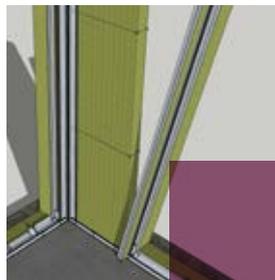


# Rockzero Installation Guide

The pioneering way to build nearly  
zero-energy homes



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### Note:

This document shows the principle installation steps for Rockzero. This is not a design guide.

Design and dimensioning must always be carried out acc. to the architect's and engineer's directions, structural calculations and the system's Design Guide.

# An introduction to installation

Rockzero is an innovative, lightweight and flexible solution that is straightforward to install. This pioneering new method uses known construction techniques to make the onsite build quicker and easier, while also helping to create a safer and tidier working environment. This minimises risk, takes away the need for specialist skills and is flexible enough to provide complete design freedom.

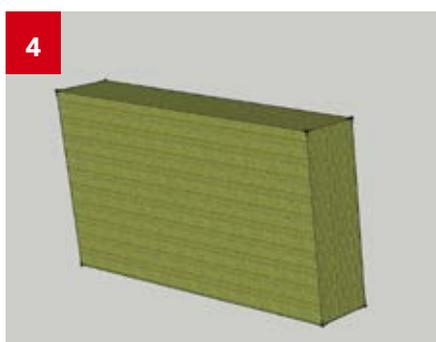
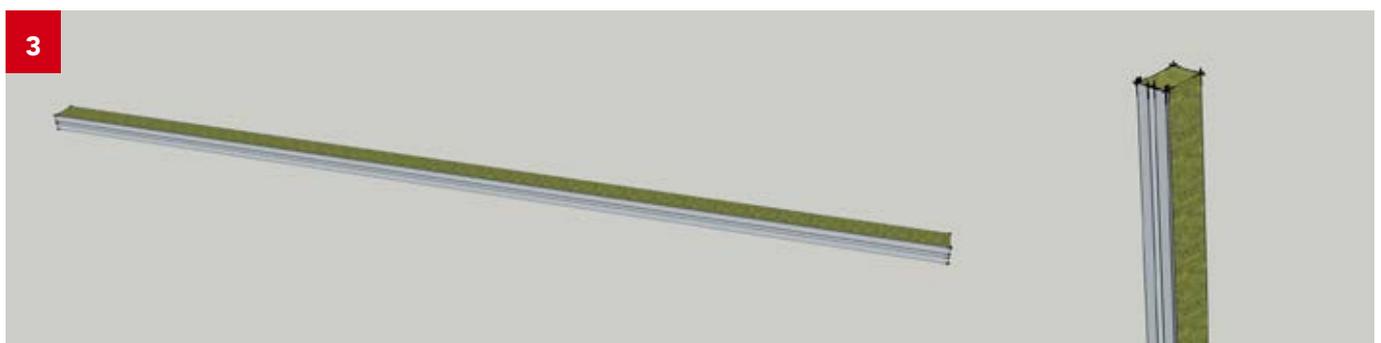
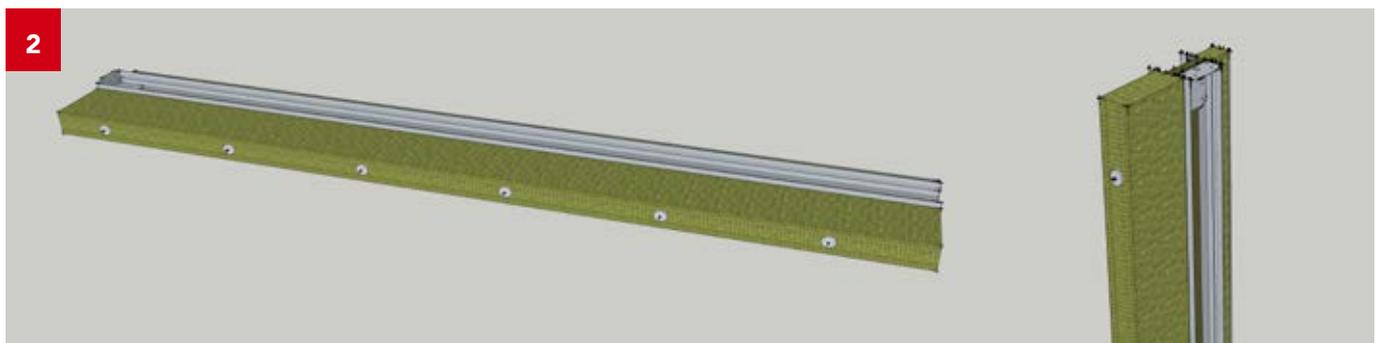
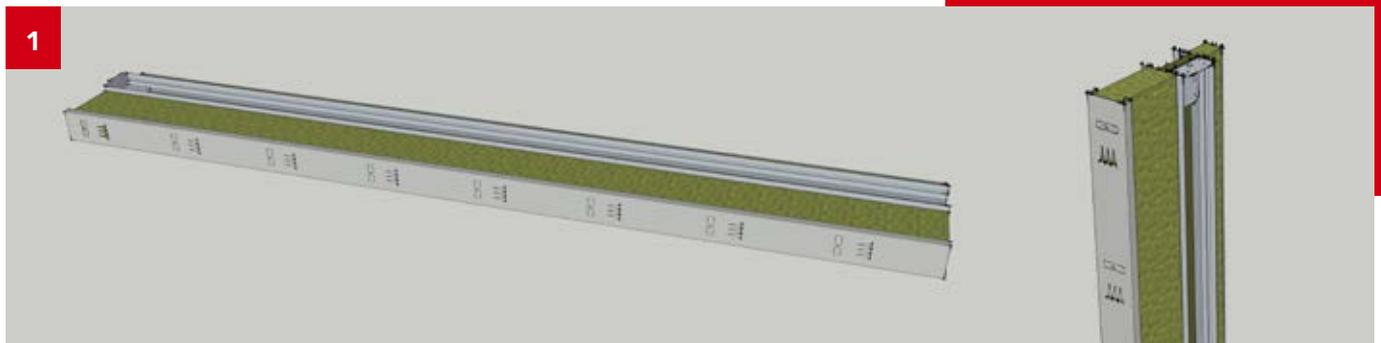
Compared to traditional building methods, Rockzero gives you a fast-track method to create high quality sustainable homes. We've created the following installation guide to demonstrate exactly how the Rockzero wall system can be installed on site.



# 1 Overview

## Materials

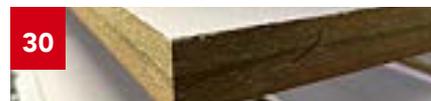
- 1:** Rockzero column for lightweight cladding
- 2:** Rockzero column for brick
- 3:** Inner spacer
- 4:** Rockzero Infill (outer)
- 5:** Rockzero Insulation (core)
- 6:** Rockzero Infill (inner)



# 1 Overview

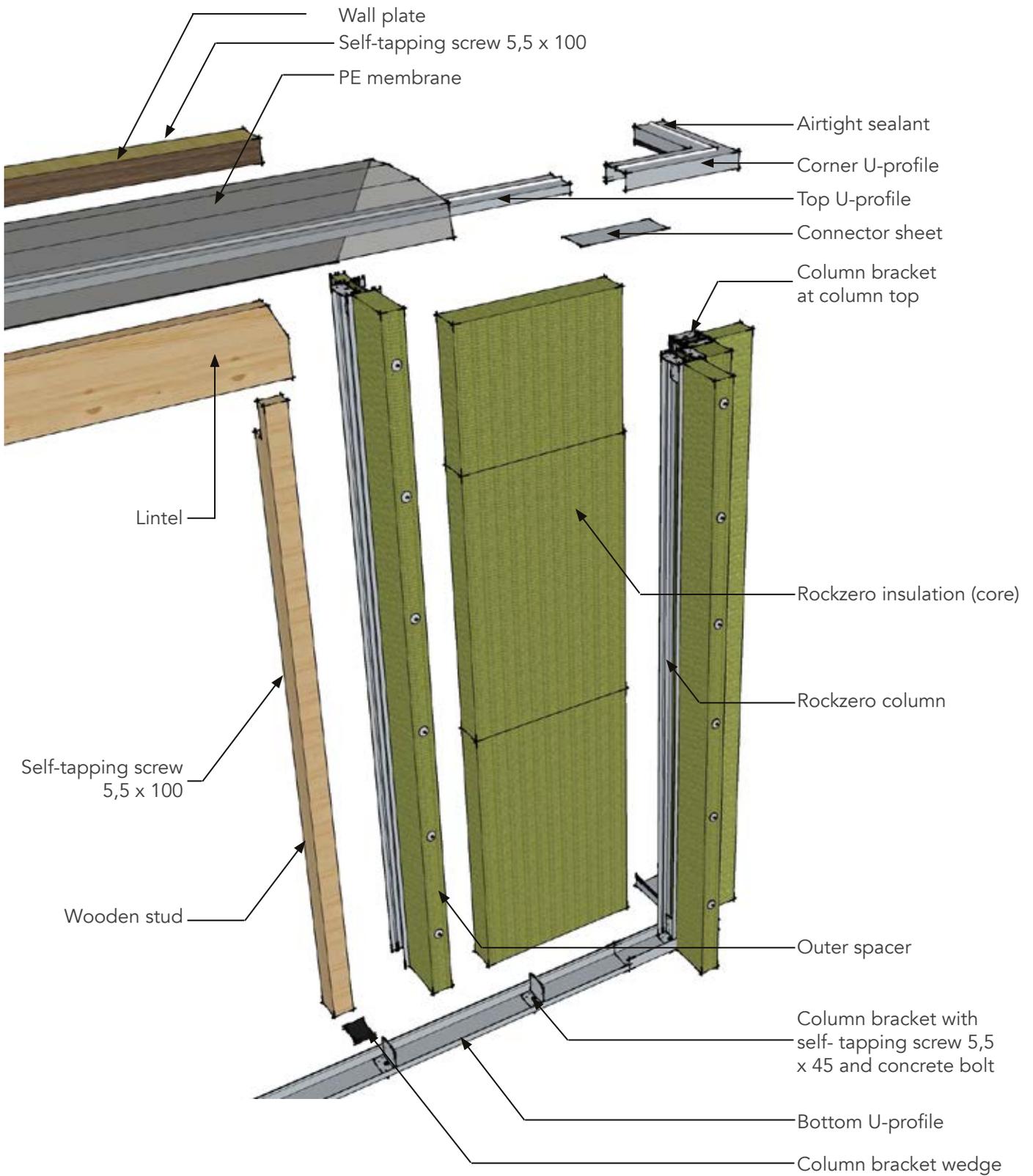
## Materials

- 1: Butyl sealant
- 2: Bituminous felt
- 3: Bottom/top U-profile
- 4: Corner U-profile
- 5: Nail plug
- 6: Column bracket
- 7: Concrete bolt 10 x 75, 10 x 60
- 8: Connector sheet
- 9: Self-tapping screw 4,2 x 19
- 10: Column bracket wedge
- 11: Self-tapping screw 5,5 x 45
- 12: Self-tapping screw 5,5 x 100
- 13: Self-tapping screw 4,1 x 49
- 14: Joist hanger
- 15: Connector screw 5 x 40
- 16: Wood screw 5 x 70, 6 x 60, 6 x 80
- 17: Shear washer
- 18: Self-tapping screw 4,8 x 90
- 19: Self-tapping screw, 4,8 x 210
- 20: Insulation dowel
- 21: Wall tie
- 22: Push-pull prop
- 23: Rubber tape
- 24: Airtight tape
- 25: PE membrane
- 26: DPC
- 27: Glulam (wooden stud)
- 28: Wood (lintel/wall plate)
- 29: OSB4 board
- 30: Rockzero board



# 1 Overview

## Installation principle



# 1 Overview

## Working environment

As a world leader in the production of stone wool insulation, the ROCKWOOL group aims to deliver products and systems for the benefit of the environment as well as people. This does not only apply to the application in buildings, but even more so to the construction of buildings.

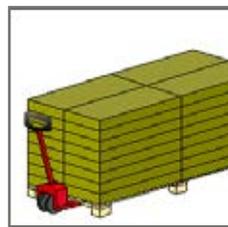
Rockzero is very easy to install, but some building materials can be “heavy” to handle. Therefore, we want to give you, the builder, some advice that will make your life easier and healthier in the long run. People working with Rockzero components should be instructed in basic lifting techniques prior to installation.

Follow the rules that apply to a good working environment on the building site. For further information, please contact your local Working Environment Authority.

Here are our general recommendations when working with Rockzero:



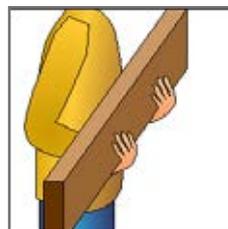
Keep the building site, and especially the concrete slabs, tidy and clear of potential risks. This will minimise the risk of falling and prevent handling where space is limited.



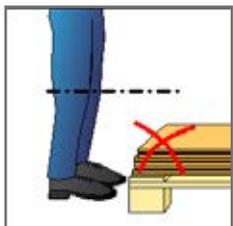
Heavy components should not be carried more than 2 metres. A pallet truck is very handy for moving pallets.



Avoid twisting your body when lifting or carrying building materials – your nose should be aligned with your toes and point the way you lift, pull or push.



Lift components as close to your body as possible. It is an advantage when components can rest against your body (e.g. shoulders).



Do not lift from below knee height. When you lift, use the object's dead weight to tilt the load or use lifting devices.



Do not lift objects over shoulder height. Avoid gripping too high and try to hold an object at its balance point, especially when you're not able to support it (e.g. by your shoulder).

Beyond this, the following recommendations apply to specific components of the Rockzero system:

### Rockzero columns

Weight: ca. 5,8 kg per metre for brick, ca. 7,2 kg per metre for lightweight cladding. When a column weighs more than 18,5 kilos, it must be lifted by 2 people (applies to lifts within a forearm's distance). Beware of strong wind as this can affect the maximum load.

### OSB4 boards

Boards not exceeding 84 cm in width can be lifted by one person (up to 18,5 kilos within a forearm's distance). Wider boards must be lifted by two people.

### Wood

Special rules apply when lifting objects above shoulder height (lintels, wall plate).

When working with internal and external lining, manufacturer's instructions need to be followed.

# 2 Foundation

## Preconditions

### Step 1: Check

- Measurements: lengths and diagonals acc. to design/ foundation plan
  - Flatness: tolerance  $\pm 4$  mm for local deviations (< 1 m length)
  - Horizontal level: tolerance acc. to overall project demands
  - Width of concrete foundation: Concrete bolts require 65mm edge from centre of bottom U-profile
- The concrete foundation must give a continuous support and be in level below the entire width of the bottom U-profile

### Step 2:

Mark spots with local deviations from the level, where required.

### Step 3:

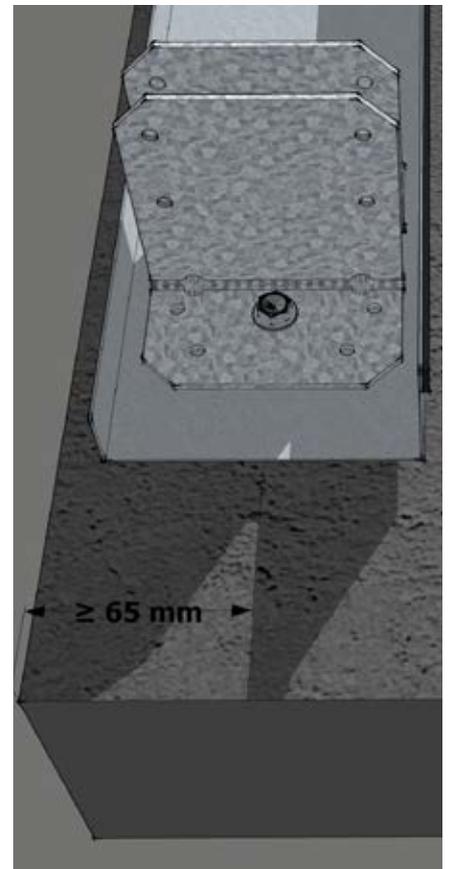
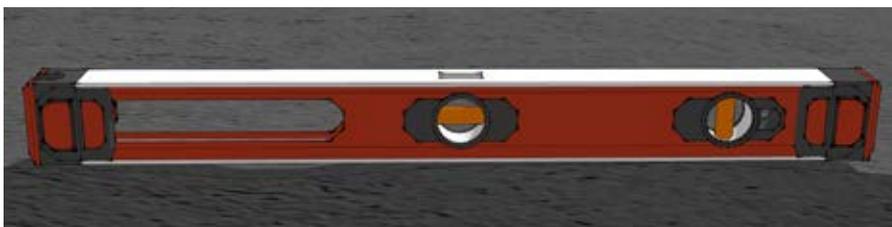
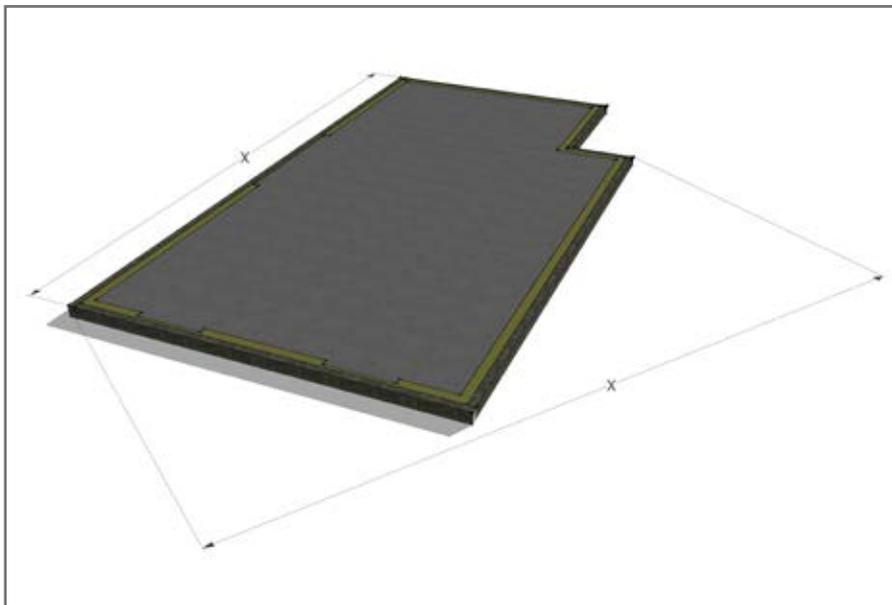
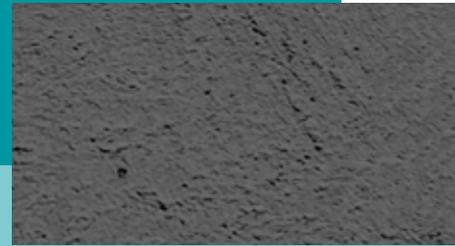
Grind burrs, aggregate stones etc. more than 2 mm above level.

## Materials:

- Foundation plan

## Tools:

- Straight edge
- Spirit level
- Tape measure
- Folding rule
- Pencil



# 2 Foundation

## Bituminous felt & butyl

### Step 1:

Mark corners of bottom U-profiles (external flange) on concrete.

### Step 2:

Mark the external flange of bottom U-profiles with a chalk line.

### Step 3:

Mark position of floor-deep openings acc. to bottom U-profile plan.

### Step 4:

Apply two continuous lines of butyl on the inside of the chalk line. The lines must be placed max. 8 cm from the chalk line. Do not apply butyl for floor-deep openings.

### Step 5:

Place bituminous felt on top of the butyl and press down. Cut the bituminous felt off at floor-deep openings.

### Step 6:

If necessary, level local deviations with max. 3 layers of bituminous felt. Apply 1 line of butyl between each layer.

### Step 7:

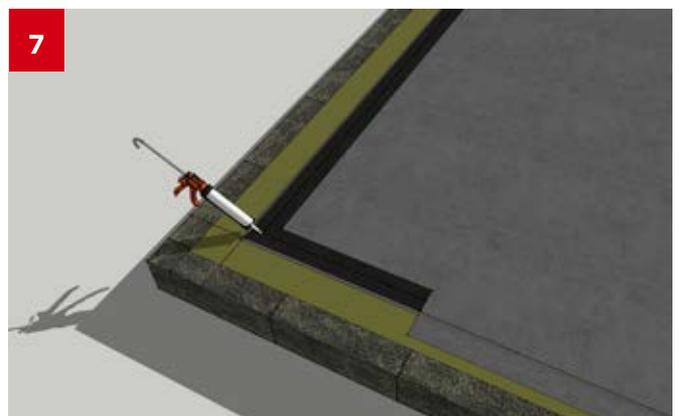
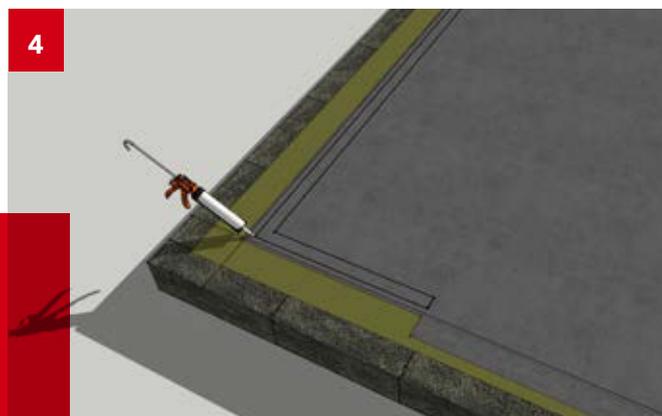
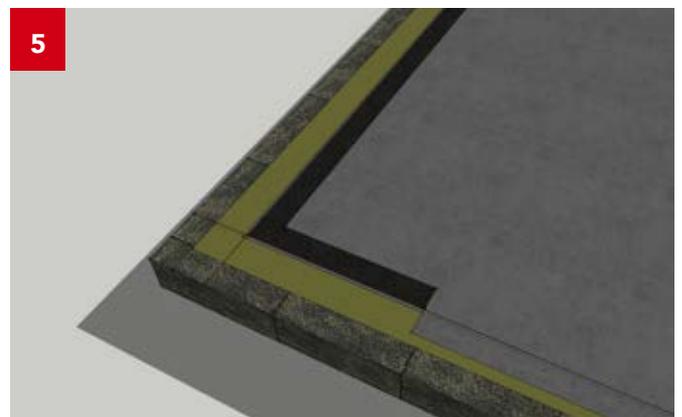
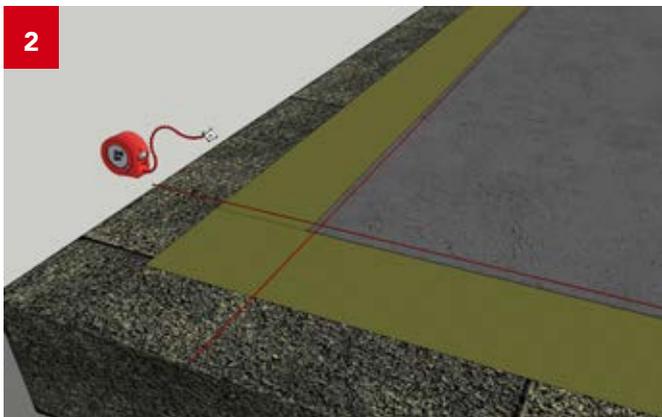
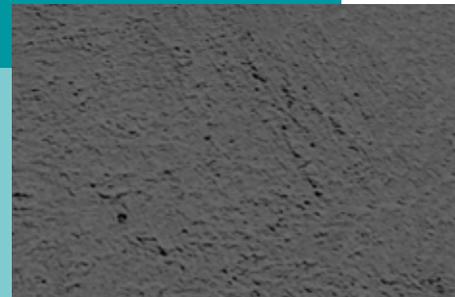
Apply a continuous line of butyl on top of the bituminous felt.

## Materials:

- Bottom U-profile plan
- Butyl sealant
- Bituminous felt

## Tools:

- Tape measure
- Straight edge
- Folding rule
- Pencil
- Chalk line reel
- Sealant gun
- Knife



# 2 Foundation

## Corner U-profile

### Materials:

- Bottom U-profile plan
- Corner U-profile
- Nail plug 5 x 50

### Tools:

- Electric drill
- Concrete drill 6 mm
- Hammer

#### Step 1:

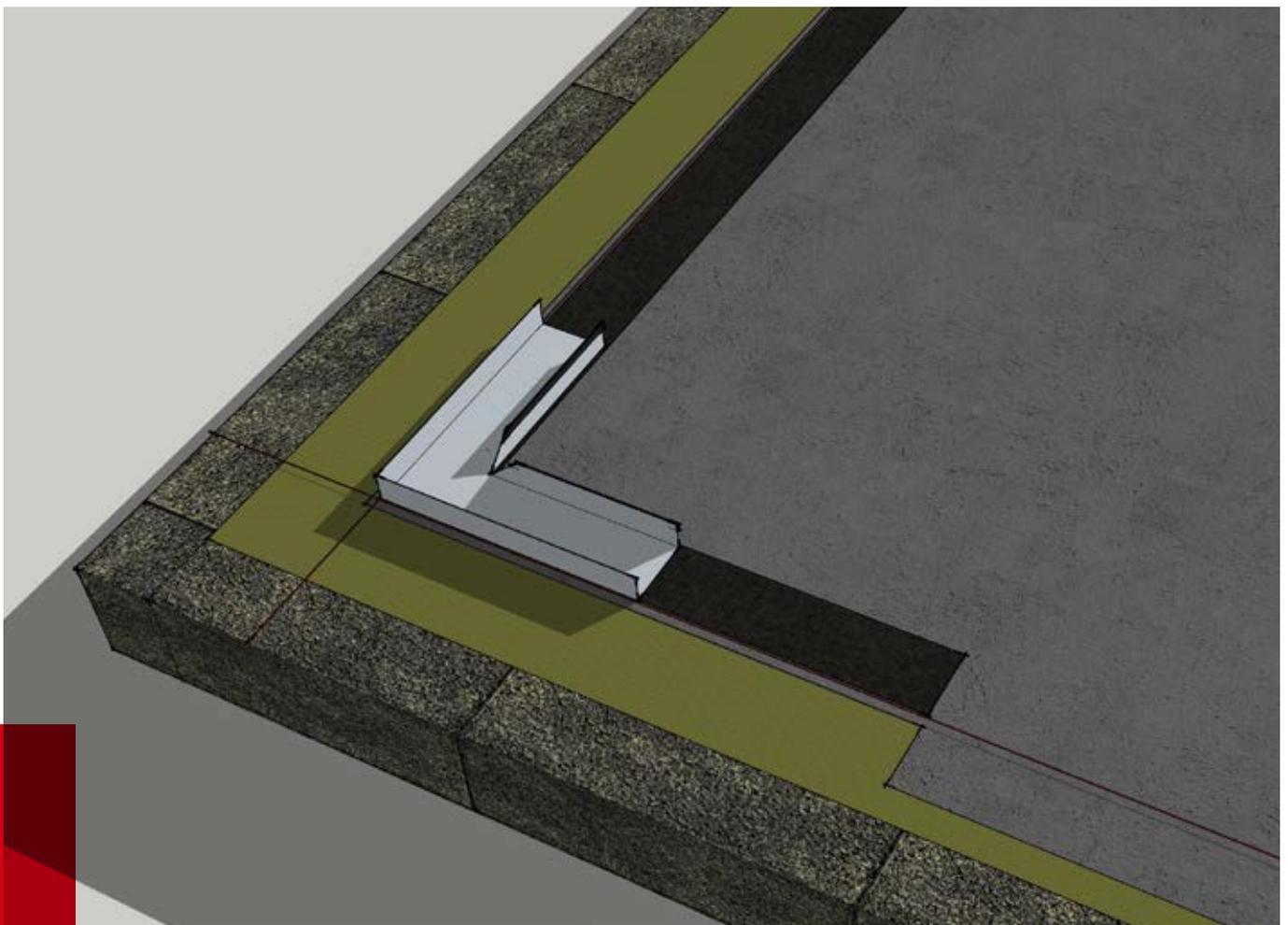
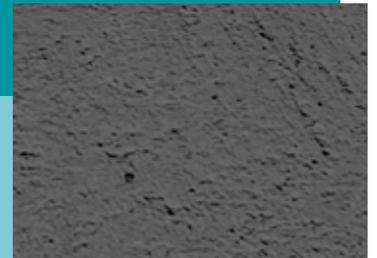
Place all corner U-profiles on butyl acc. to the bottom U-profile plan.

#### Step 2:

Align the external flange of the corner U-profiles to the chalk line.

#### Step 3:

Secure the position of corner U-profiles with a nail plug at each end. Nail plugs should not be placed at the centre line of a corner U-profile to avoid problems when setting concrete bolts at a later stage.



# 2 Foundation

## Bottom U-profile

### Step 1:

Position bottom U-profiles between the corners acc. to the bottom U-profile plan. Bottom U-profiles are cut at floor-deep openings.

### Step 2:

Align the external flange of bottom U-profiles to the chalk line.

### Step 3:

Secure the position of bottom U-profiles with a nail plug at each end. Nail plugs should not be placed at the centre line of a corner U-profile to avoid problems when setting concrete bolts at a later stage.

### Step 4:

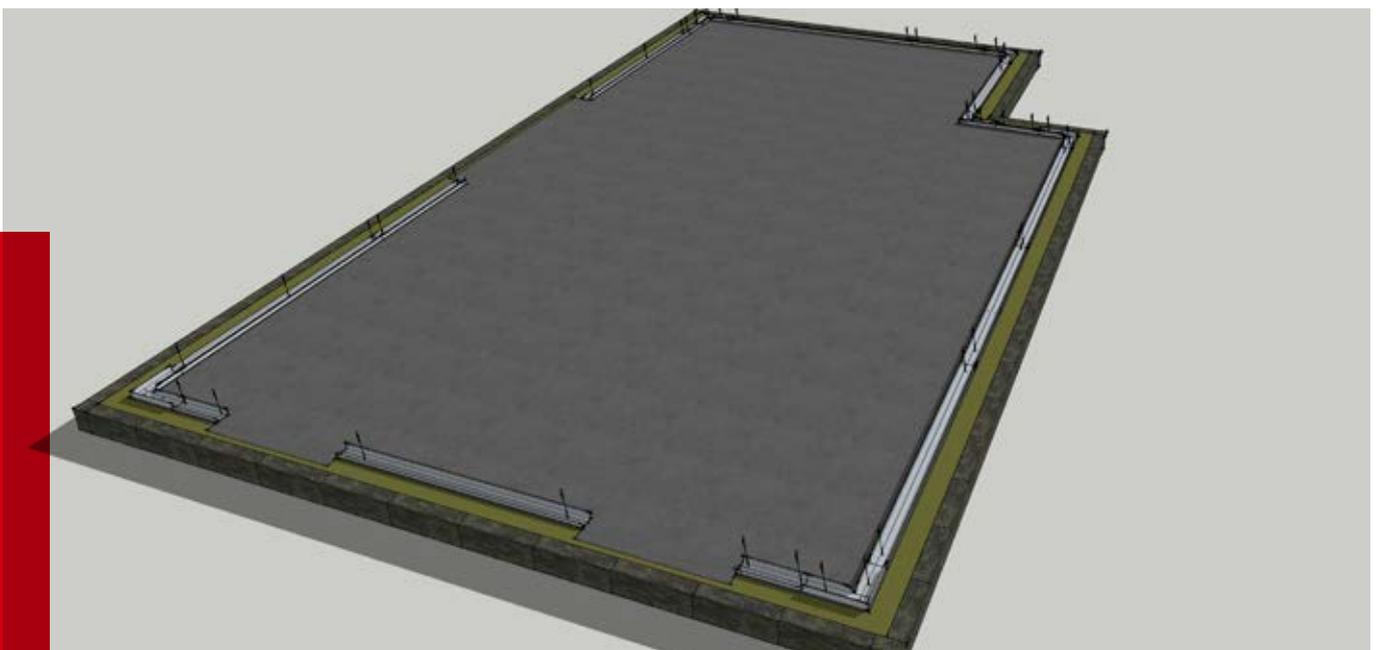
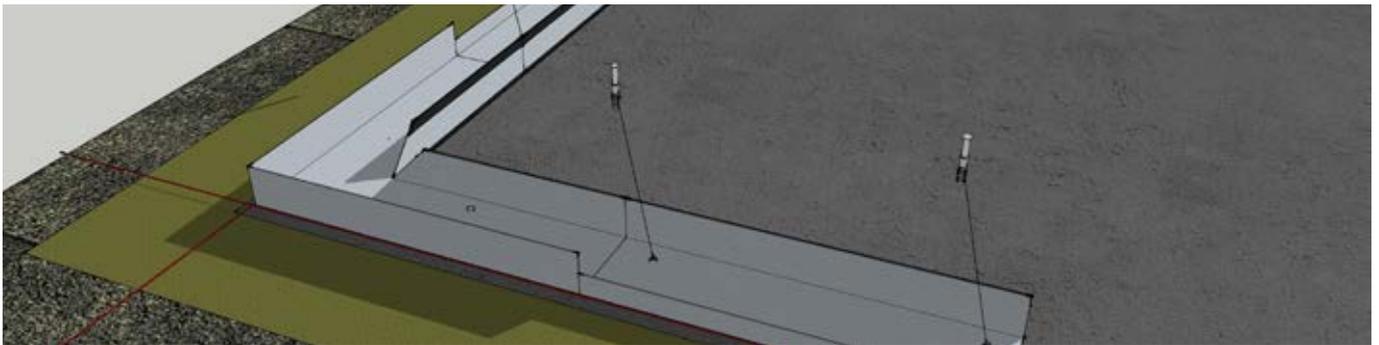
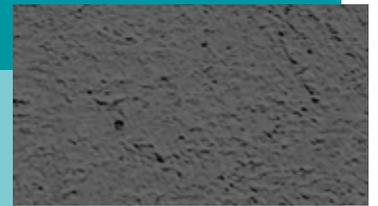
Tape joints between bottom U-profiles as well as between corner U-profiles and bottom U-profiles.

## Materials:

- Bottom U-profile plan
- Bottom U-profile
- Nail plug 5 x 50
- Airtight tape

## Tools:

- Angle grinder
- Electric drill
- Concrete drill 6 mm
- Hammer



# 2 Foundation

## Bracket plan

### Step 1:

The bracket plan contains important information, such as the:

- Position of column brackets
- Width of the lintels, including cutting list
- Dimension of lintels
- Height of parapet columns

### Step 2:

The position of column brackets resp. columns is set by chain dimensioning. The chain's starting point is the external corner of a corner U-profile.

### Step 3:

Twin brackets are placed at all corners and openings.

### Note:

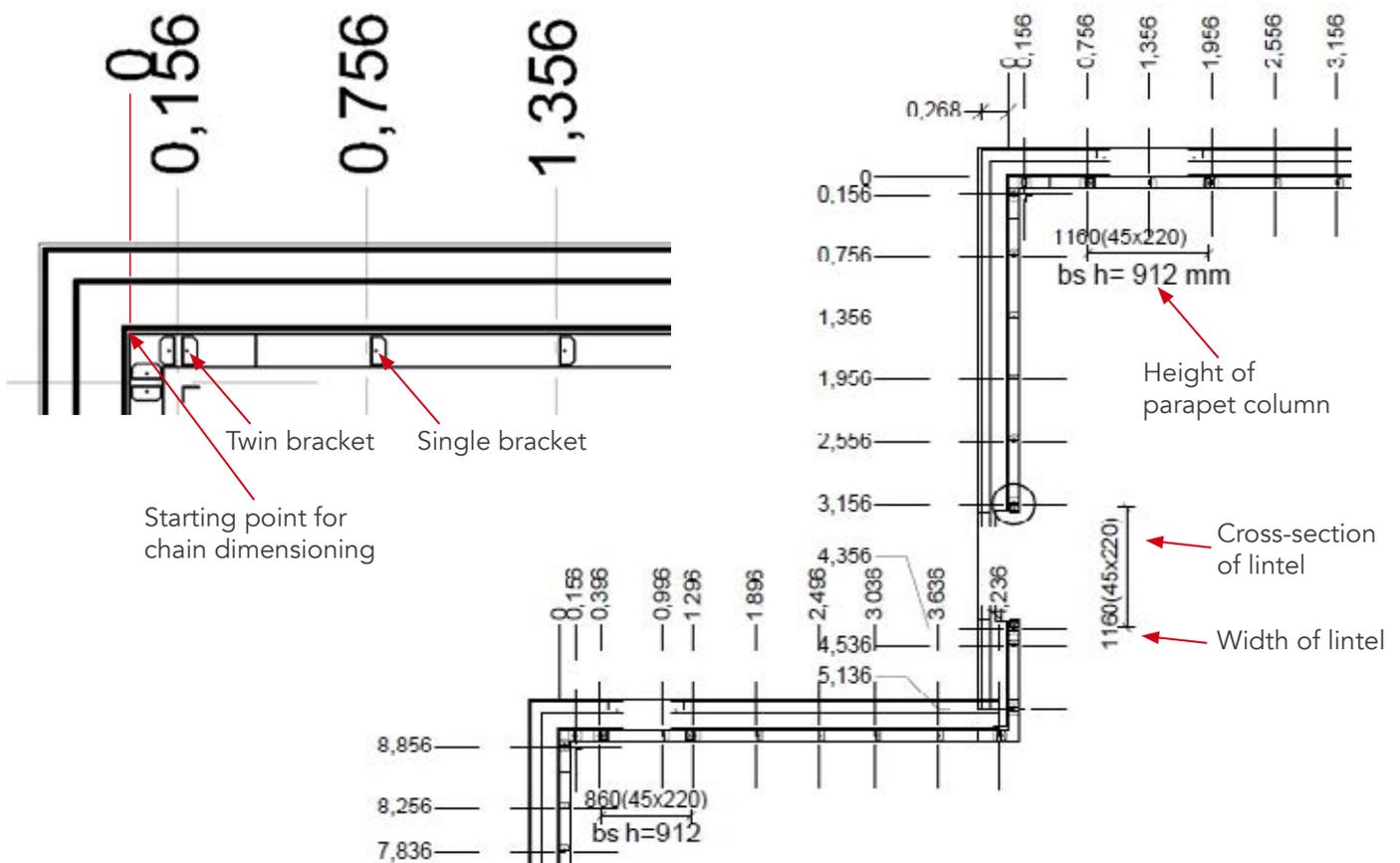
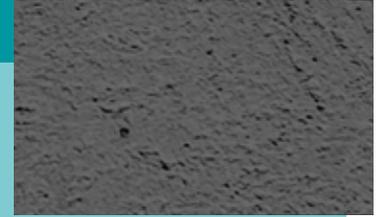
Montage direction is clockwise so single brackets are always to the right seen from the inside.

## Materials:

- Bracket plan

## Tools:

- -/-



# 2 Foundation

## Setting of column brackets

### Step 1:

Column brackets are placed according to the bracket plan. The tolerance is  $\pm 1$  mm acc. to chain dimensioning.

### Step 2:

Place centre line of the drill gauge at measure point.

### Step 3:

Mark all single brackets on the right side of the centre line (as seen from inside building). Mark both holes for twin brackets, e.g. with a centre punch.

### Step 4:

Drill holes for concrete bolts at all marks.

### Step 5:

Set all column brackets (NB: do not use too much torque!).

### Step 6:

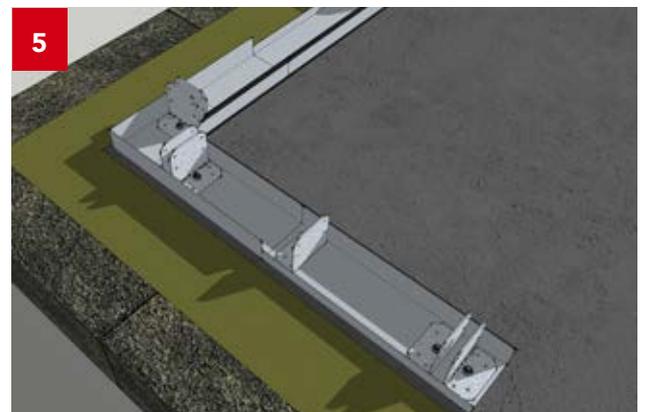
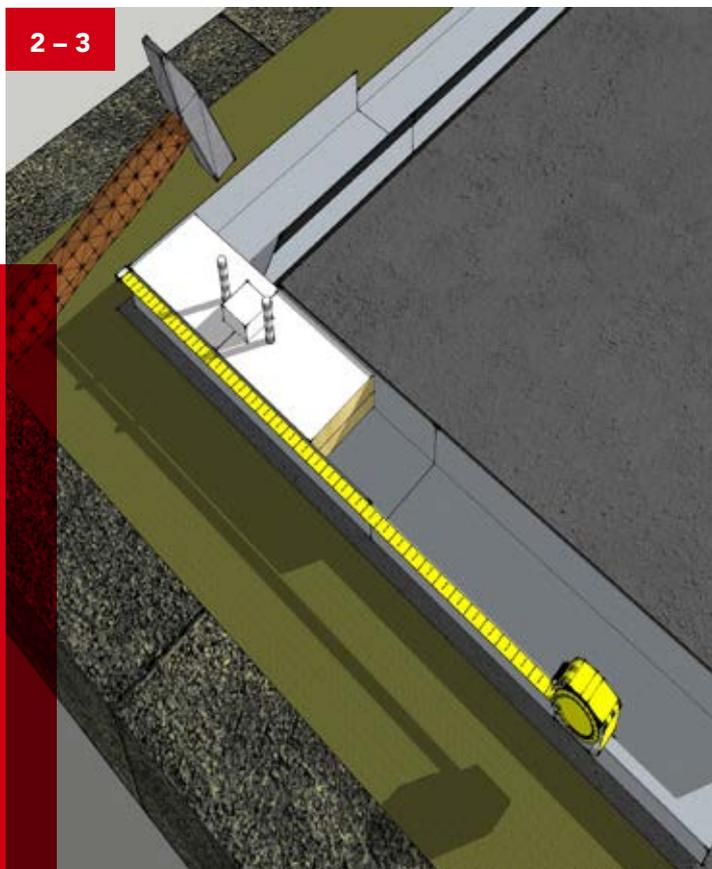
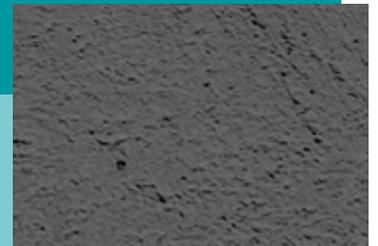
The bottom flange of single brackets must point to the right (as seen from inside building). Twin brackets are placed back to back, neatly opposite each other. Allow space for a column body between twin brackets ( $> 23$  mm).

## Materials:

- Bracket plan
- Column bracket
- Concrete bolt 10 x 75

## Tools:

- Drill gauge
- Centre punch / nail
- Tape measure
- Hammer
- Electric drill
- Concrete drill 8 mm
- Broom
- Impact wrench
- Socket 13 mm



# 3 Corner columns

## Installation

### Step 1:

There is always a pair of twin brackets at corners. You must install two columns without an inner spacer.

### Step 2:

Mount an extra column bracket at the top of each column. For this, remove the column bracket already placed at the top of the column and screw brackets on each side of the column top.

### Step 3:

Place the column body between the flanges of a twin bracket.

### Step 4:

Make sure that the column has contact with the bottom U-profile.

### Step 5:

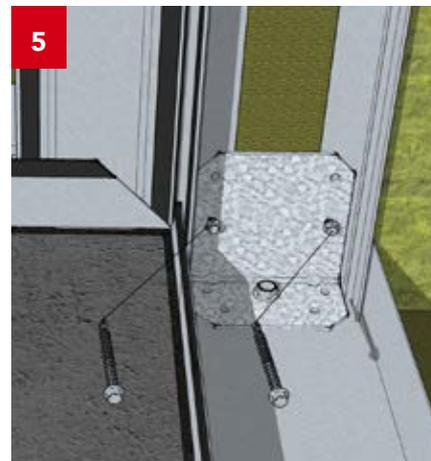
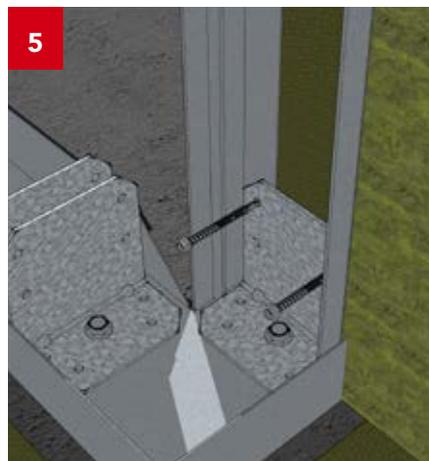
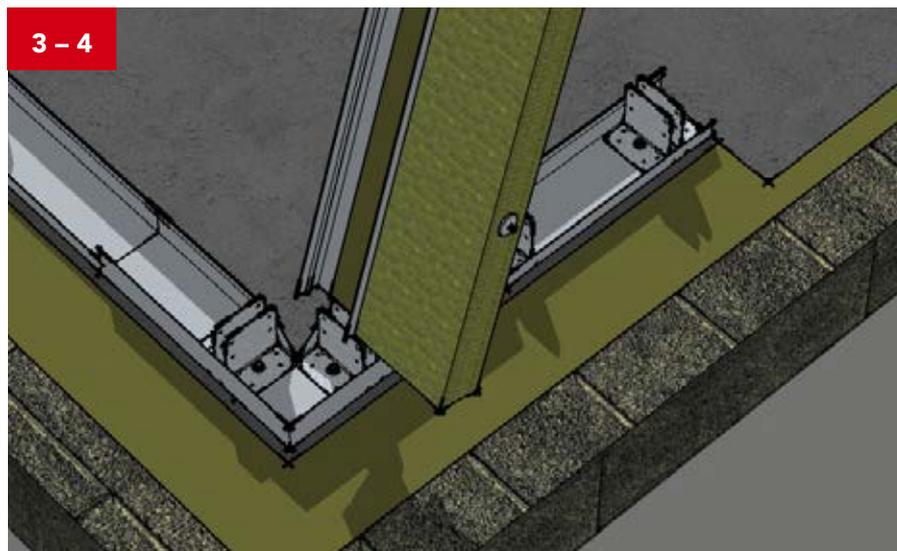
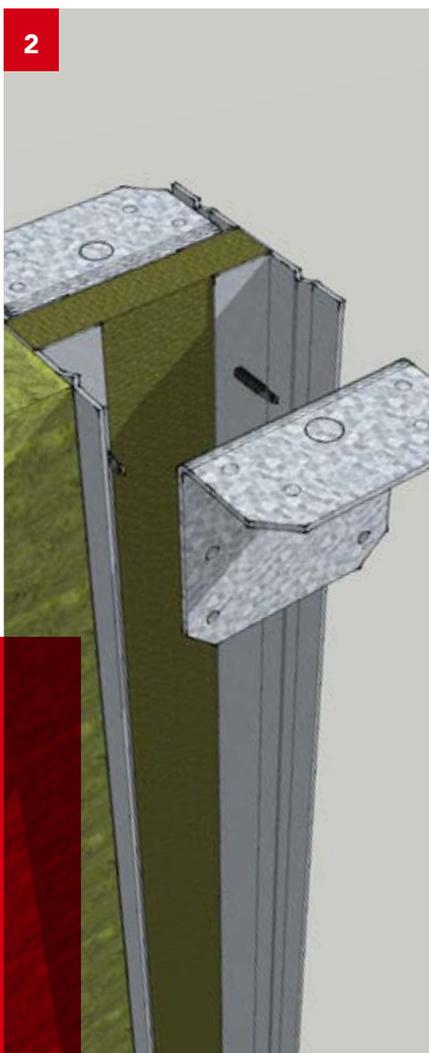
Screw the column with 2 self-tapping screws in the two bottom holes. The screws must hit the pre-drilled holes in the column and the corresponding holes in the other bracket on the other side of the column.

## Materials:

- Column without spacer
- Self-tapping screw 5,5 x 4,5

## Tools:

- Cordless drill
- Socket 8 mm
- Rubber hammer



# 3 Corner columns

## Alignment & support

### Step 1:

Place corner U-profile over column top.

### Step 2:

Adjust position of the corner columns to ensure the same distance at bottom and top.

### Step 3:

Screw corner U-profile to columns with flathead self-tapping screws.

### Step 4:

Place top of push-pull props staggered and centred near the top of the columns.

### Step 5:

Screw the bottom of the props to the concrete floor, approx. 20 cm from the bottom U-profiles.

### Step 6:

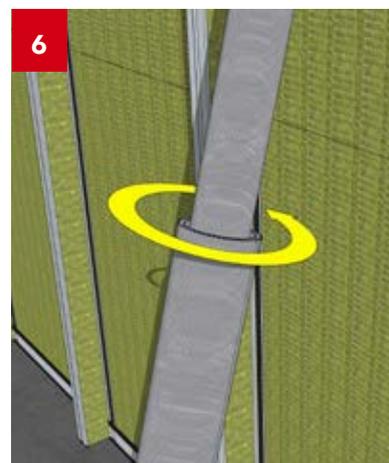
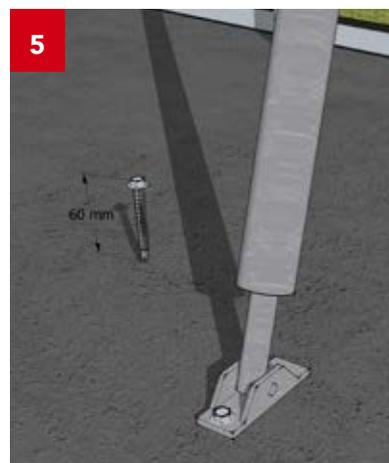
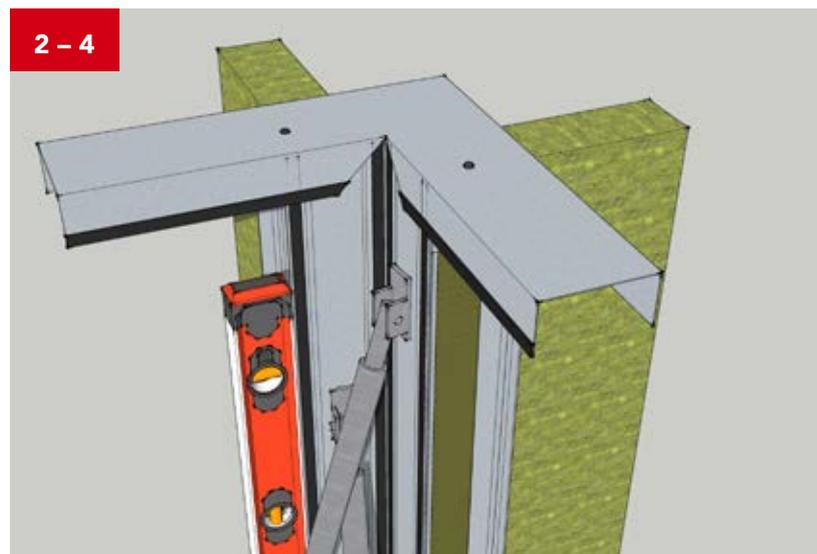
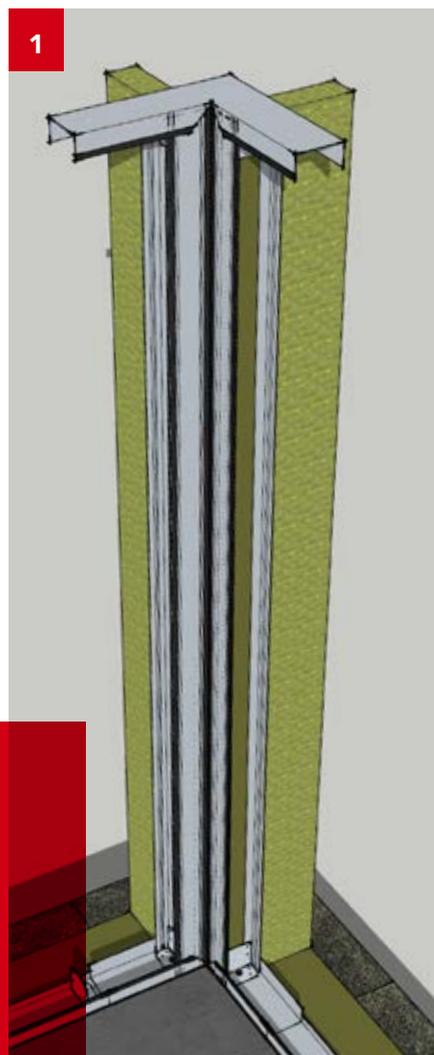
Plumb the pair of columns in both directions.

## Materials:

- Corner U-profile
- Self-tapping screw 4,2 x 19
- Push-pull prop
- Concrete bolt 10 x 60
- Self-tapping screw 5,5 x 45

## Tools:

- Cordless drill
- Rubber hammer
- Electric drill
- Concrete drill 8 mm
- Impact wrench
- Socket 13 mm
- Spirit level



# 3 Corner columns

Tape

## Materials:

- Airtight tape
- Rubber tape

## Tools:

- Knife

### Step 1:

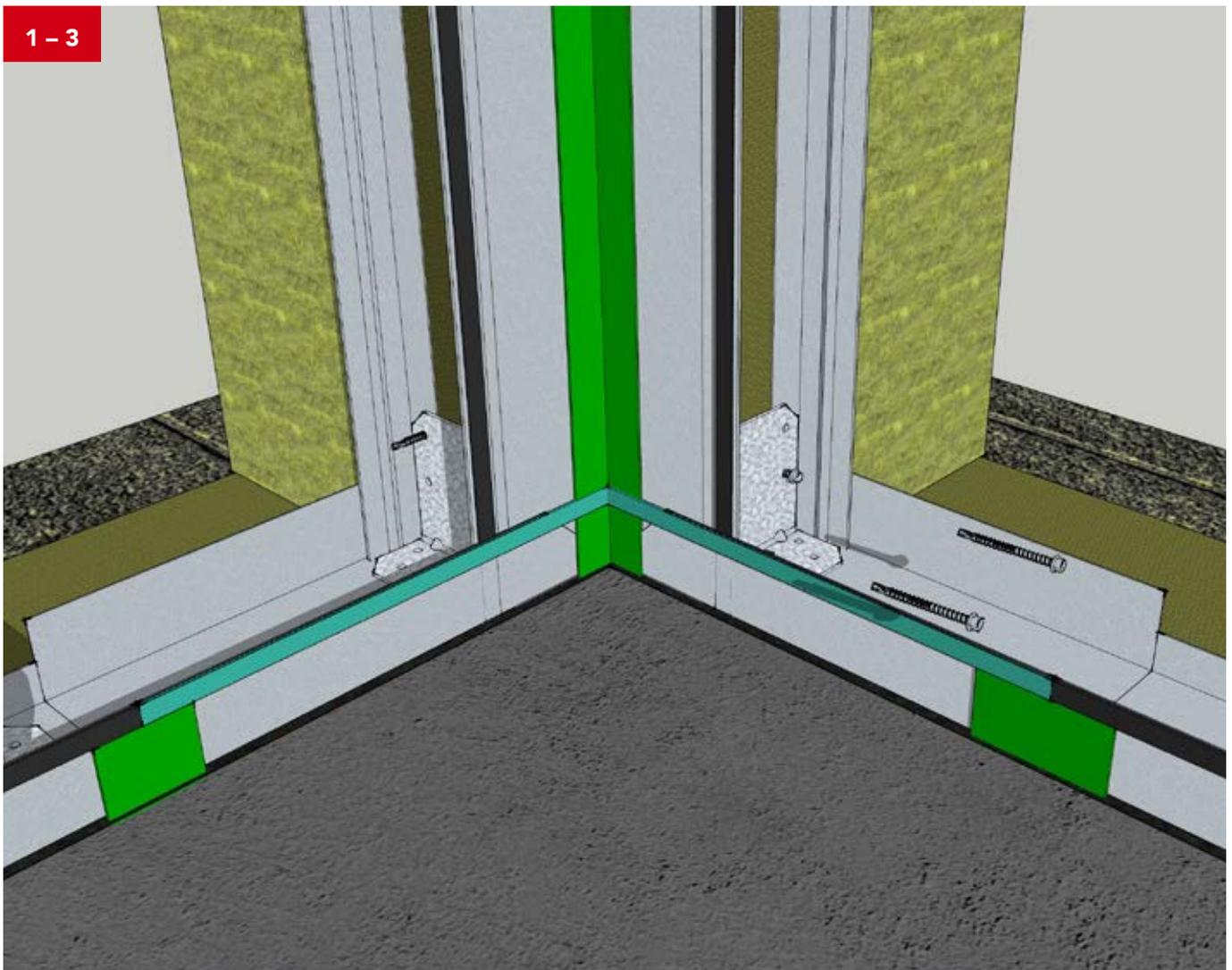
Apply airtight tape to seal the gap between the two corner columns.

### Step 2:

Apply airtight tape to seal the triangular cuts in the corner U-profile.

### Step 3:

Apply rubber tape to the internal flanges of the corner U-profile, extending the rubber tape on the bottom/top U-profiles.



# 3 Corner columns

## Insulation of internal corners

### Step 1:

Place Infill (outer) between outer spacers of a corner.

### Step 2:

Cut insulation (core), its width is the depth of a column flange.

### Step 3:

Place insulation (core) between the flanges of one of the columns.

### Step 4:

Cut insulation (core) to cover the free space in the corner U-profile.

### Step 5:

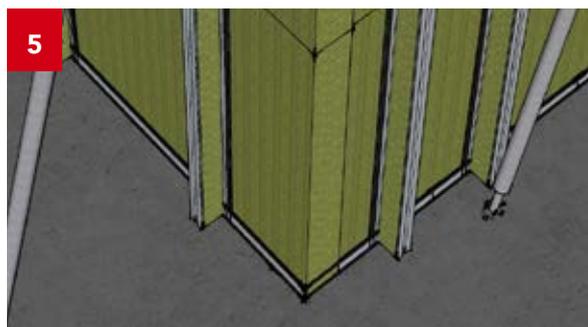
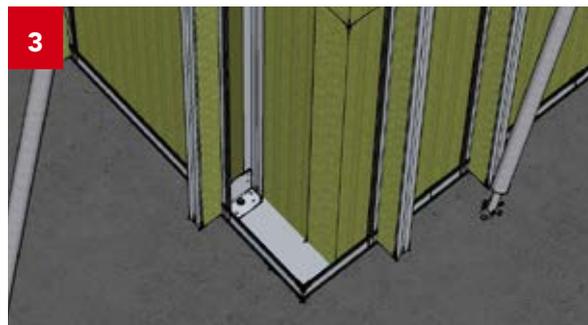
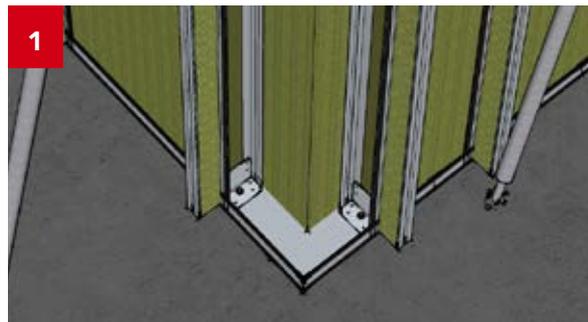
Place insulation (core) between the flanges of the other column. The corner U-profiles at top and bottom will keep the insulation in place until OSB4 boards are installed.

## Materials:

- Insulation (core)
- Infill (outer)

## Tools:

- Insulation knife



# 4 Wall

## Insulation

### Materials:

- Insulation (core)

### Tools:

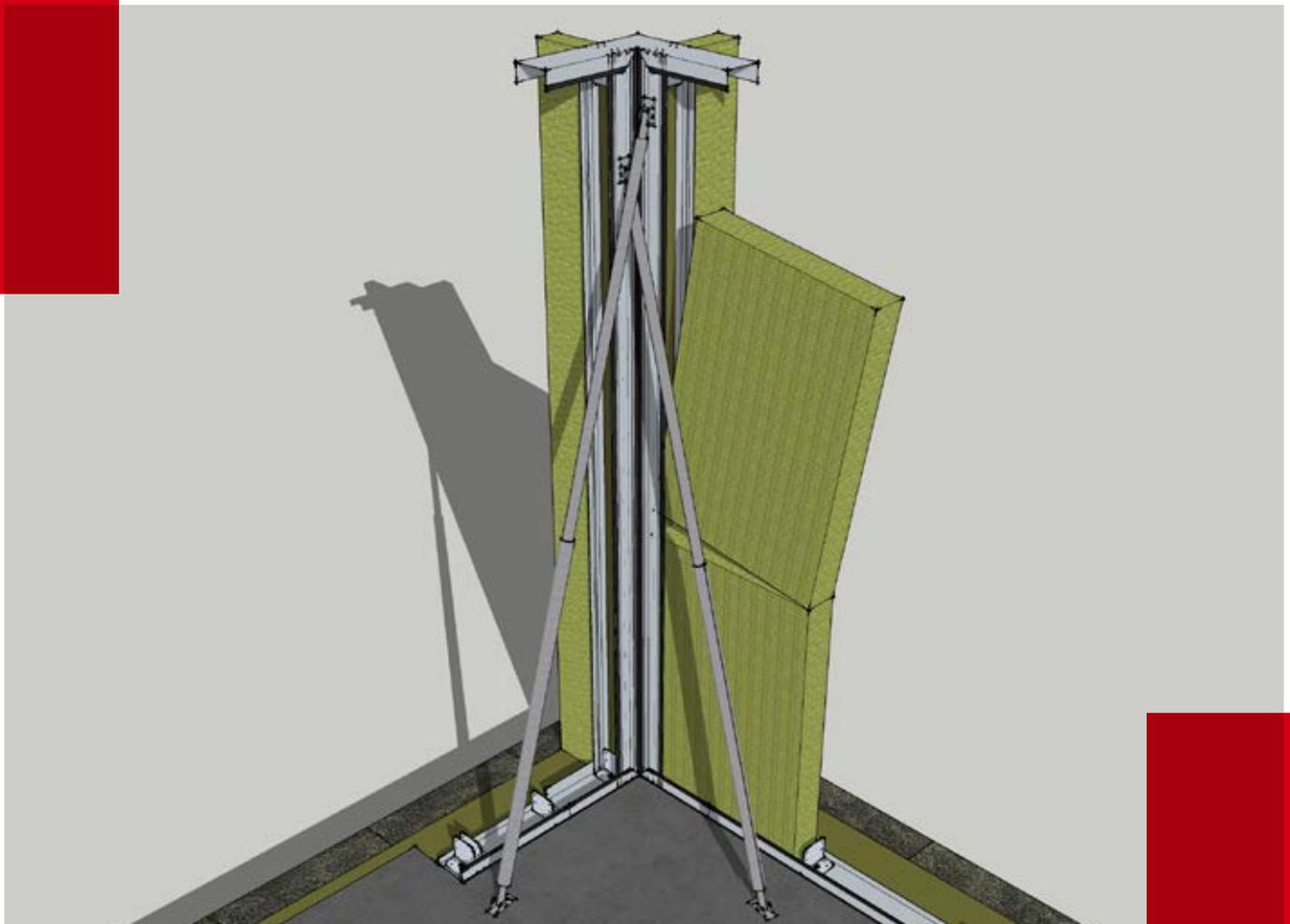
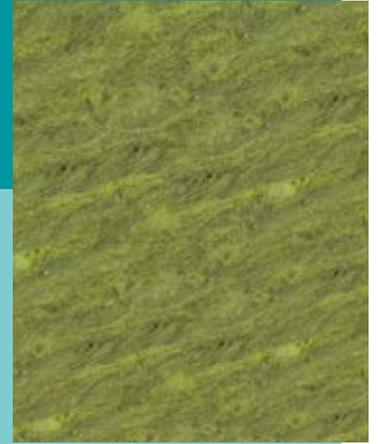
- Insulation knife

#### Step 1:

Place insulation (core) between the column's flanges where it is fixed.

#### Step 2:

The insulation must be fitted tightly to the column as it stabilises it. Where the insulation width needs to be adjusted, cut the insulation off straight and at a width that allows the next column to stand vertically (see next page).



# 4 Wall

## Columns

### Step 1:

Place the column between the column bracket and the insulation installed.

### Step 2:

Make sure that the column has contact to the bottom U-profile.

### Step 3:

Raise the column, so its flanges cover the insulation.

### Step 4:

Plumb the column in the direction of the wall.

### Step 5:

Screw the column with two self-tapping screws in the bottom holes of the column bracket. The screws must hit the pre-drilled holes in the column.

## Materials:

- Column with spacer
- Column without spacer
- Self-tapping screw 5,5 x 45

## Tools:

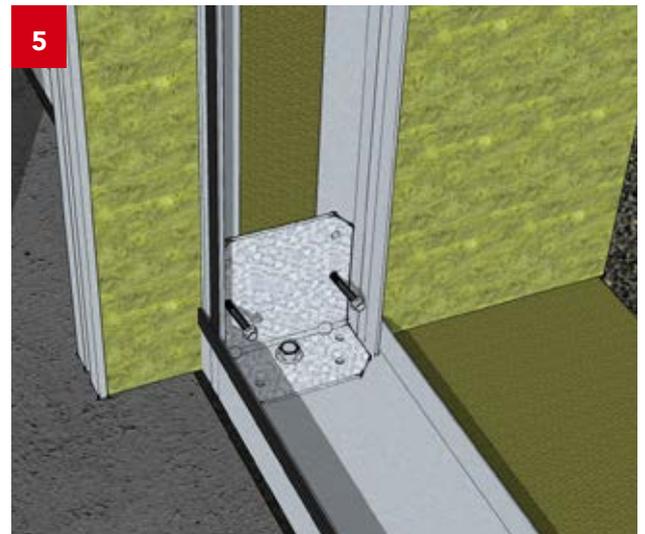
- Cordless drill
- Hexagon socket 8 mm
- Rubber hammer
- Spirit level



1 - 4



5



# 4 Wall

## Top U-profile

### Step 1:

Place a connector sheet below the corner U-profile and fasten with a flathead self-tapping screw.

### Step 2:

Press a top U-profile over the columns (a top U-profile is identical to a bottom U-profile).

### Step 3:

Plumb the columns in the direction of the wall and fasten the top U-profile with a flathead self-tapping screw. Make sure that the top U-profile has contact with the columns.

### Step 4:

Place a connector sheet in all joints between top U-profiles and fasten with flathead self-tapping screws.

### Step 5:

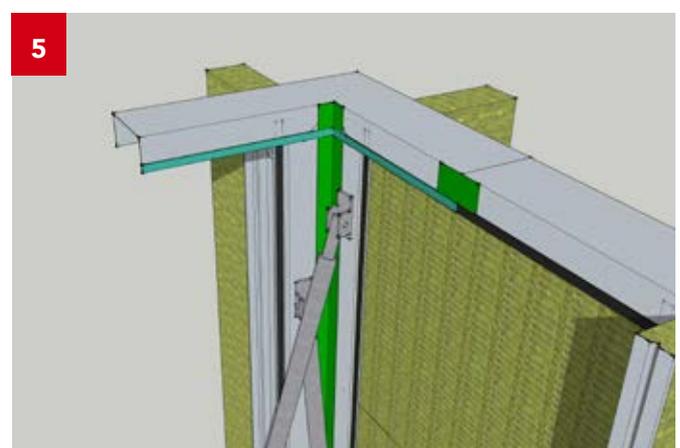
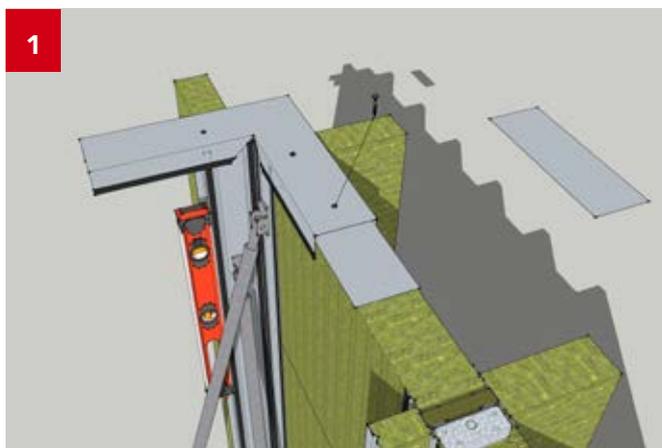
Tape joints between top U-profiles, as well as between corner U-profiles and top U-profiles.

## Materials:

- Top U-profile
- Connector sheet
- Self-tapping screw 4,2 x 19
- Airtight tape
- Rubber tape

## Tools:

- Angle grinder
- Cordless drill
- Rubber hammer



# 4 Wall

## Alignment & support

### Step 1:

Screw props to the walls approx. every 3 metres. It is recommended to place a support close to a joint between two top U-profiles.

### Step 2:

Screw the top bracket of a prop to an inner spacer. Place the bracket next to a screw securing the inner spacer.

### Step 3:

Screw the bottom of the props to the concrete floor.

### Step 4:

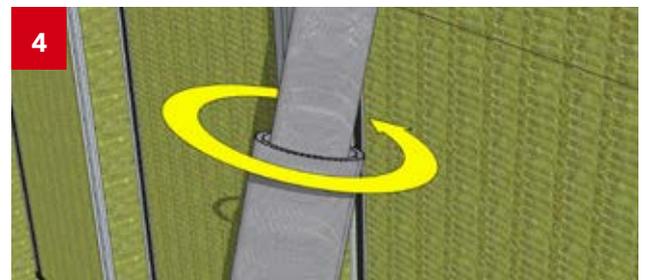
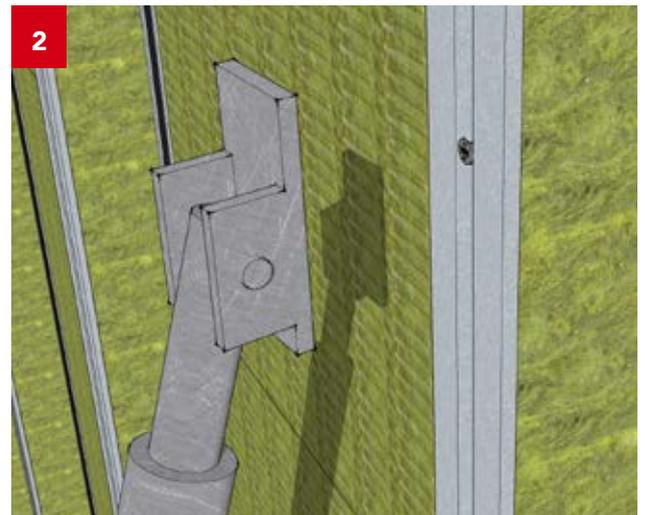
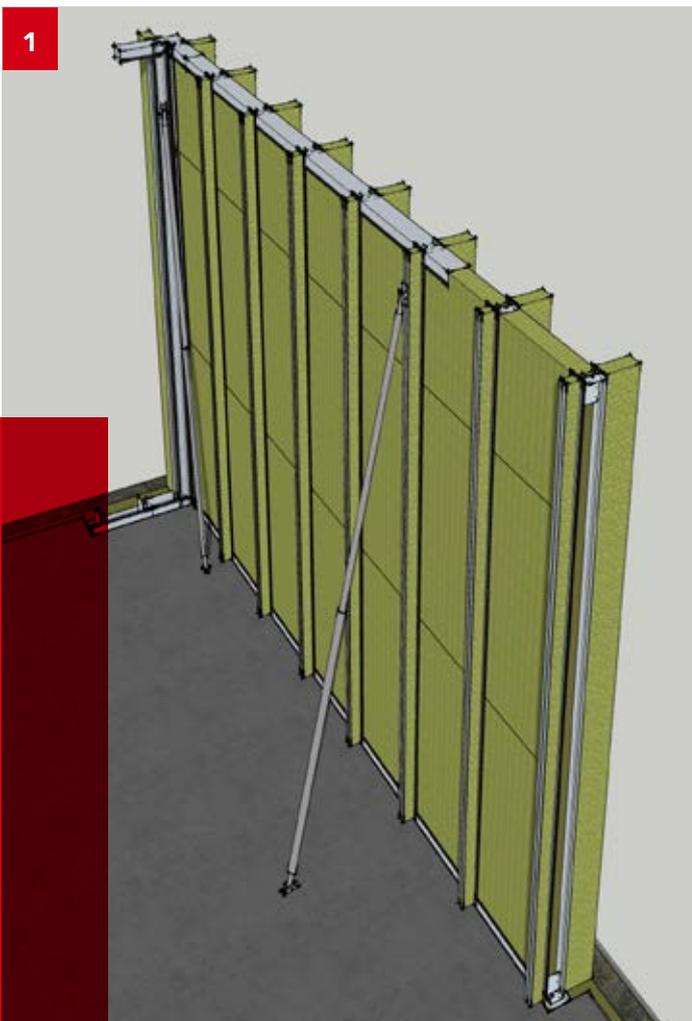
Plumb the columns perpendicular to the wall and align the top of the wall.

## Materials:

- Push-pull prop
- Concrete bolt 10 x 60
- Self-tapping screw 5,5 x 45

## Tools:

- Cordless drill
- Electric drill
- Concrete drill 8 mm
- Impact wrench
- Socket 13 mm



# 4 Wall

## Wall plate (at roof)

### Step 1:

Apply a continuous line of butyl to the top U-profile.

### Step 2:

Place a PE membrane (width approx. 50 cm) on the butyl. It must be wide enough to be taped to a vapour barrier of the roof. Membrane joints must be sealed airtight.

### Step 3:

Screw the wall plate on the membrane with 2 self-tapping screws at each column through the top U-profile, so it goes through a column bracket (remember that

column brackets are on the right side of a column, as seen from inside the building).

### Step 4:

The wall plate is screwed to lintels with one self-tapping screw per max. 60 cm.

### Step 5:

It is a good idea to pre-drill with a 5,5 mm drill.

### Step 6:

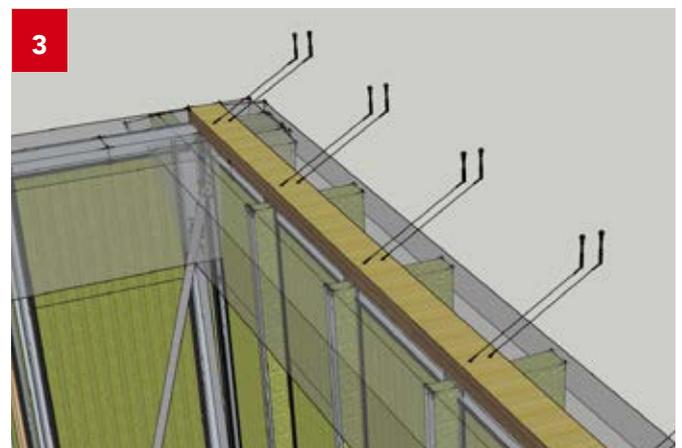
Do not position rafters above joints of wall plate pieces.

## Materials:

- Butyl sealant
- PE membrane
- Airtight tape
- Self-tapping screw 5,5 x 100
- Wood (wall plate)

## Tools:

- Sealant gun
- Knife
- Saw
- Cordless drill
- Hexagon socket 8 mm



# 4 Wall

Wall plate (at storey intersection)

## Step 1:

The top of the walls, below a first floor, are built up with a wall plate - the same way as walls below a roof (see previous page).

## Step 2:

Fasten floor elements on this wall plate acc. to structural instructions.

## Step 3:

Fold the PE membrane up and place it on top of the floor elements. Attach the membrane to the top of the floor elements.

## Step 4:

Continue the installation process of the walls on the first floor, as described on page 8ff.

## Materials:

- Butyl sealant
- PE membrane
- Airtight tape
- Self-tapping screw 5,5 x 100
- Wood (wall plate)

## Tools:

- Sealant gun
- Knife
- Saw
- Cordless drill
- Hexagon socket 8 mm



# 5 Openings

## Wooden column

### Materials:

- Column bracket wedge
- Self-tapping screw  
5,5 x 100
- Glulam (wooden stud)

### Tools:

- Circular saw
- Folding rule
- Pencil
- Cordless drill
- Hexagon top 8 mm

#### Step 1:

Shorten the wooden studs 100 mm below the column top and recess for the lintel.

#### Step 2:

Place a column bracket wedge with a bolt hole below the wooden stud to create a level surface for the stud.

#### Step 3:

Pre-drill the stud on the backside of its bottom to give space for the screw heads in the column bracket.

#### Step 4:

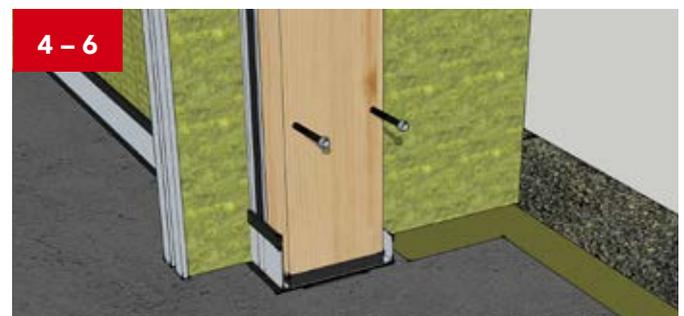
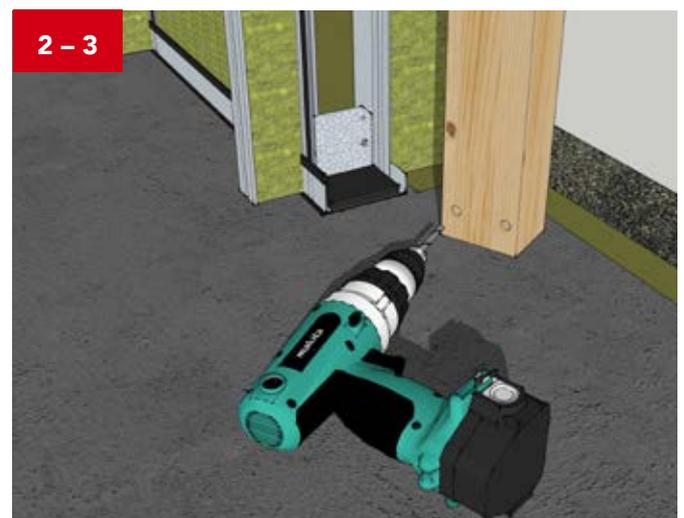
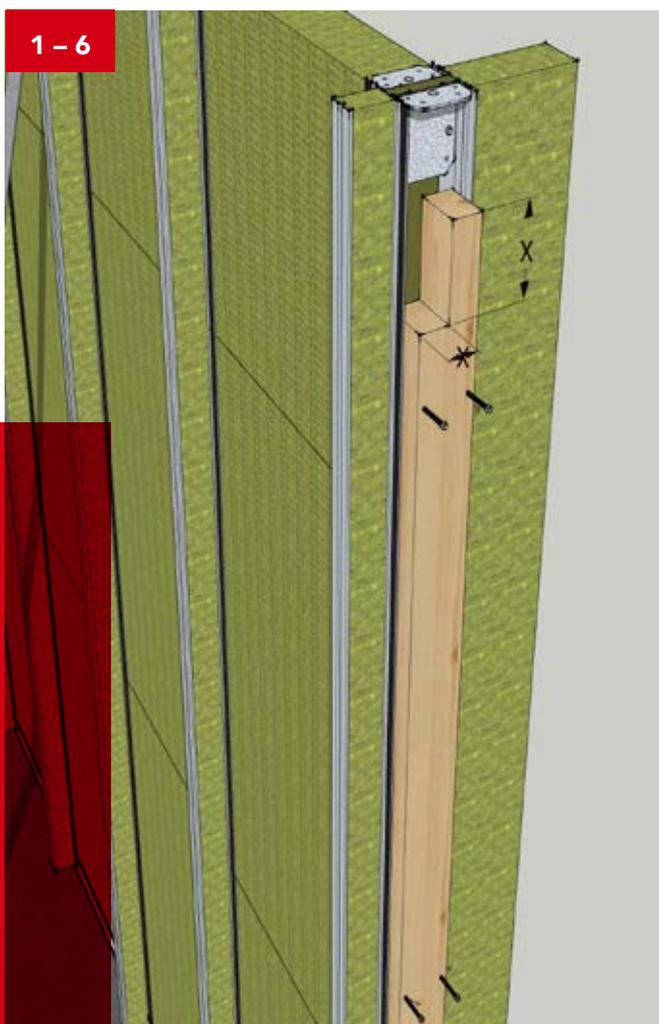
Place the wooden studs between the column flanges.

#### Step 5:

Wooden studs are applied acc. to the structural directions/calculations.

#### Step 6:

Screw the wooden stud to the steel of the column, at the top, near the centre and at the bottom, each with two self-tapping screws.



# 5 Openings

## Lintel

### Step 1:

Acc. to structural calculations, both single and double lintels (standard width 45 mm) can be applied.

### Step 2:

Double lintels are screwed together with wood screws max. every metre before mounting the lintel.

### Step 3:

Find the length of the lintel on the bracket plan.

### Step 4:

Cut off the top corner of the lintel to give space for the column bracket.

### Step 5:

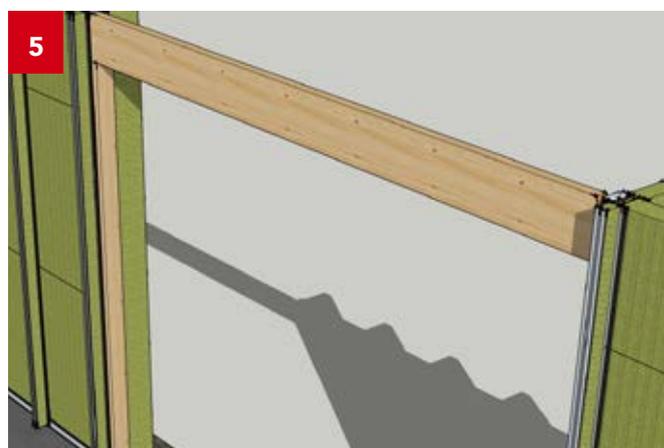
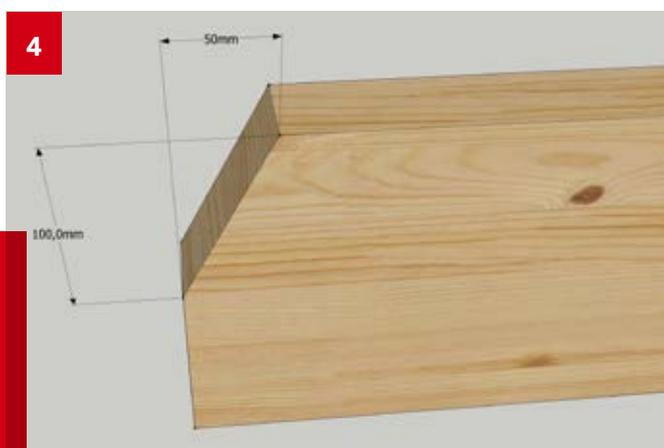
Place the lintel close to the inner side of the wall and close to the top U-profile (remember to cut the wooden studs at a suitable height, see previous page).

## Materials:

- Wood screw 5 x 70
- Wood (lintel)
- Bracket plan

## Tools:

- Circular saw
- Folding rule
- Pencil
- Cordless drill
- Spirit level



# 5 Openings

## Parapet

### Step 1:

Screw column brackets to both wooden studs at the same height as parapet columns.

### Step 2:

Install parapet columns acc. to the procedure for a standard wall.

### Step 3:

Install the insulation.

### Step 4:

Press the top U-profile over the parapet columns and insulation.

### Step 5:

Screw the top U-profile to both column brackets and the parapet column with flathead self-tapping screws.

### Step 6:

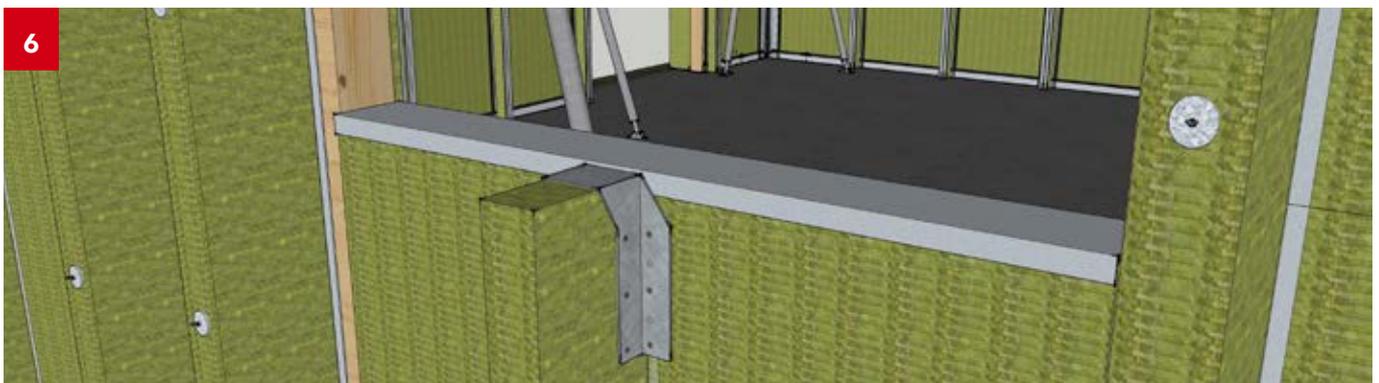
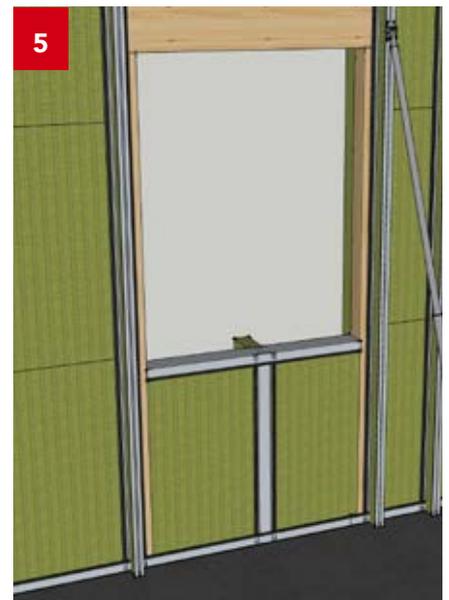
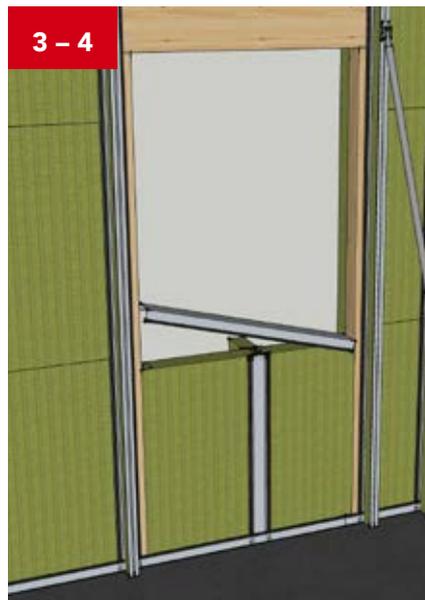
For openings wider than 1400 mm an "inverted" joist hanger is screwed to the outer spacer on level with the top U-profile. Use 2 flathead self-tapping screws in each side of the joist hanger.

## Materials:

- Parapet column
- Bottom U-profile
- Insulation (core)
- Column bracket
- Self-tapping screw 5,5 x 45
- Self-tapping screw 4,2 x 19
- Joist hanger
- Connector screw 5 x 40

## Tools:

- Cordless drill
- Hexagon socket 8 mm
- Folding rule
- Insulation knife
- Angle grinder



# 6 OSB4 board

## Installation

### Step 1:

If applicable, seal holes in columns where push-pull props were mounted.

### Step 2:

OSB4 boards are screwed to columns with special screws. Spacing between screws is always defined by structural calculations.

### Step 3:

Rest OSB4 boards on pads to protect them against water.

### Step 4:

OSB4 boards must cover the rubber tape on columns to ensure airtightness.

### Step 5:

If a screw does not grip to the column, it must not be removed as this could cause an air leak.

### Step 6:

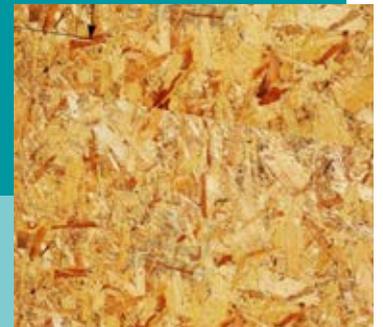
If the OSB4 layer is penetrated, e.g. by services, it needs to be sealed properly, e.g. with airtight tape collars.

## Materials:

- Self-tapping screw 4,1 x 49 (OSB4)
- OSB4 board
- Airtight tape

## Tools:

- Circular saw
- Folding rule
- Pencil
- Autofeed screwdriver
- Screw adapter (OSB4)



# 7 Windows & doors

## Rockzero frame

### Step 1:

Attach the Rockzero boards to all sides of windows, do not use them at the bottom of doors. The white side of the board must face inwards.

### Step 2:

Seal between the frame and the Rockzero board, as well as the joints between boards, to ensure airtightness.

### Step 3:

Screw the board with wood screws per max. 600 mm.

### Step 4:

Place the window/door in the opening.

### Step 5:

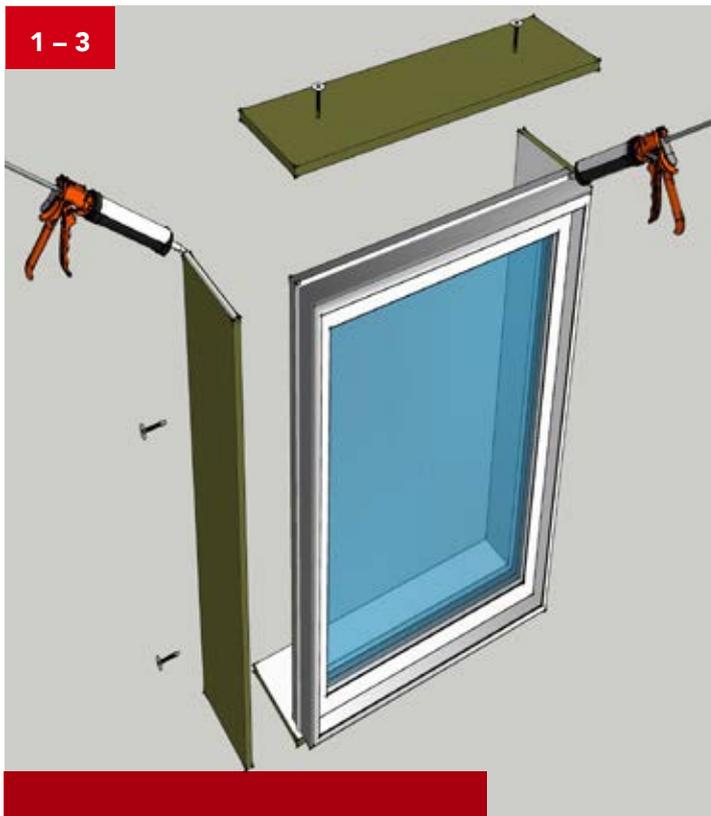
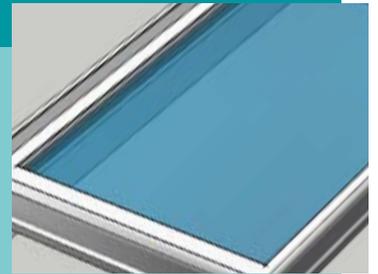
Place pads in the gap between the Rockzero board and the wooden frame to position the window/door. Pads or wedges must be placed where the window/door is screwed (see next page).

## Materials:

- Glue
- Wood screw 6 x 60
- Rockzero board

## Tools:

- Circular saw
- Folding rule
- Pencil
- Sealing gun
- Cordless drill



# 7 Windows & doors

## Installation of windows & doors

### Materials:

- Wood screw 6 x 80
- Shear washer

### Tools:

- Cordless drill
- Spirit level

#### Step 1:

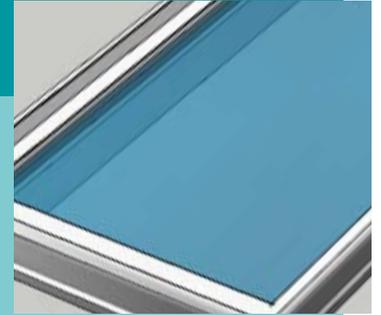
Screw the Rockzero boards with wood screws and shear washer to wooden studs and lintel per max. 600 mm (remember pads/wedges!).

#### Step 2:

Countersink the shear washers in the board with a wood screw so it is flush with the board surface.

#### Step 3:

Use 2 wood screws/shear washer at the top of window/door sides when the window/door is larger than 1.2 x 1.2 m. The same rule generally applies to the hinge side of windows/doors.



# 7 Windows & doors

## Tape & sealing

### Step 1:

Seal the gap between the Rockzero boards and OSB4 lining (resp. rubber tape on columns) with tape to ensure airtightness.

### Step 2:

Tape is used acc. to general directions for correct and airtight installations.

### Step 3:

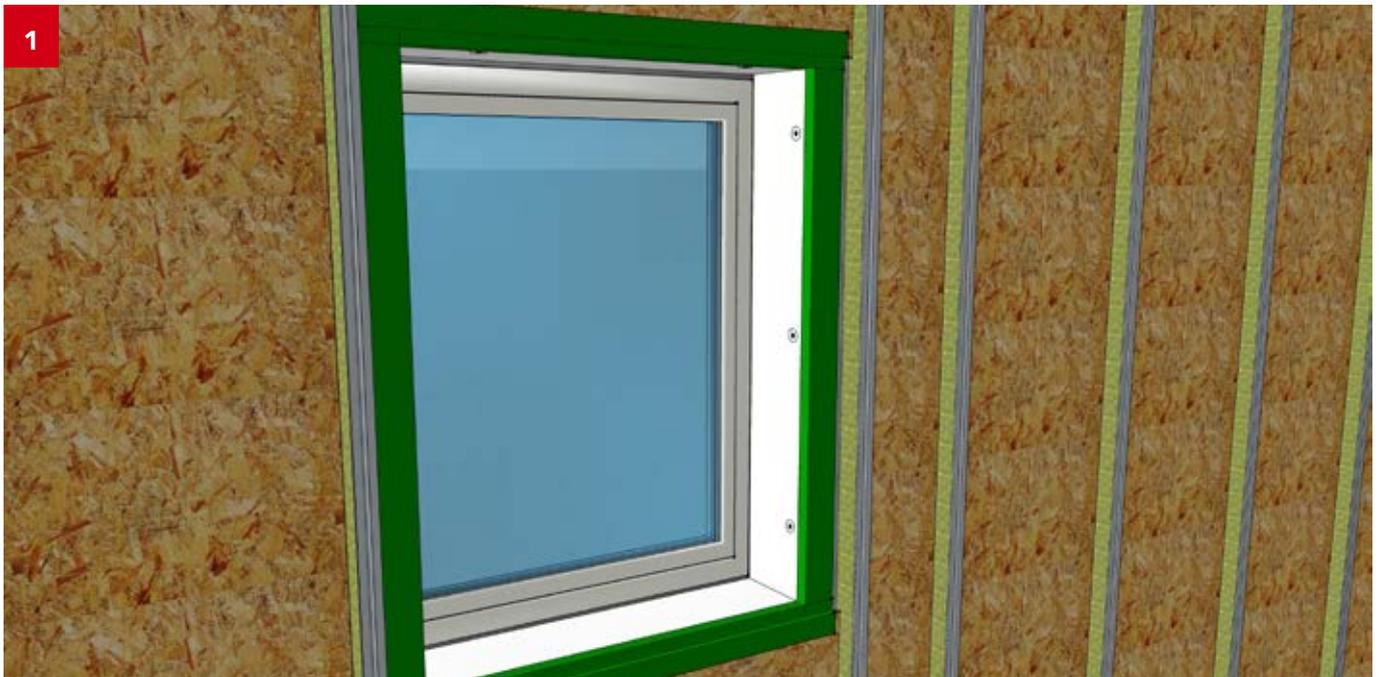
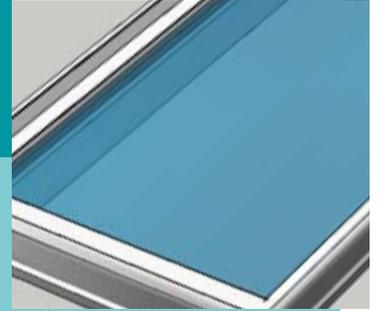
Remember to seal the gap between doors and the floor.

## Materials:

- Airtight tape

## Tools:

- Knife



# 8 Gable Wall

## Unoccupied attic

### Step 1:

Screw the bottom U-profile to the wall plate the same way as in a storey intersection.

### Step 2:

Screw the column brackets to the wall plate using wood screws. Spacing between column brackets is 600 mm.

### Step 3:

Mount the gable wall columns 'as usual' to column brackets (gable columns for unoccupied attics are without inner spacers).

### Step 4:

Screw the column tops to rafters with 2 self-tapping screws 5,5 x 45 mm.

### Step 5:

Place insulation (core) between the column flanges as in standard wall installation.

### Step 6:

Cut off the top of the insulation to flush the upper edge of the rafter.

### Step 7:

Insulate the gap in front of the wall plate.

### Step 8:

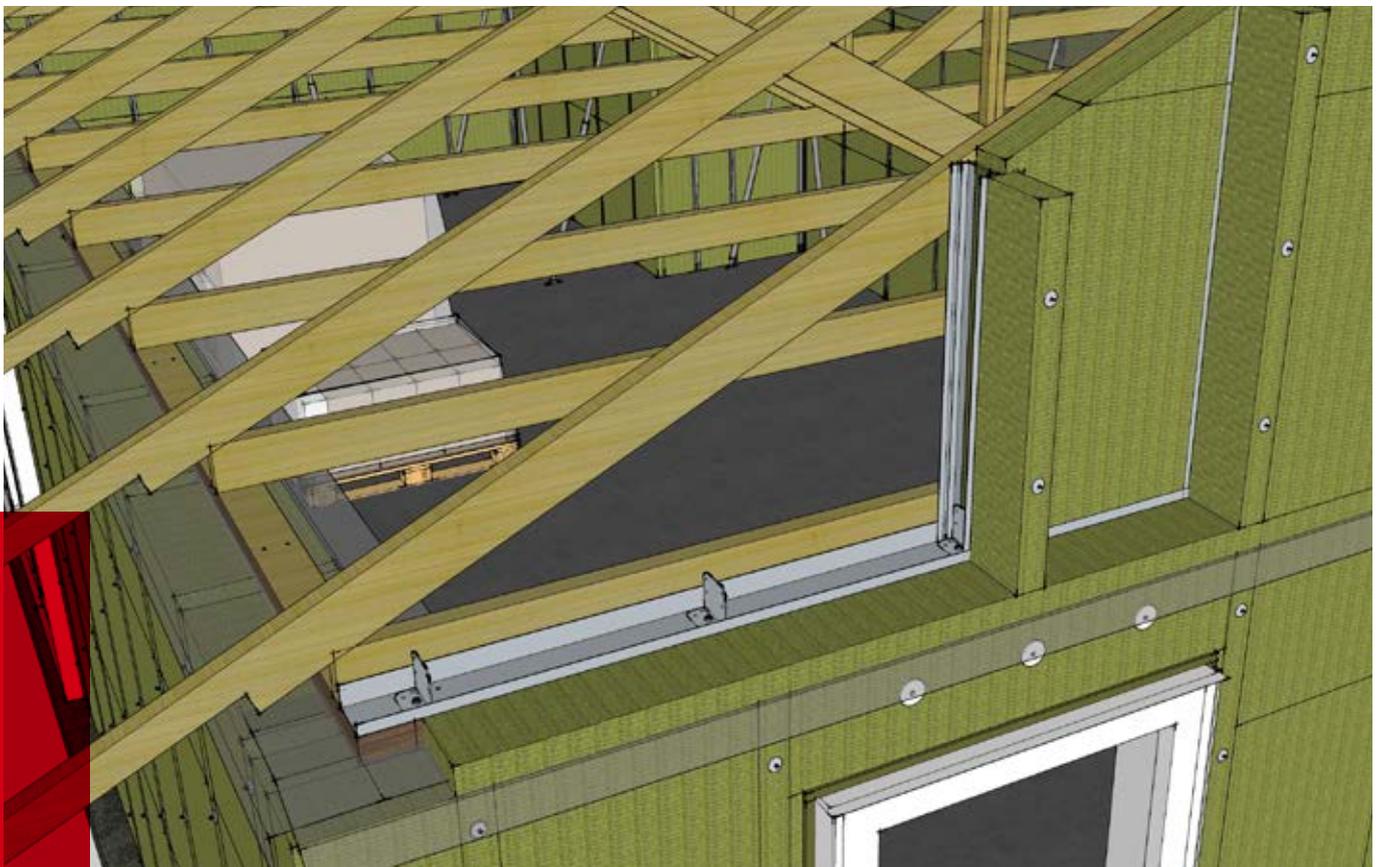
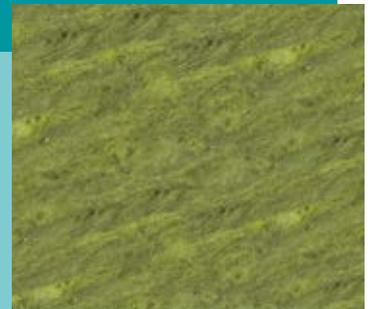
It is not necessary to install OSB4 boards or Infill (inner) for unoccupied attics.

## Materials:

- Bottom U-profile
- Self-tapping screw 4,2 x 19
- Column bracket
- Self-tapping screw 5,5 x 45
- Column without spacer
- Insulation (core)

## Tools:

- Angle grinder
- Cordless drill
- Hexagon socket 8 mm
- Insulation knife
- Spirit level



# 8 Gable Wall

## Occupied attic

Installation of gable walls for occupied attics equals that of unoccupied attics (see previous page).

### Step 1:

Apart from this, OSB4 boards, free inner spacers, Infill (inner) and dry lining need to be installed on the inner face of these walls (see relevant sections in this guide for further information).

### Step 2:

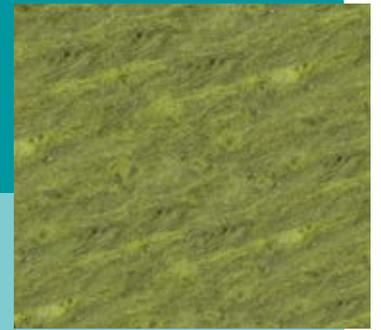
Seal the gable triangle against the external wall below and against the roof to ensure airtightness.

## Materials:

- Butyl sealant
- Bottom U-profile
- Self-tapping screw 4,2 x 19
- Column bracket
- Self-tapping screw 5,5 x 45
- Column with spacer
- Insulation (core)
- OSB4 board
- Self-tapping screw 4,1 x 49 (OSB4)
- Infill (inner)

## Tools:

- Angle grinder
- Cordless drill
- Hexagon socket 8 mm
- Insulation knife
- Spirit level



# 9 Internal insulation - Infill (inner)

## Inner spacers

### Step 1:

Screw the free inner spacers vertically onto the OSB4 lining with self-tapping screws (spacing 30 cm) where it is necessary as a base for the internal dry lining.

### Step 2:

It can be a good idea to install inner spacers horizontally above openings.

### Step 3:

Remember to place Infill (inner) in corners before mounting the second inner spacer.

## Materials:

- Inner spacer (free)
- Self-tapping screw 4,8 x 90

## Tools:

- Angle grinder
- Cordless drill
- Spirit level
- Folding rule
- Pencil



# 9 Internal insulation - Infill (inner)

## Services & insulation

### Step 1:

Run services after installation of free inner spacers but before installation of insulation and internal dry lining.

### Step 2:

Generally, service can be pushed through the insulation of the inner spacers without any special tools. If necessary, pre-drill a hole for wider cross sections.

### Step 3:

Be careful not to breach the airtight layer of the OSB4 lining.

### Step 4:

Install Infill (inner) between inner spacers. Additional fastening is not required.

### Step 5:

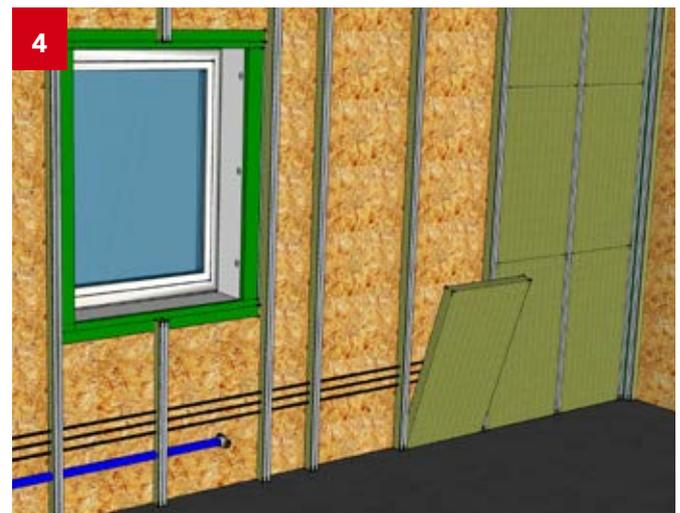
Cut Infill (inner) with an excess width of 5 mm for proper fitting where spacing between inner spacers is less than 60 cm.

## Materials:

- Infill (inner)

## Tools:

- Folding rule
- Insulation knife



# 10 Internal dry lining

## General information

### Step 1:

Internal dry lining is not part of a Rockzero delivery.

### Step 2:

Gypsum plasterboards and fibre gypsum boards can be used for internal dry lining.

### Step 3:

Lining boards are screwed on inner spacers.

### Step 4:

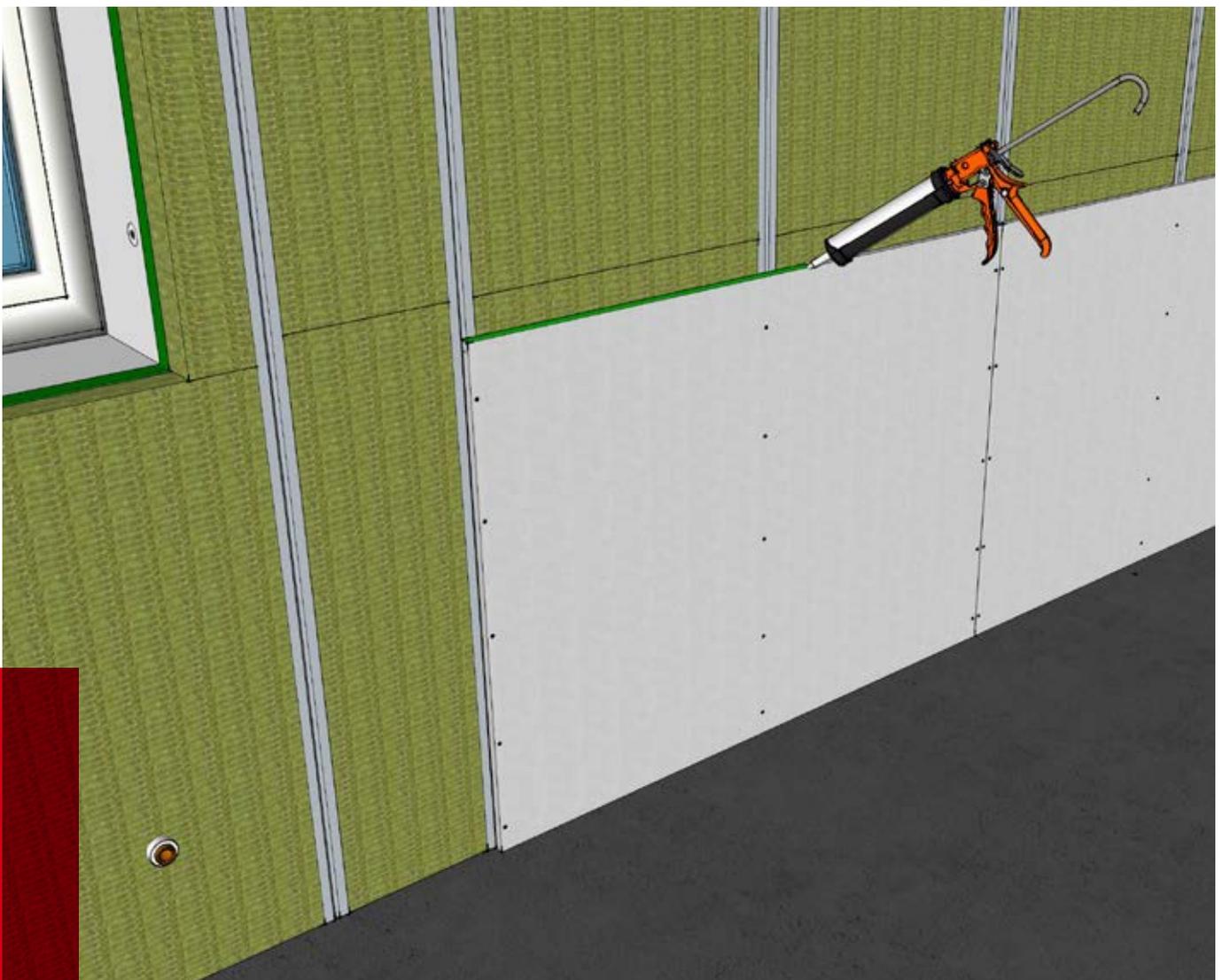
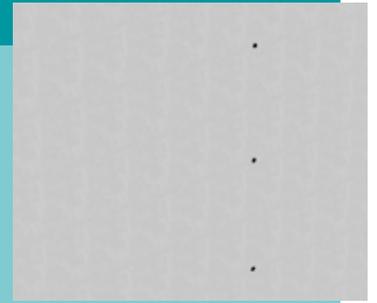
Please follow directions of the manufacturer/supplier of the internal dry lining for correct installation.

## Materials:

- Not part of Rockzero delivery

## Tools:

- Acc. to manufacturer's instructions



# 11 External insulation - Infill (outer)

## Corners

### Step 1:

Place insulation (core) between the flanges of one corner column.

### Step 2:

Place insulation (core) between the flanges of the other column so the free space in the corner U-profile is covered.

### Step 3:

Place Infill (outer) in front of the insulation (core) in the corner.

### Step 4:

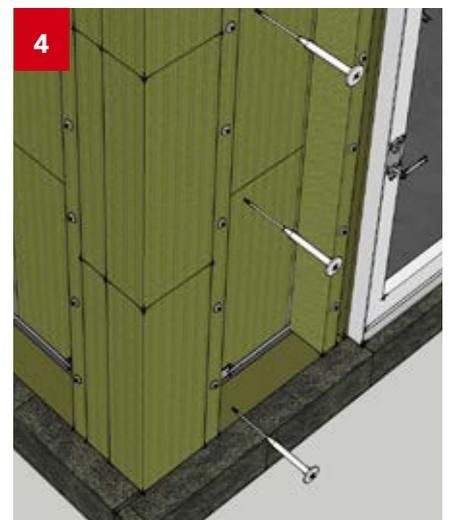
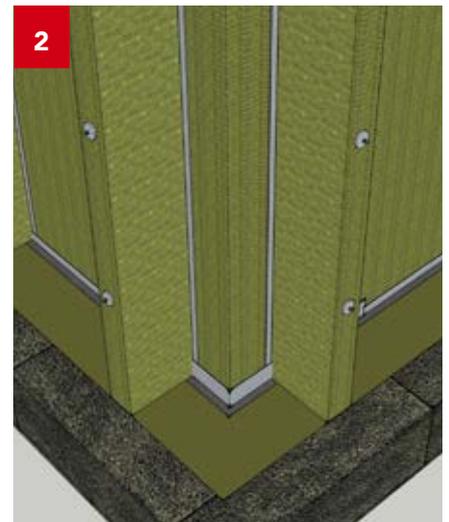
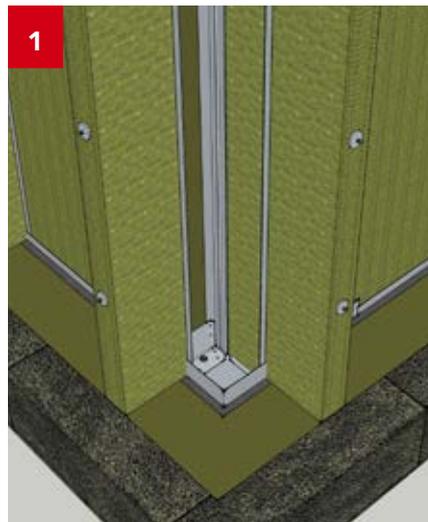
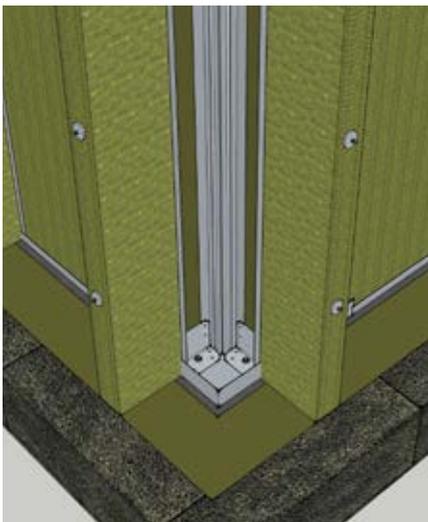
Screw Infill (outer) with screws and insulation dowels into the body of one of the columns to keep the insulation in place. Use 2 screws for each slab.

## Materials:

- Insulation (core)
- Infill (outer)
- Self-tapping screw 4,8 x 210
- Insulation dowel

## Tools:

- Folding rule
- Insulation knife
- Cordless drill



# 11 External insulation - Infill (outer)

Wall

## Step 1:

Place Infill (outer) between all outer spacers.

## Step 2:

Cut Infill (outer) with an excess width of 5 mm for proper fitting where spacing between outer spacers is less than 60 cm.

## Step 3:

Fill gaps along the sides of openings and below windows using suitable strips of Infill (outer).

## Step 4:

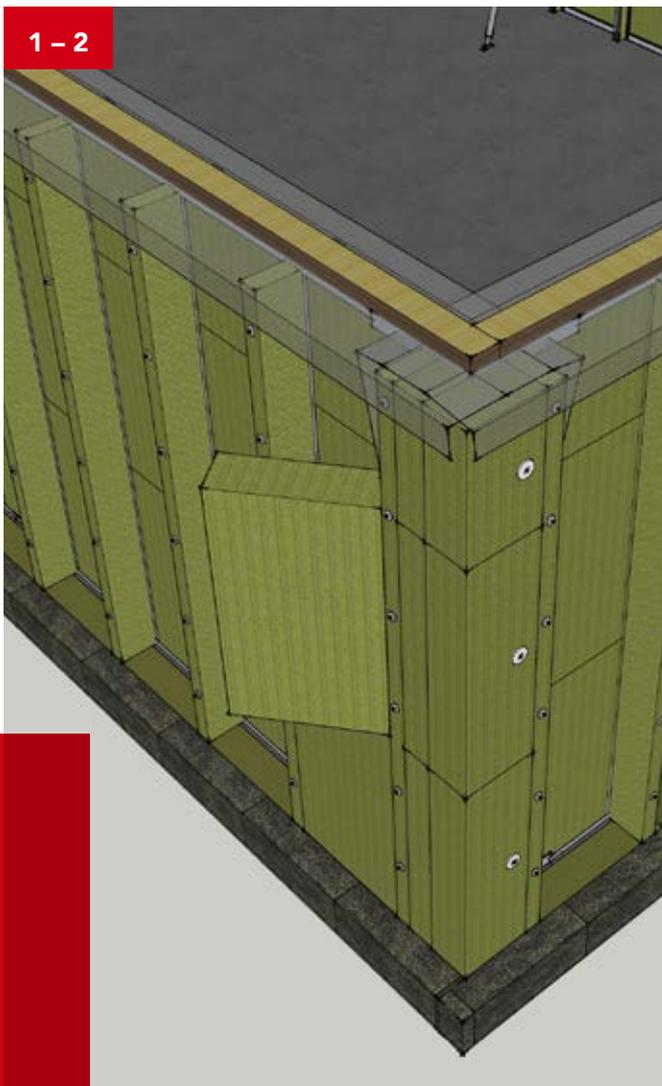
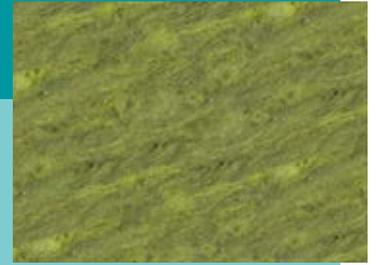
Fasten insulation above openings into wooden lintels.

## Materials:

- Infill (outer)
- Self-tapping screw 4,8 x 210

## Tools:

- Folding rule
- Insulation knife
- Cordless drill



# 12 Rain screen

Brick wall (DPC)

## Step 1:

Cut an approx. 5 cm deep groove in the Infill (outer) (incl. outer spacers) with a circular saw along the entire façade (min. 20 cm above foundation, at approx. 15° above the horizontal).

## Step 2:

Fold the DPC (approx. 40 cm wide) over a plastic filling knife.

## Step 3:

Push the DPC into the groove with the plastic filling knife.

## Step 4:

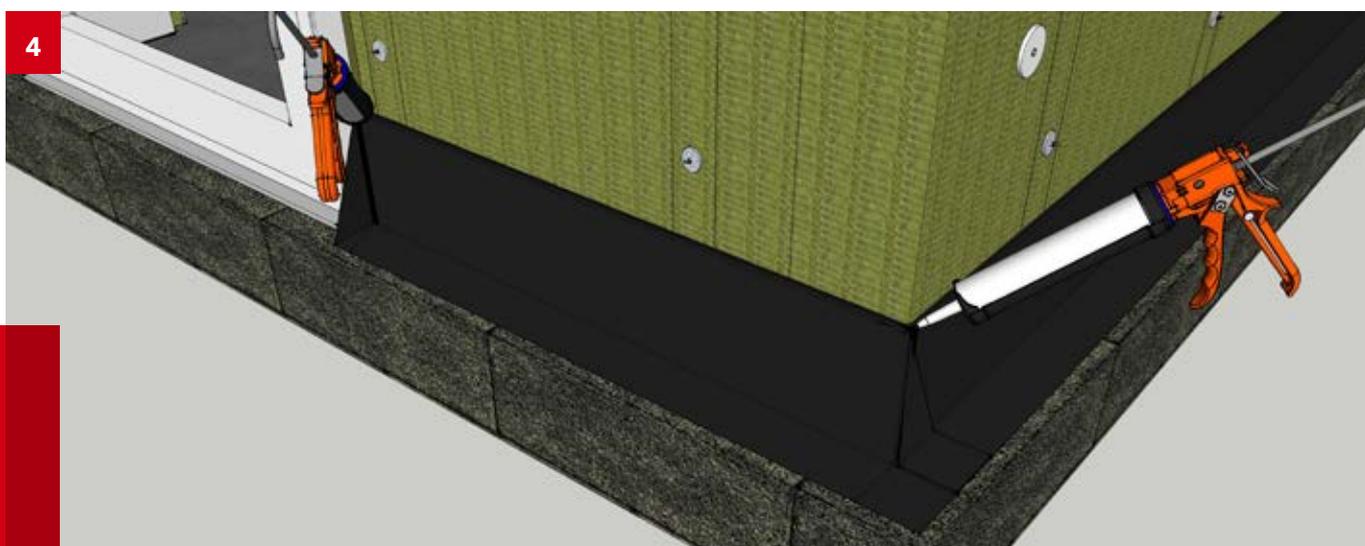
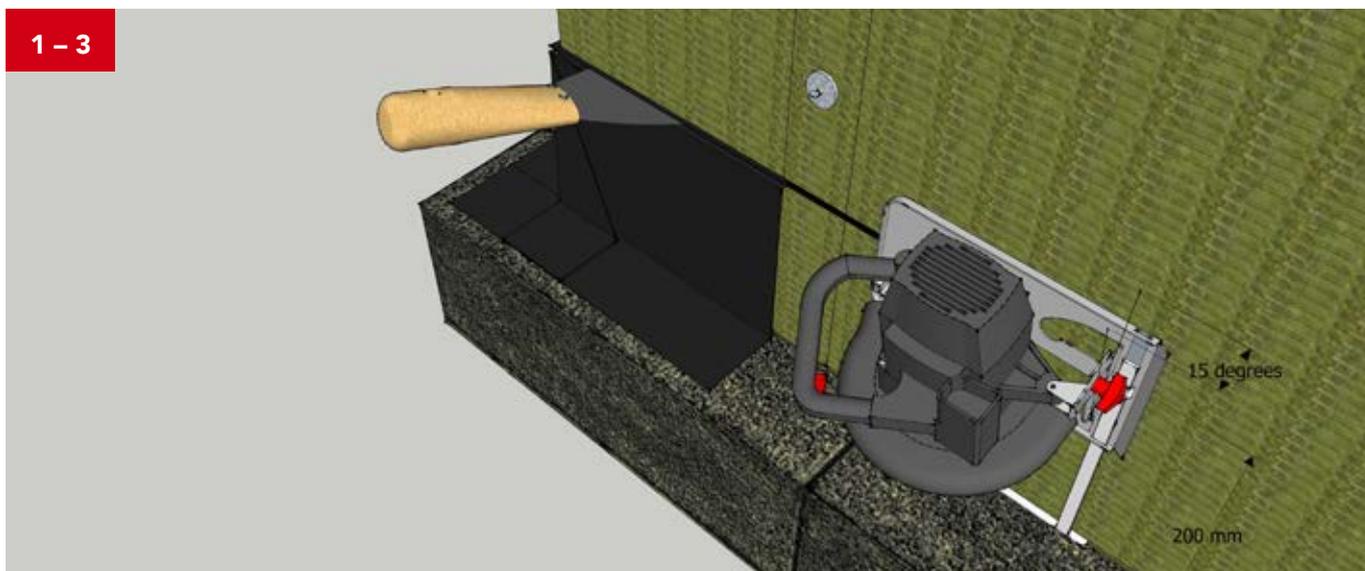
Glue joints with a suitable adhesive. This applies to all joints between membrane parts, in corners and at openings.

## Materials:

- DPC

## Tools:

- Circular saw
- Plastic filling knife
- Knife



# 12 Rain screen

Brick wall (wall ties)

## Materials:

- Wall tie

## Tools:

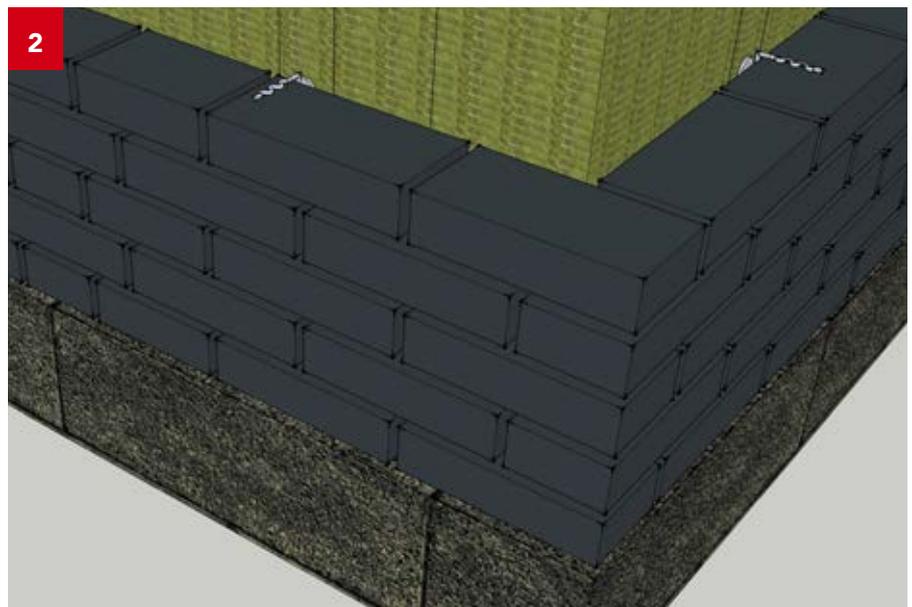
- -/-

### Step 1:

Set wall ties in all receiving counterparts in outer spacers.

### Step 2:

Wall ties can be mounted from above or from below depending on the position of the bed joint.



# 12 Rain screen

Lightweight cladding

## Materials:

- Not part of Rockzero delivery

## Tools:

- Acc. to manufacturer's instructions

### Step 1:

External lightweight cladding is mounted to steel channels on outer spacers.

### Step 2:

Please follow directions of the manufacturer/supplier of the external cladding for correct installation.



# 13 Party wall

## Installation

### Step 1:

Rockzero party walls are installed in (almost) the same way as an external wall. The major difference is in the use of inner spacers and lining.

### Step 2:

Place bottom U-profiles with sealant on foundation/floor, see page 8ff.

### Step 3:

Install column brackets according to the bracket plan, see page 12ff.

### Step 4:

Install columns and insulation (core), see page 18ff.

### Step 5:

Install top U-profile and wall plate on top, see page 20ff.

### Step 6:

Build openings as described on page 24ff.

### Step 7:

Mount OSB4 board on the side without inner spacers, see page 27. OSB4 boards must be continuous, joints in front of columns must be airtight. Seal with tape to OSB4 lining on the external walls.

### Step 8:

Screw free inner spacers to the OSB4 lining as a base for the internal dry lining, see page 34.

### Step 9:

Place Infill (inner) on both sides of the wall, see page 35.

### Step 10:

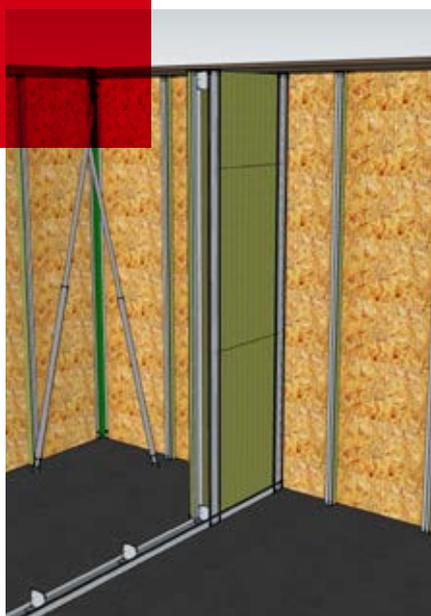
Mount the internal dry lining. Please follow design demands of the project to comply with the number of layers on either face.

## Materials:

- Column without ext. spacer
- Inner spacer (free)
- Bottom U-profile
- Insulation (core)
- Infill (inner)
- Butyl sealant
- Bituminous felt
- Nail plug 5 x 50
- Column bracket
- Concrete bolt 10 x 75
- Self-tapping screw 5,5 x 45
- Connector sheet
- Self-tapping screw 4,2 x 19
- Column bracket wedge
- Self-tapping screw 5,5 x 100
- Self-tapping screw 4,1 x 49 (OSB4)
- Push-pull prop
- Concrete bolt 10 x 60
- PE membrane
- Airtight tape
- Self-tapping screw 4,8 x 90
- Glulam (wooden stud)
- Wood (lintel)
- Wood (wall plate)
- OSB4 board

## Tools:

- Miscellaneous (see previous sections)



# Notes

# Notes



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