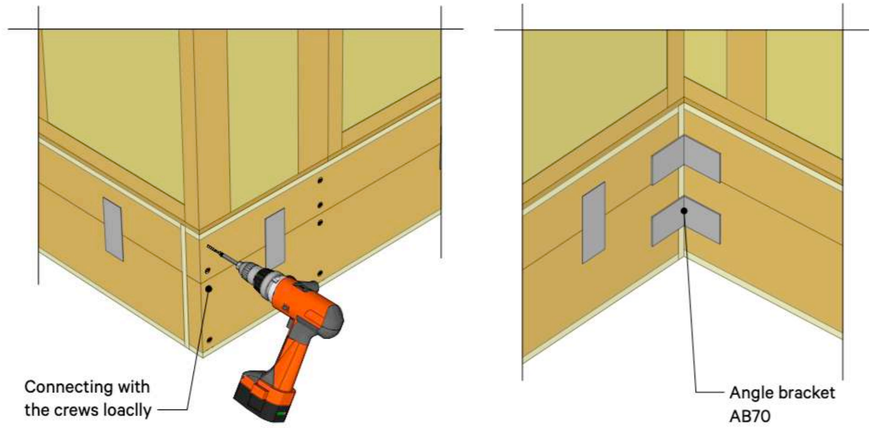


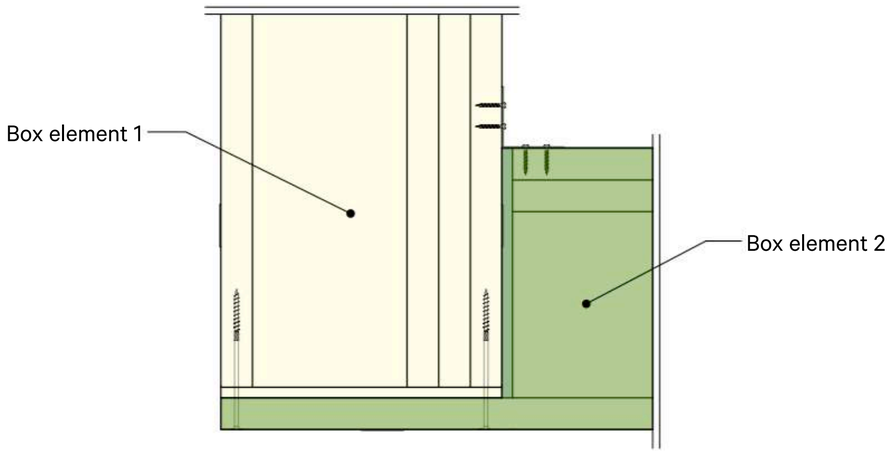
Max. height Box Element: 532 mm

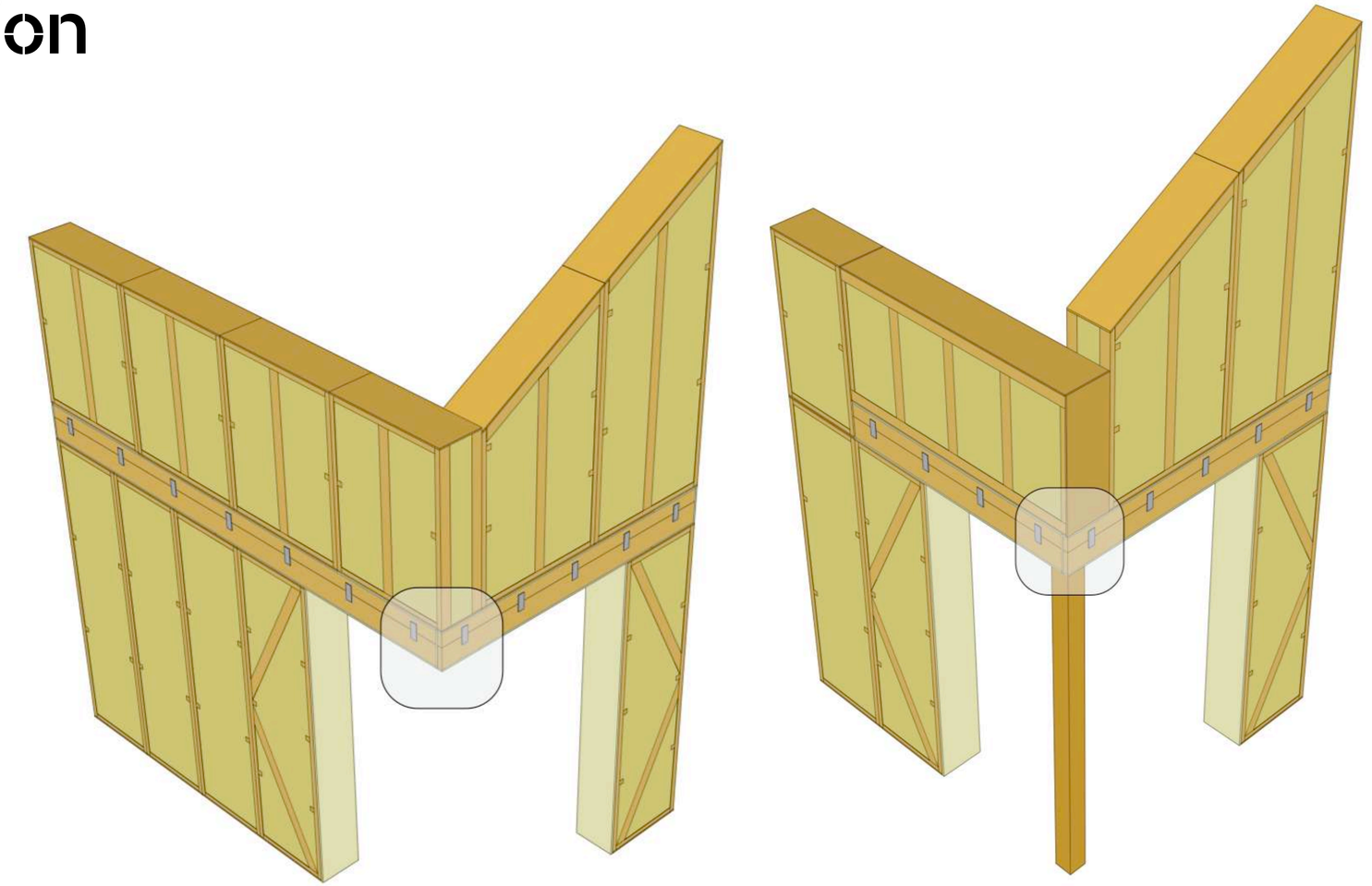


Box elements:

Corner opening application

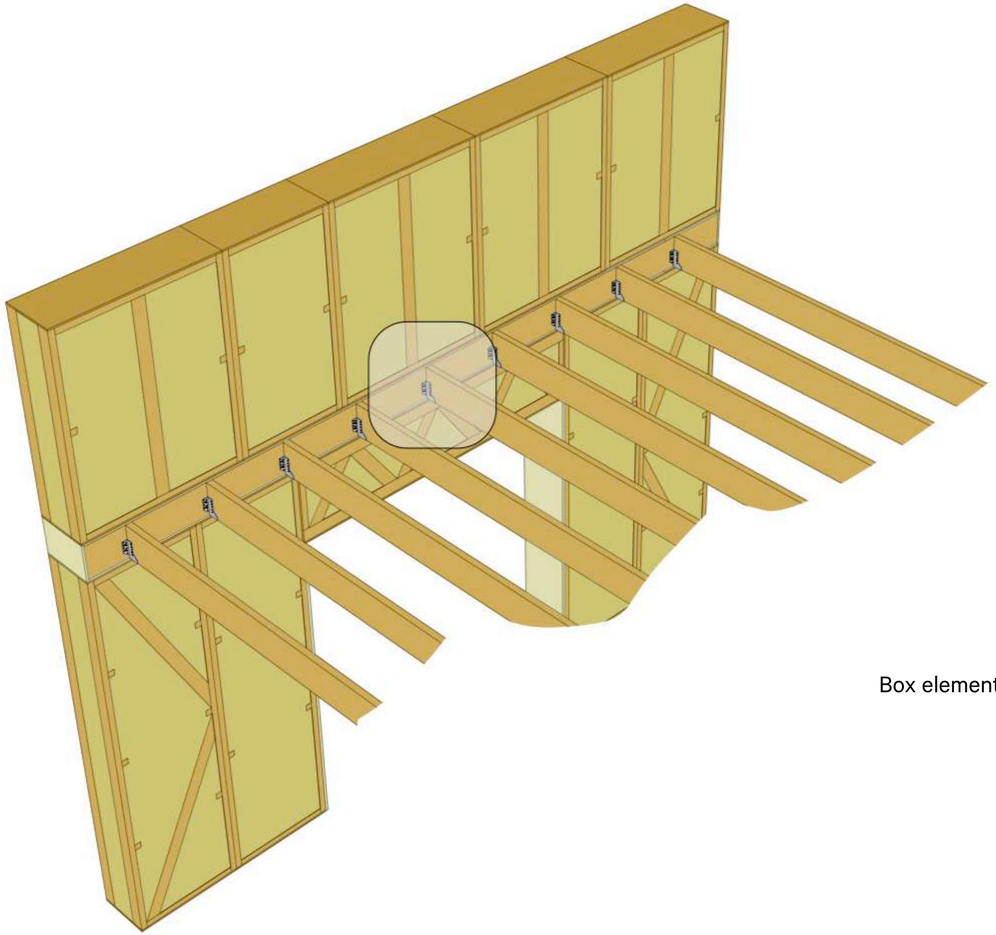


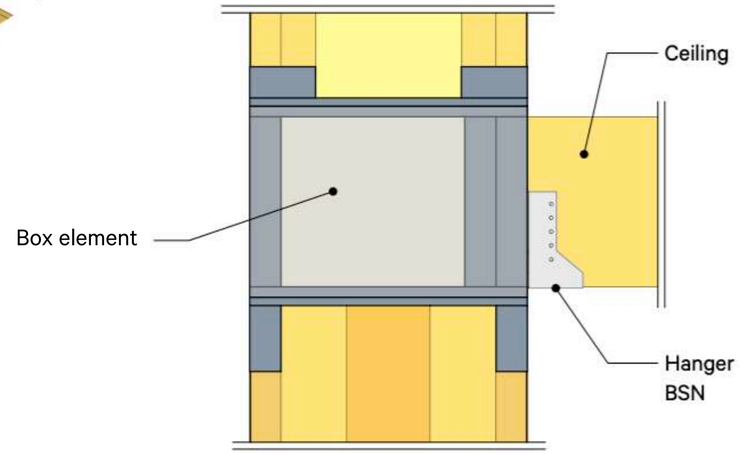


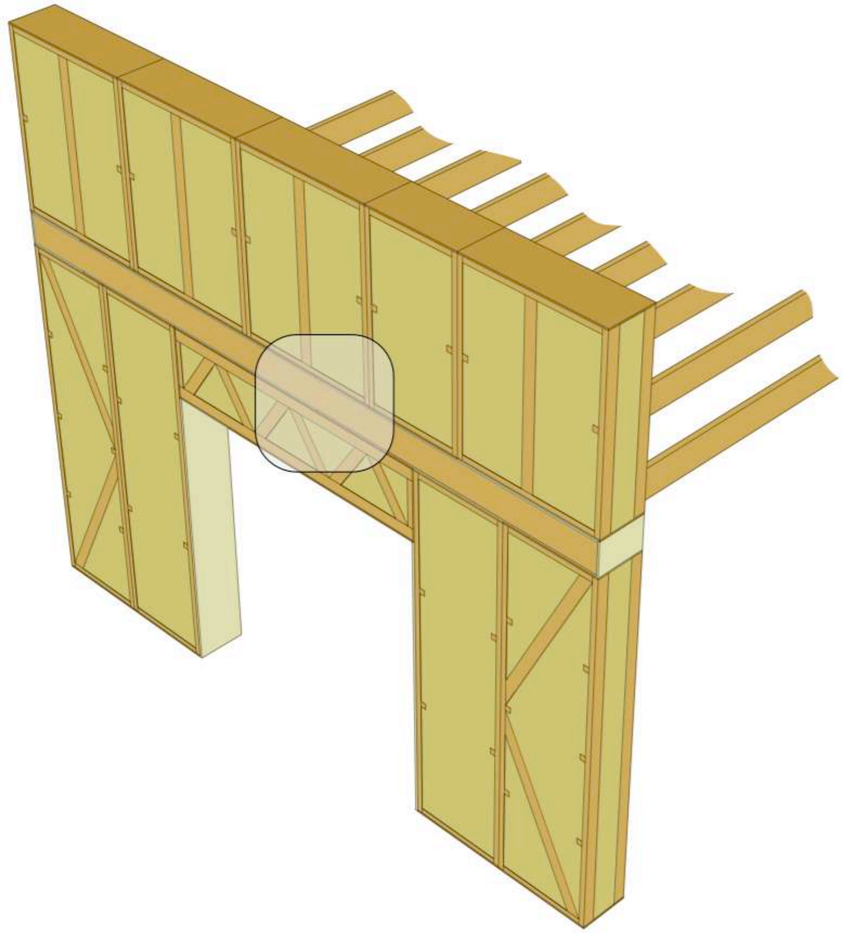


Box elements:

Hanging ceiling directly

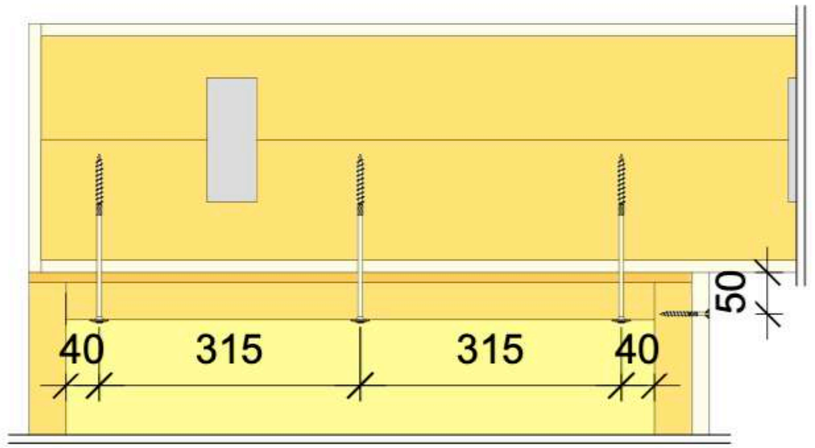


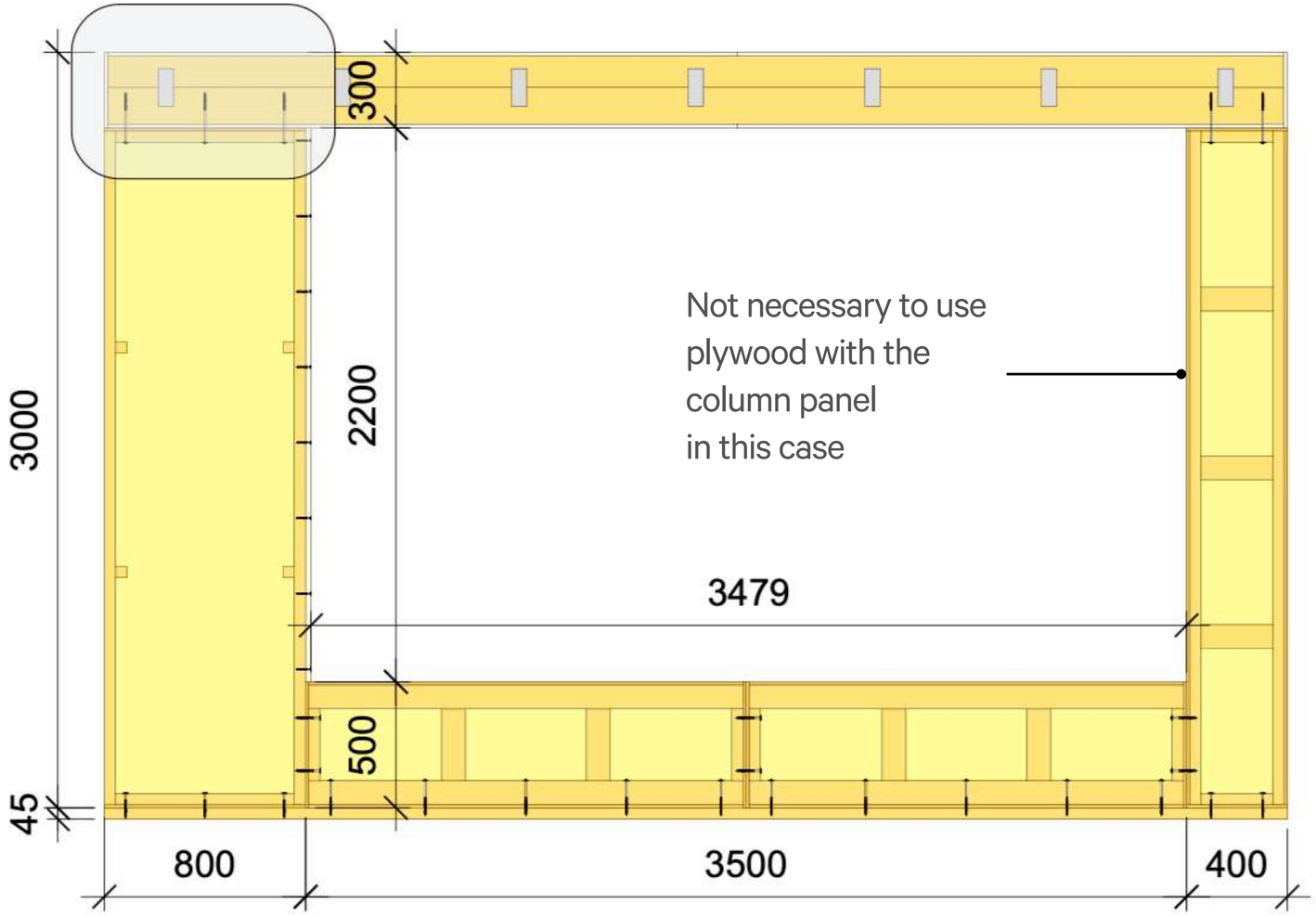




Box element:

Installation on top

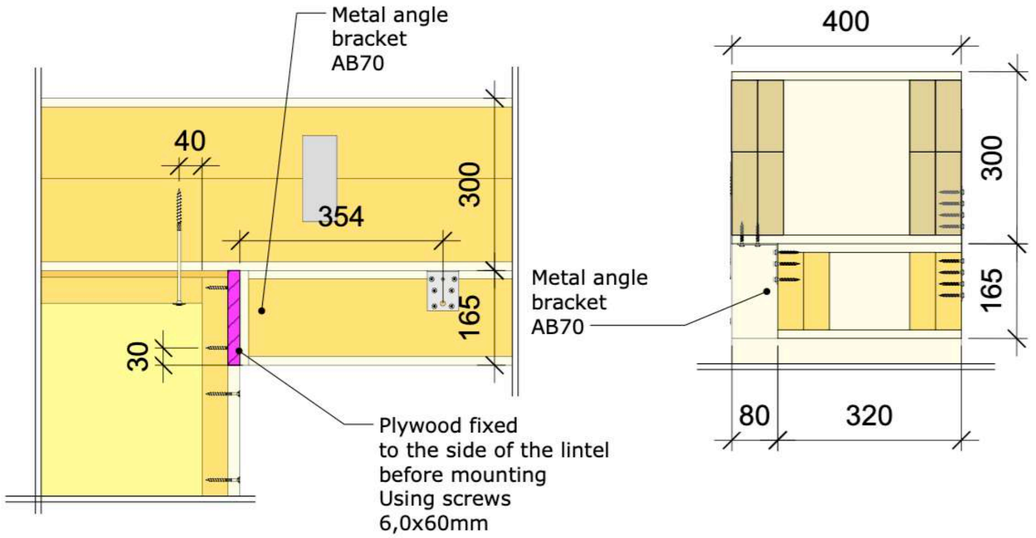


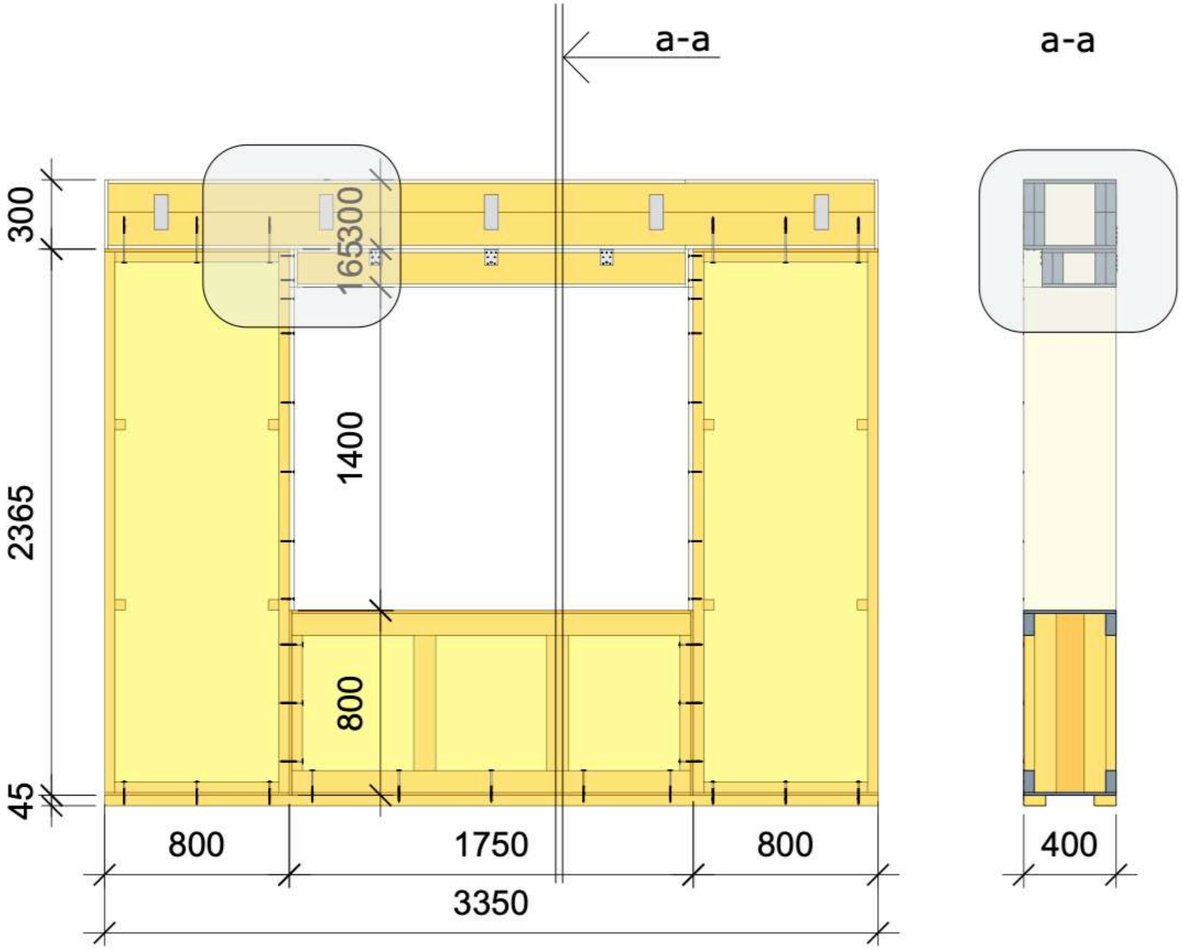


Box elements:

Narrow element installation

SIDE ONE

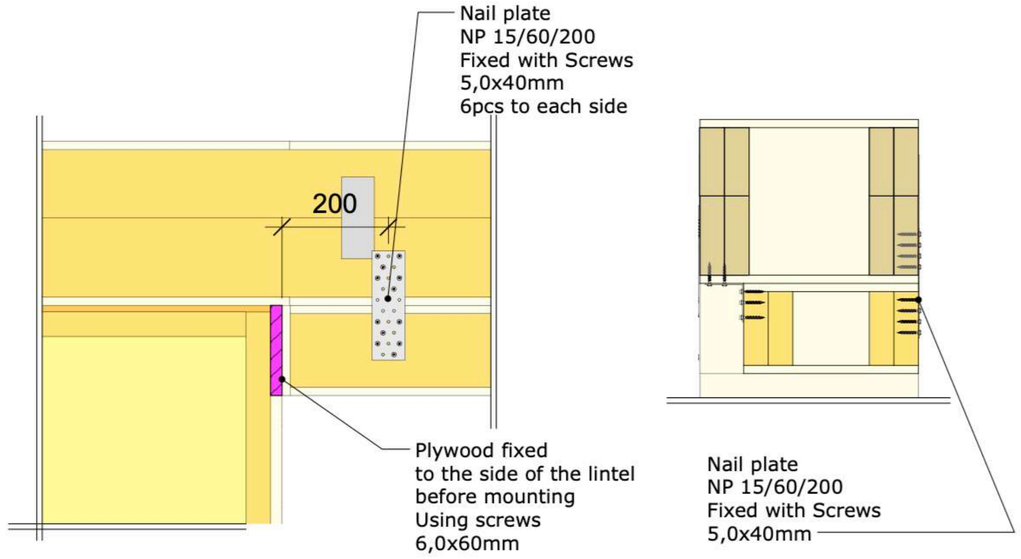


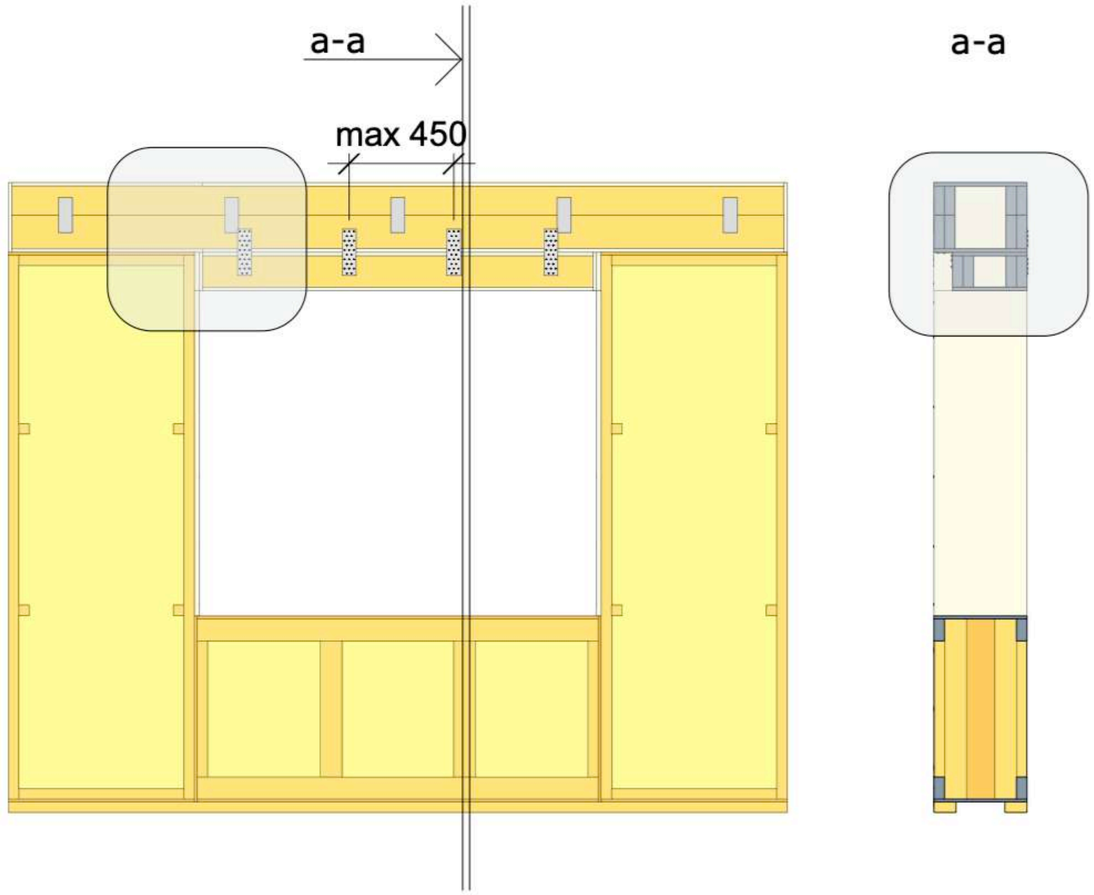


Box elements:

Narrow element installation

SIDE TWO



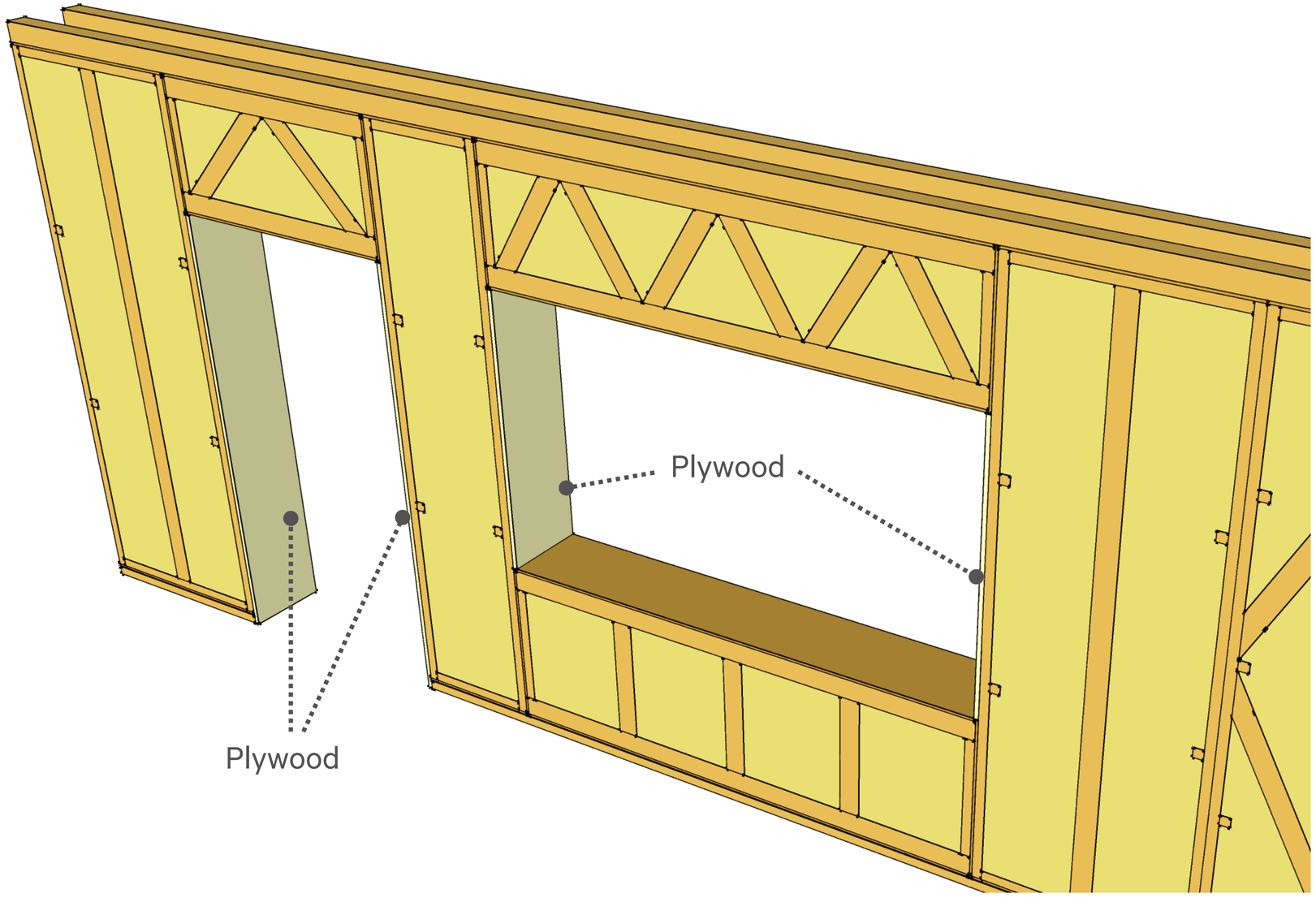


04

Window Openings

Window openings with sills and lintels

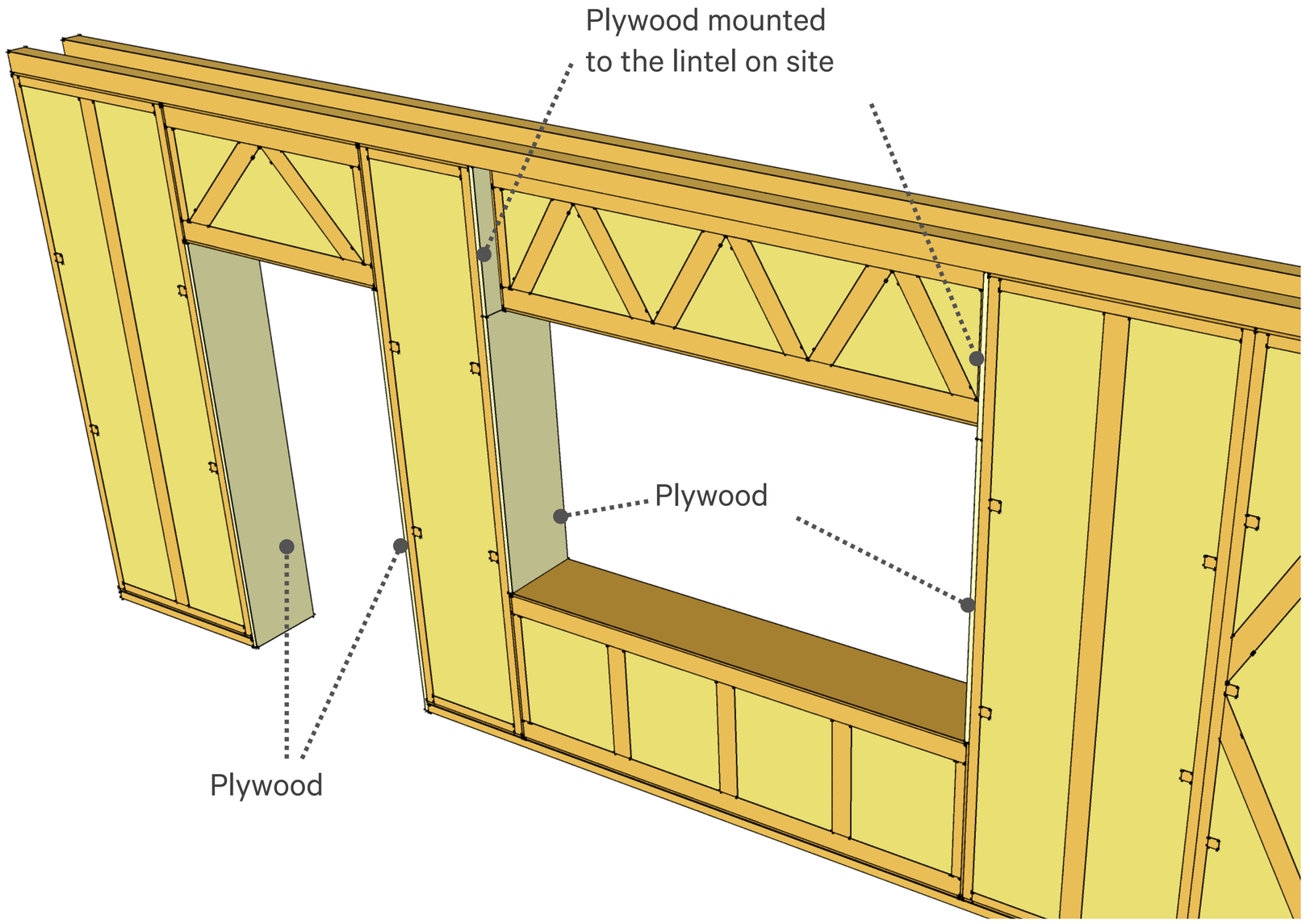
- In the Panel Project, 21 mm space is included for plywood boards on the side of the windows for easier window installation and reinforcement
- Plywood is delivered with panels but mounted on the building site
- Based on the Panel Project, windows can be ordered in advance



Note

- Panels above and below (lintels and sills) have a 12 mm plywood surface as part of the panel

Window openings with sills and narrow lintels



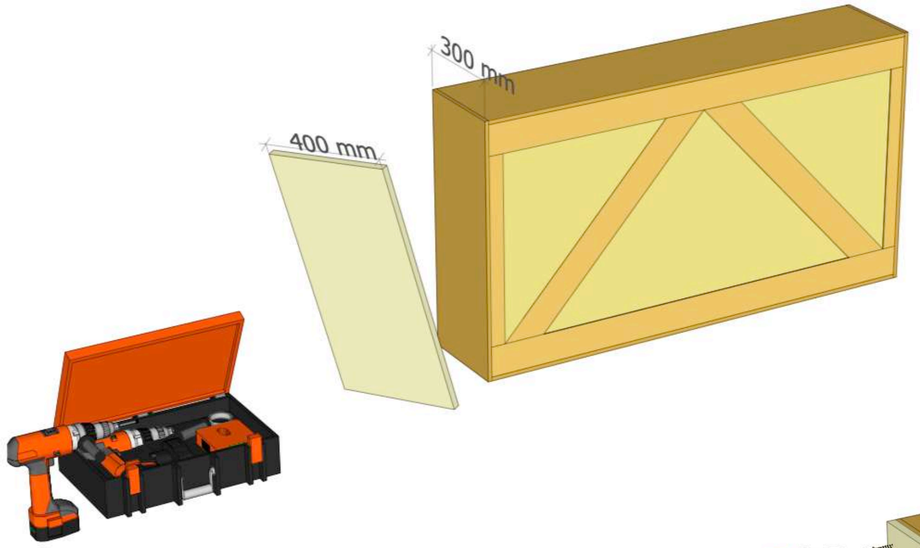
» Narrow lintels are useful for creating space for external blinds

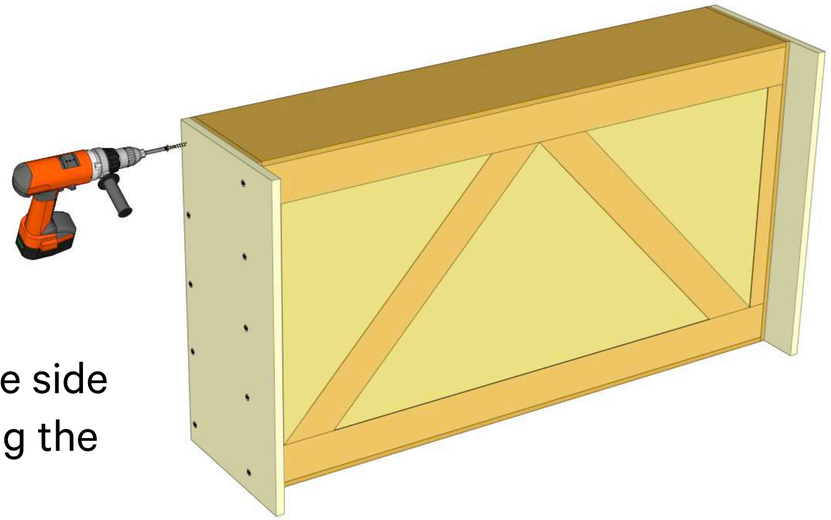
Note

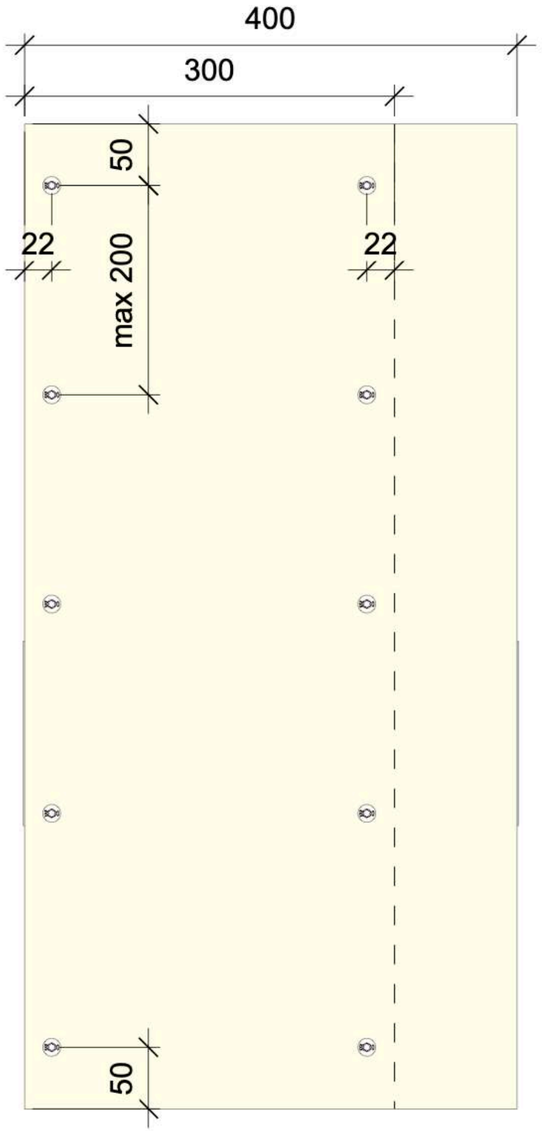
» Narrow lintel have a 12 mm plywood on all surfaces as part of the panel

Lintel panels

Narrow lintel assembly



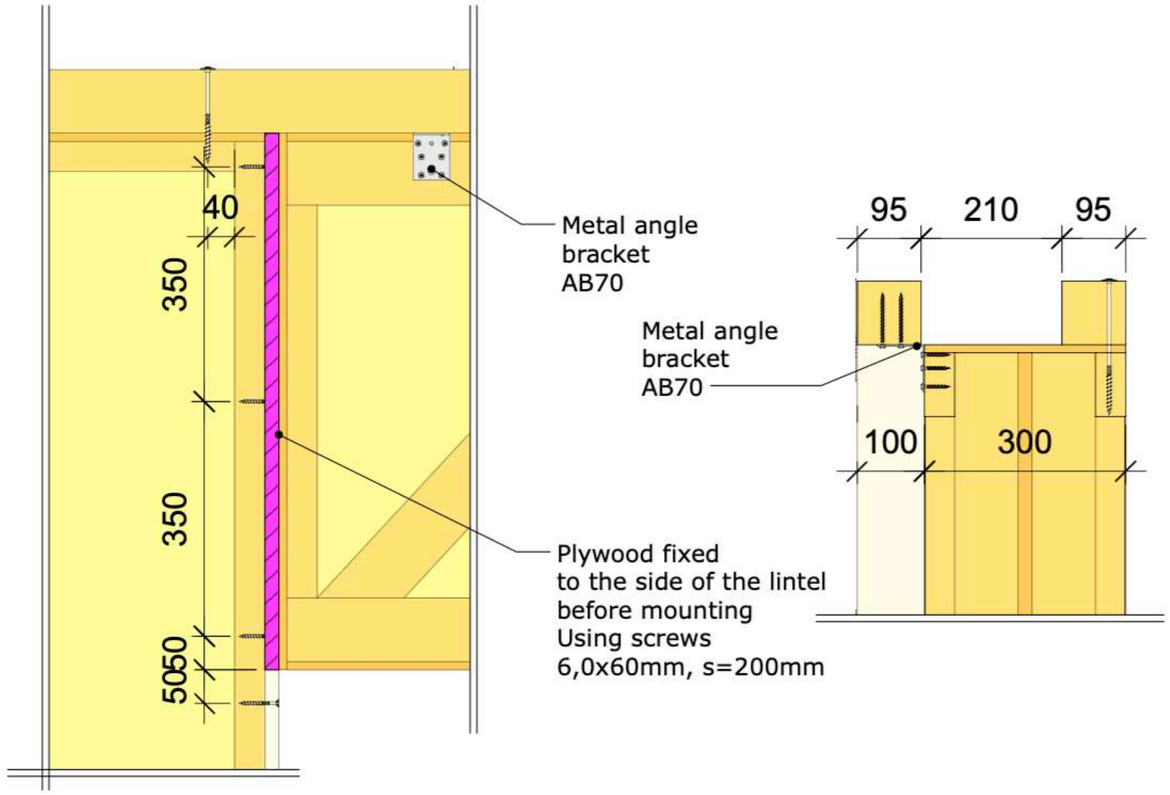


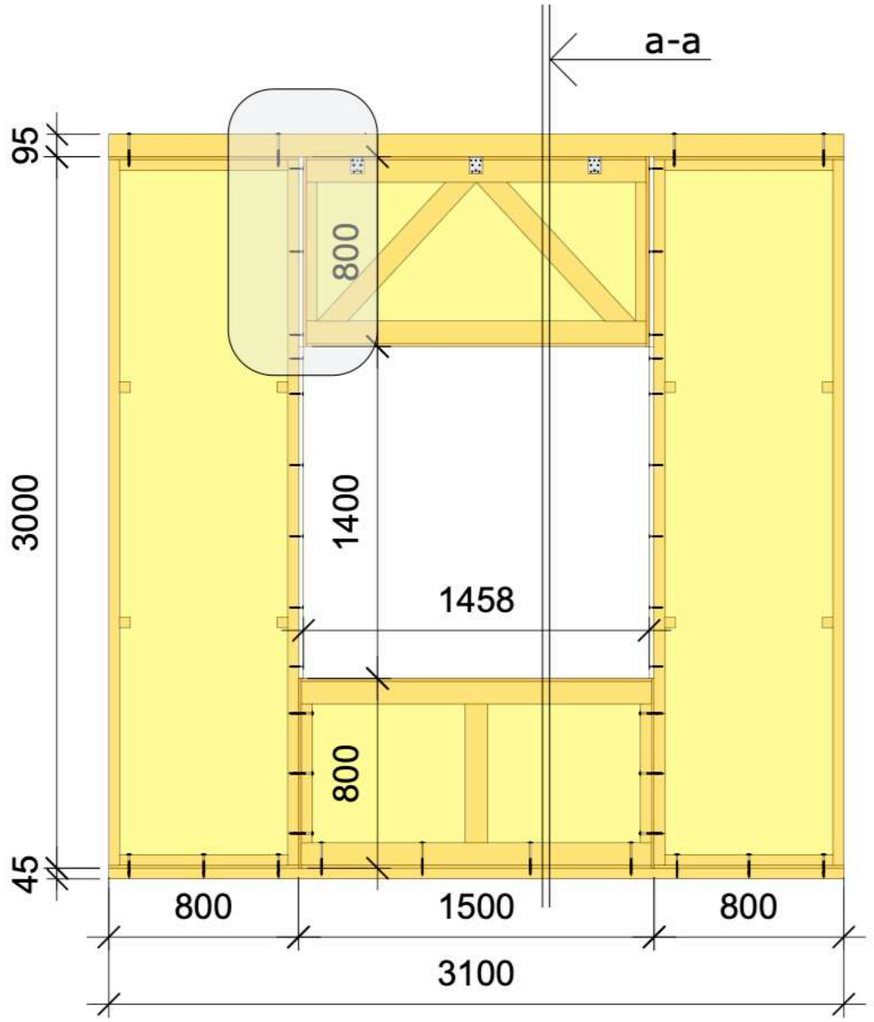


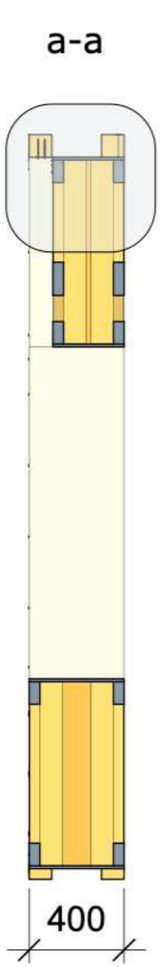
» Plywood needs to be mounted to the side of narrow lintel on site before placing the lintel into position

Lintel panels

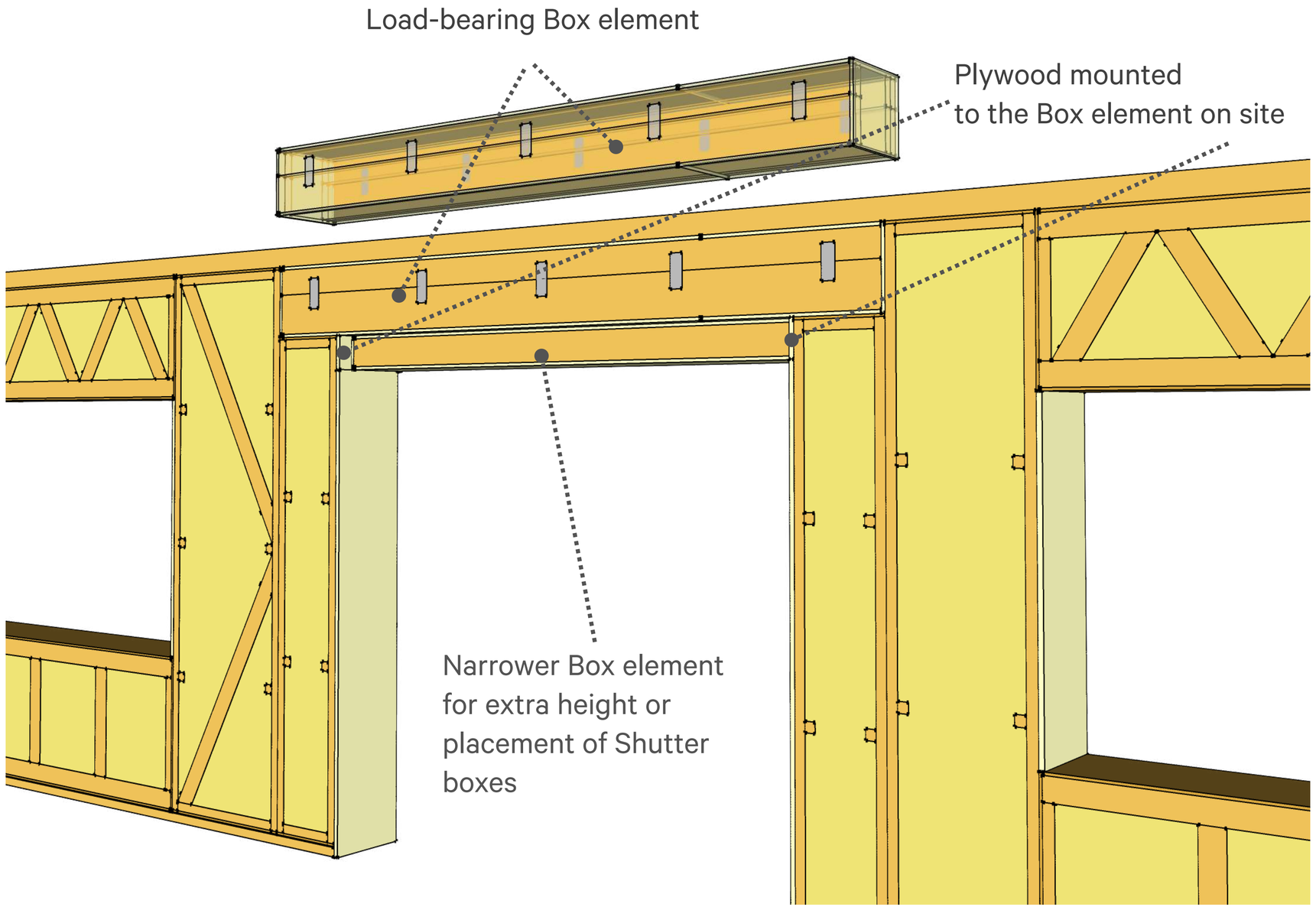
Narrow lintel installation details







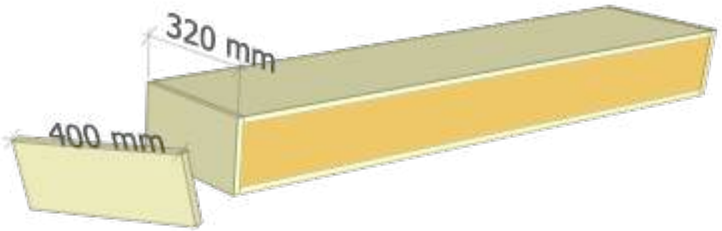
Box elements

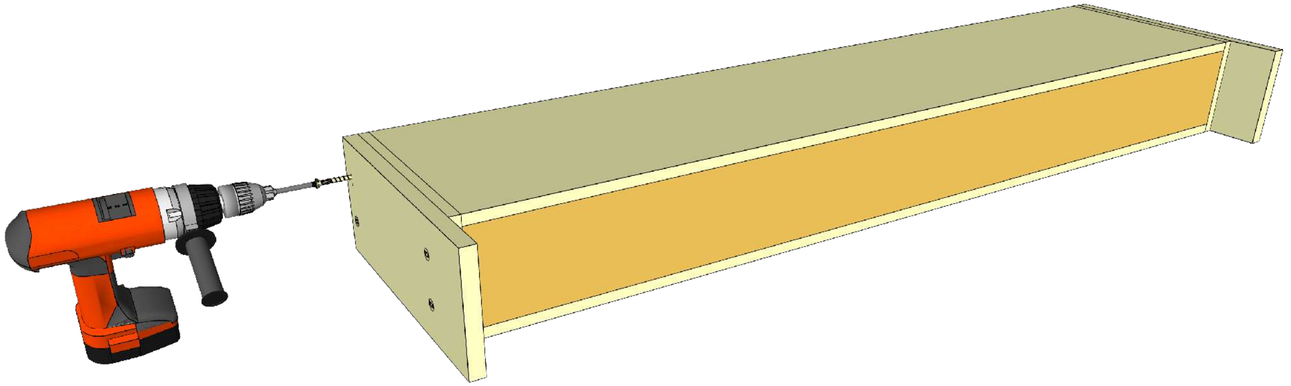


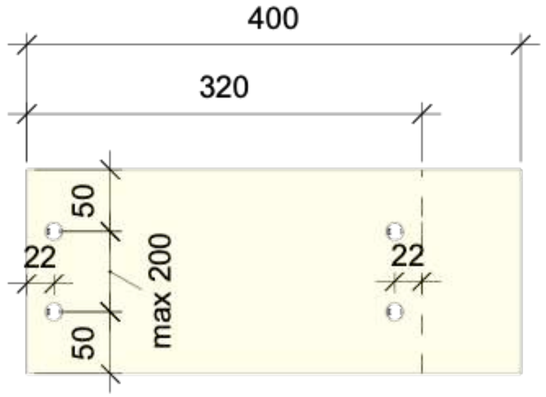
» Used for window openings larger than 3 m and lower lintels

Box element

Narrow Box element assembly

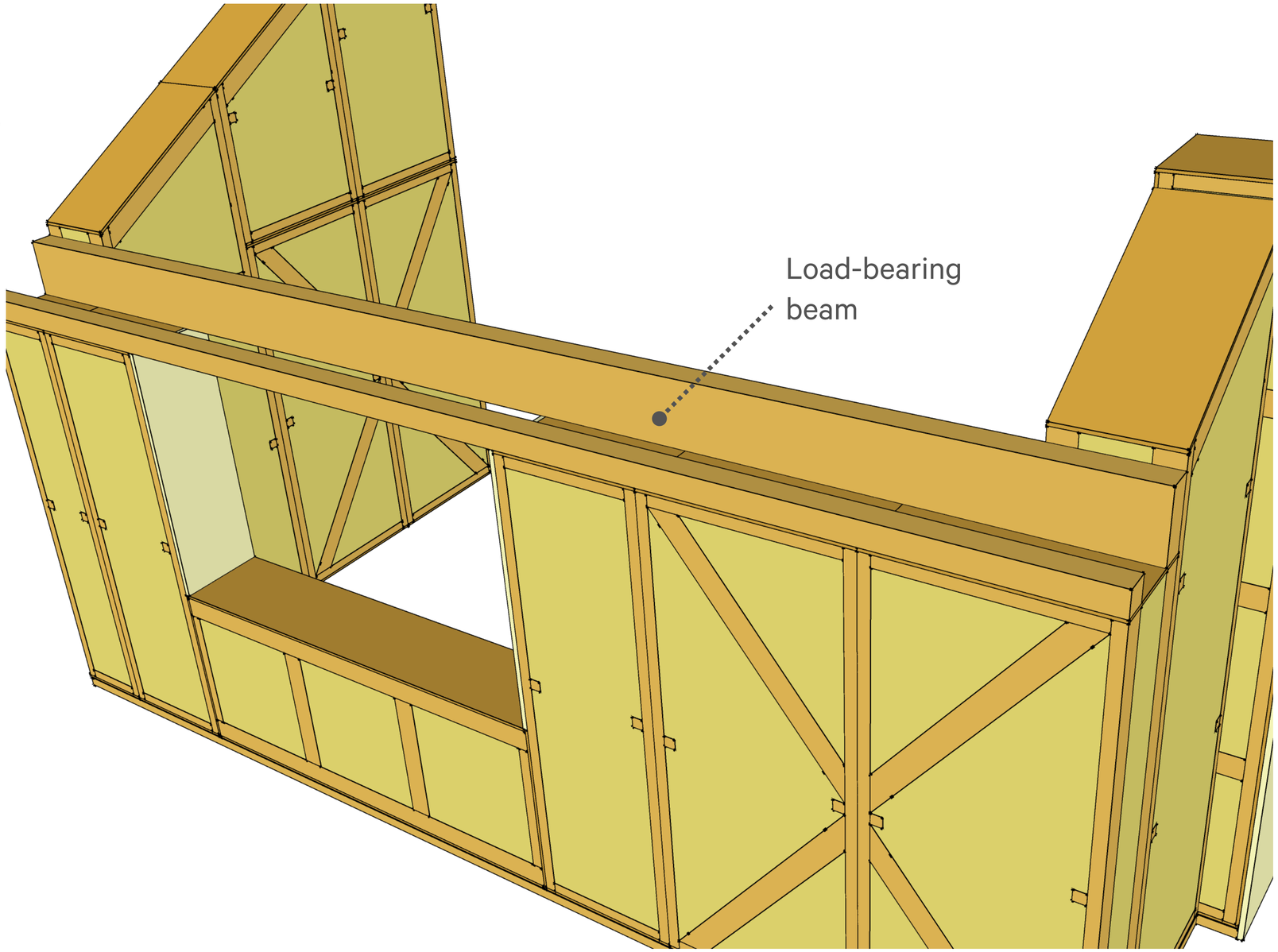






» Plywood needs to be mounted to the side of narrow Box element on site before placing it into position

Window openings with sills and beams



- At least one beam must be dimensioned to carry load of roof
- Height of beams and wall panels depends on angle of roof