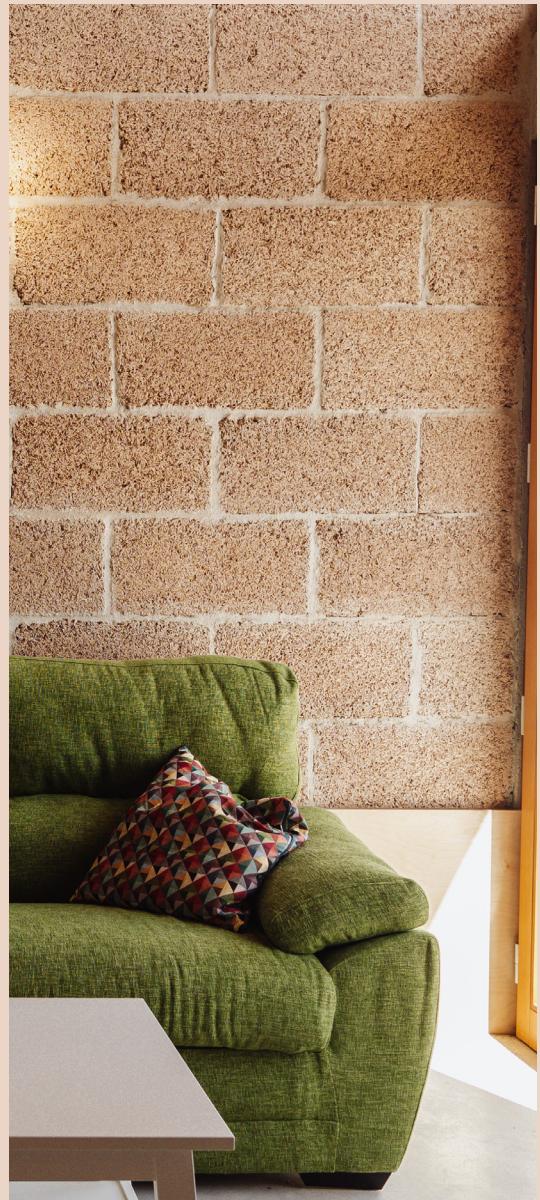
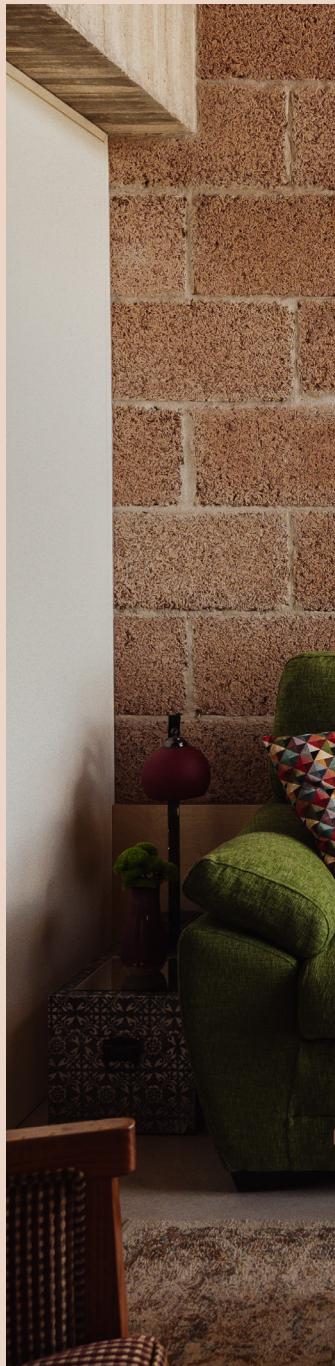


**CÂNHAMOR**  
ECOblocks® Ibérica



# ECOblocks

# Application Manual

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### Cânhamor

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Sustainability in construction is often linked to higher costs and greater complexity. Due to the extraordinary features of hemp, **Cânhamor makes truly sustainable construction and lifestyle easy and accessible for everyone.**

## 2| Key Features

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Guide made in partnership with *Natura Matéria*

# Cânhamor

Our carbon negative hemp blocks are made with natural and sustainable raw materials. In comparison to conventional construction, **ECOblocks offer a higher quality and better performance at a lower cost – in both the short and the long term.**

**Greater comfort and a more sustainable life is now available for everyone.**



Hemp ECOblocks offer a high grade of **thermal, acoustic and fire resistance**. ECOblocks are **breathable**, therefore **they solve damp issues**, improving both air quality and well-being.

Furthermore, they are:

**Natural**

**Sustainable**

**100% nationally manufactured**

Hemp blocks are an **innovation in the construction industry** in the Iberian Peninsula, **combining sustainability with efficiency**. All of this at a **very competitive price**. And they are not more expensive than the traditional solutions!

This manual is intended to guide professionals in the construction sector on how to use ECOblocks. This guide must never replace professional reference standards or best practices that guarantee the proper construction. **Câñhamor's technical team supports you in all stages of hemp block implementation of your project, from planning to completion.**

#### ECOblock7 and ECOblock11

- Insulation of pre-existing walls
- Roofing
- Flooring

#### ECOblock15

- Inside walls
- Outside walls (wood/metal structures)
- Semi-detached walls
- Roofing
- Flooring

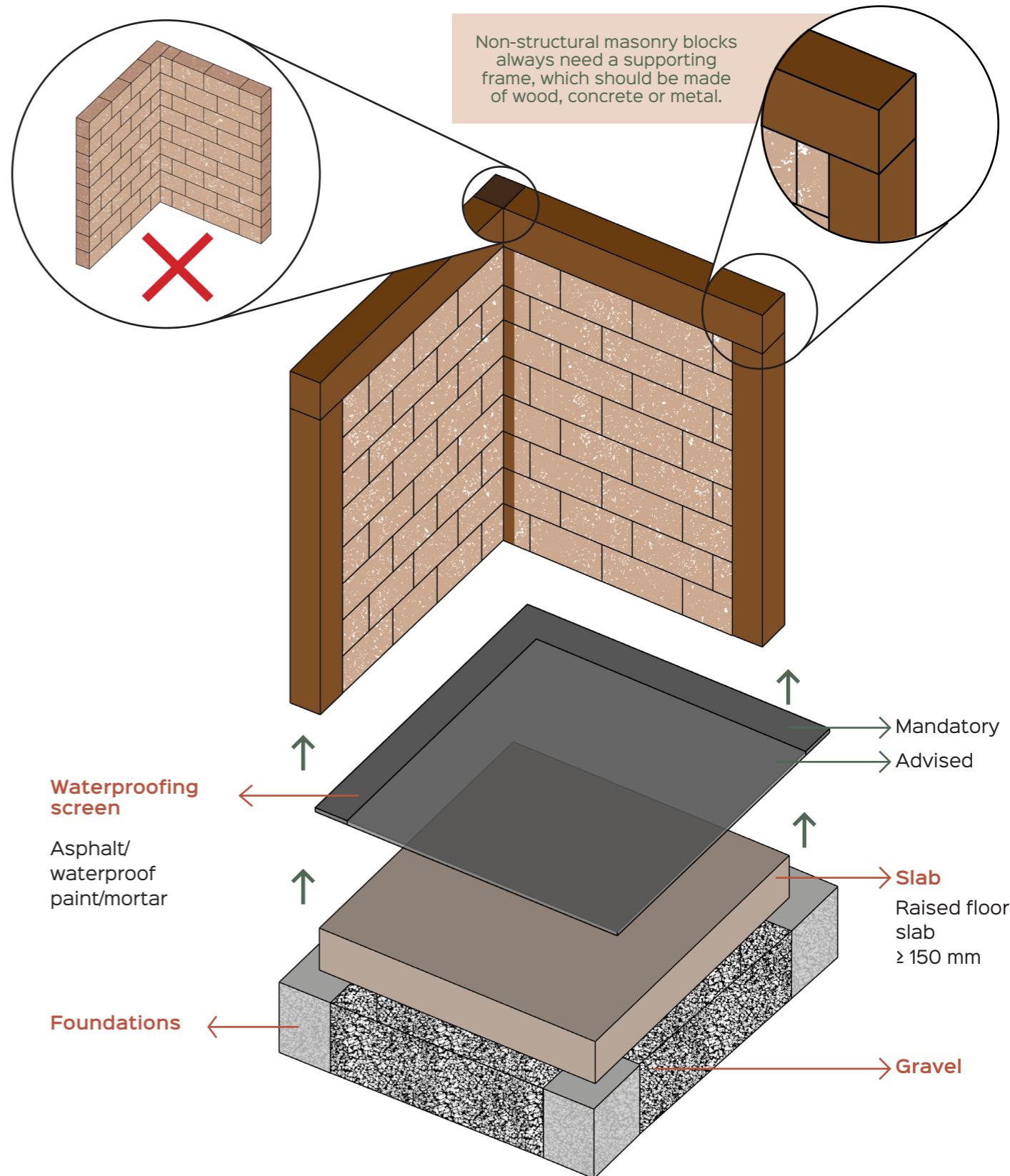
#### ECOblock20, ECOblock25, ECOblock28.5 and ECOblock32

- Outside walls
- Semi-detached walls
- Flooring



# Foundations and Structure

To guarantee the quality of construction, whether using ECOblocks or other building materials, the following rules must be applied:

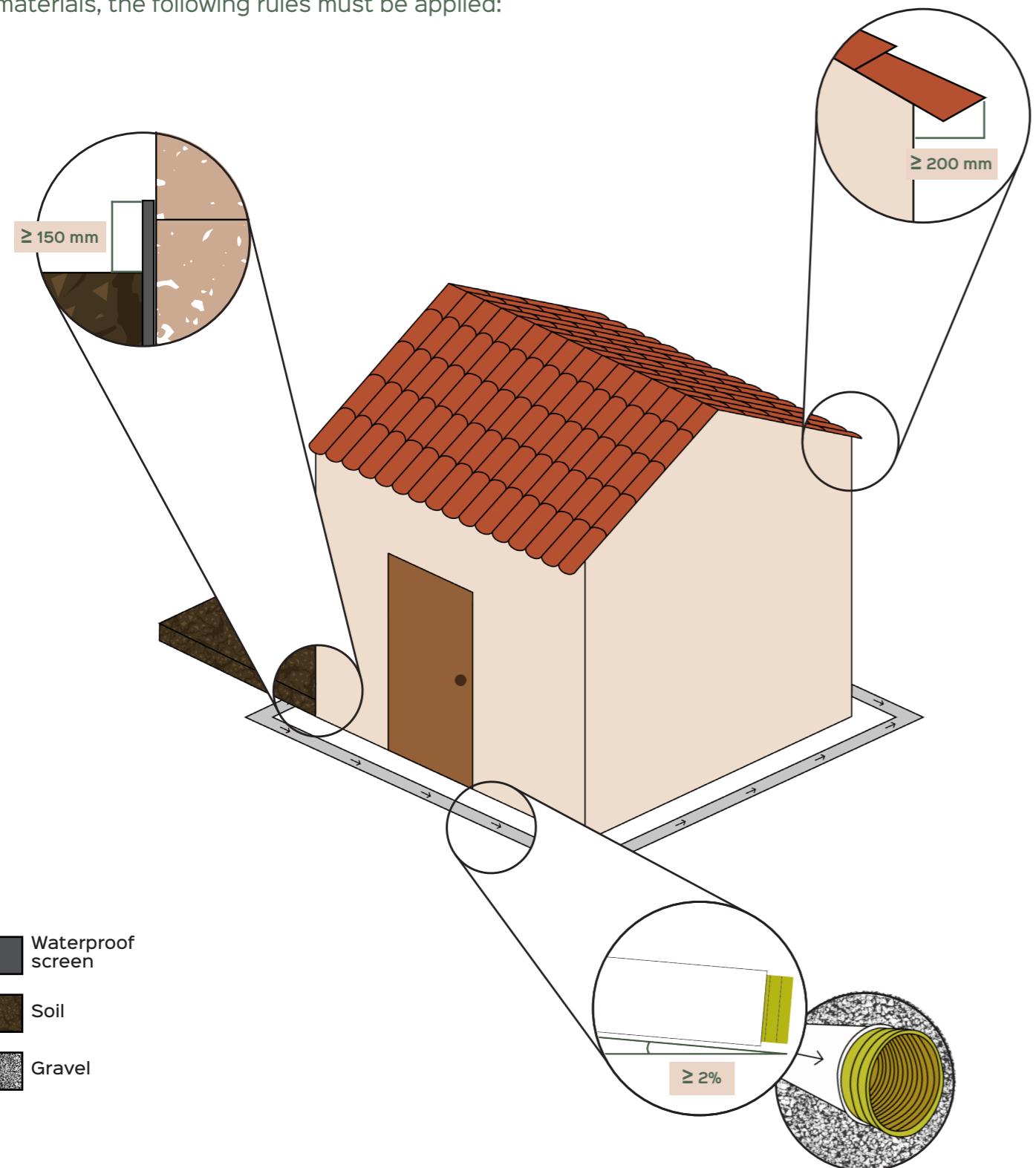


# Prevention of Water Infiltration and Damp

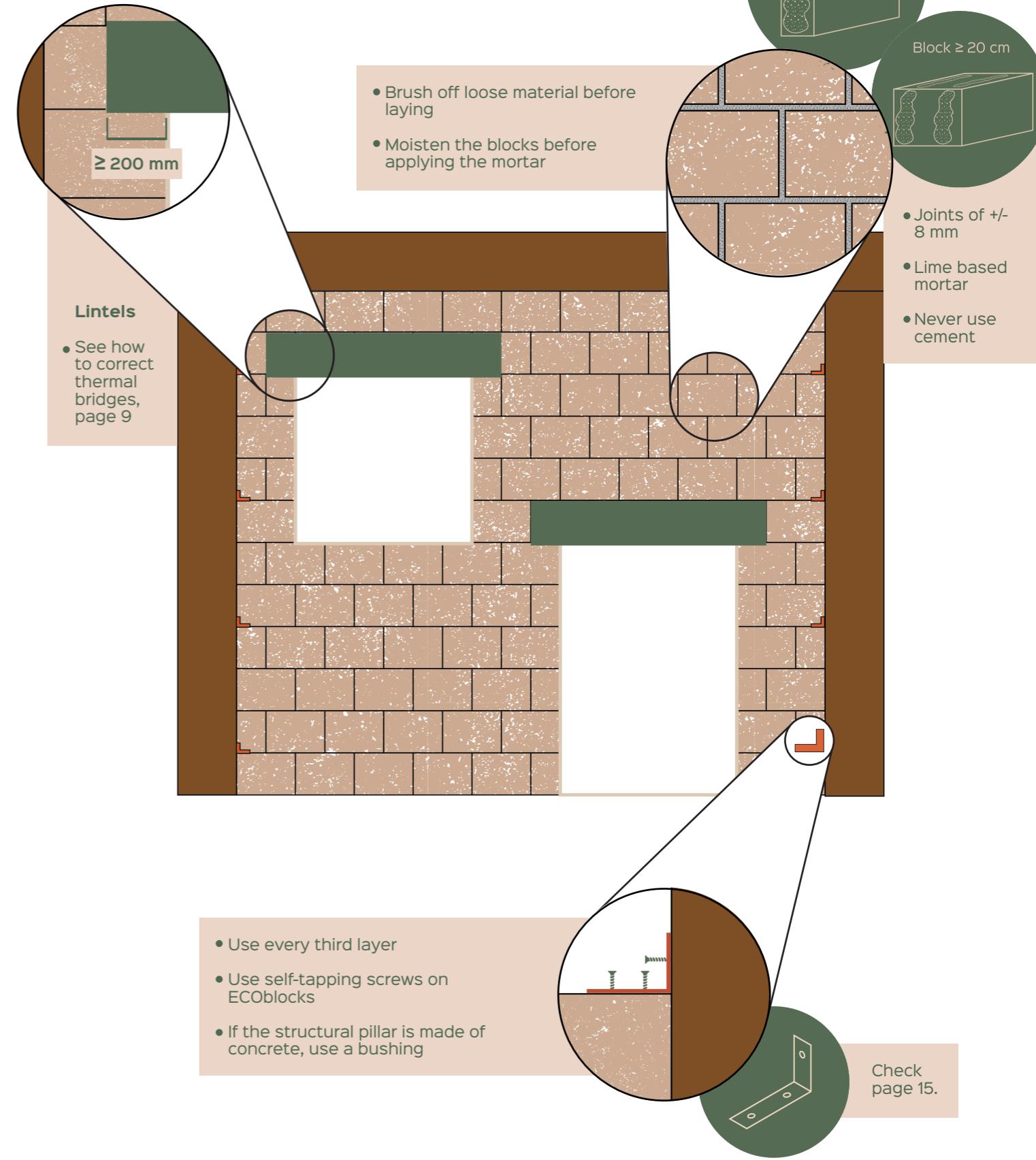
During construction work, ECOblocks should be stored in a well-ventilated indoor environment.

**Important: Always start building works on the roof, ensuring it is well waterproofed.**

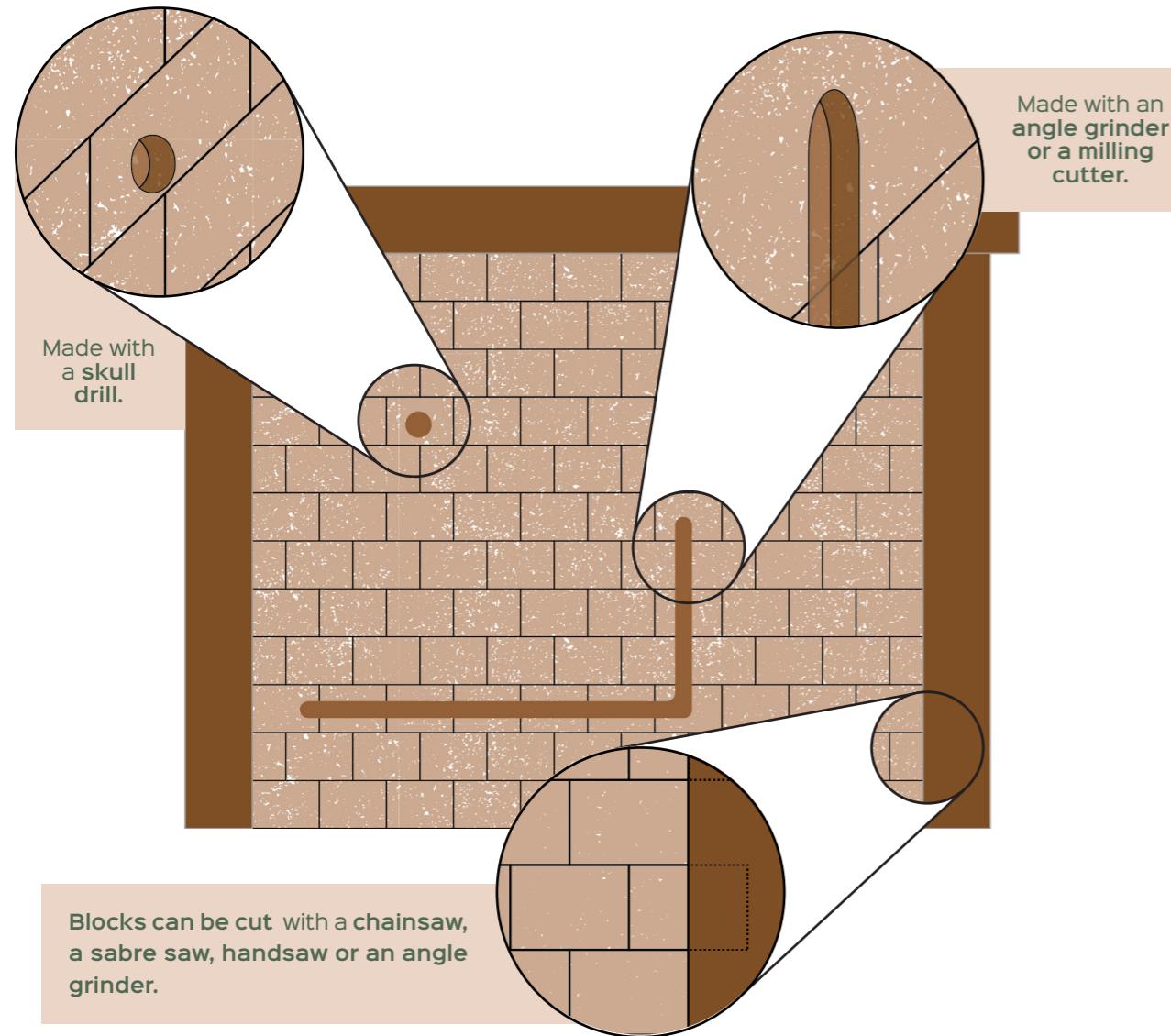
To guarantee the quality of construction, whether using ECOblocks or other building materials, the following rules must be applied:



# Application



# Grooves



The waste generated can be reused by filling gaps.

Attention, **always maintain the ration of: 4 parts shavings to 1 part mortar, plus the amount of water needed.**

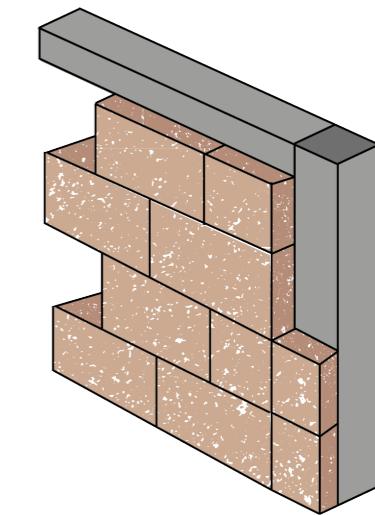
As an alternative, you can use the waste as fertilizer.

When making **grooves**, do not drill or cut the blocks more than 40% of their depth. To make **thermal liners** use **ECOblock7** or **ECOblock11**.

# Correction of Thermal Bridges

## Concrete or Metal Structure

Used when thermal bridge correction is mandatory whether with blocks or other insulation materials.



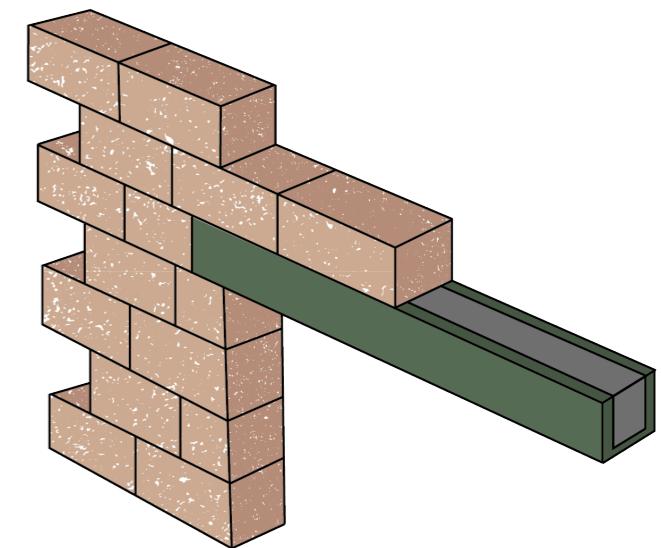
## Wood Structure

Used when flat thermal bridge correction is not required.

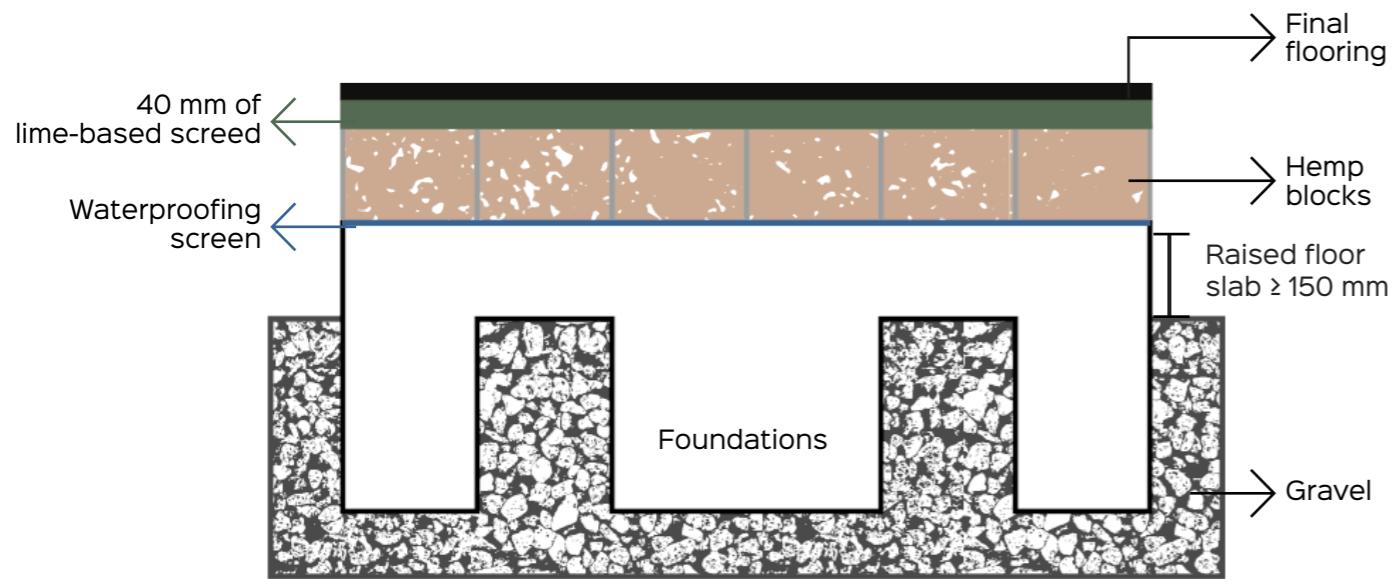


## Lintel Spans

- **Wood lintel:** may have just one beam
- **Concrete or metal lintel:** needs thermal bridge
- **Prefabricated lintel:** has concrete core: correction of thermal bridge achieved with hemp concrete



# ECOblocks in Flooring

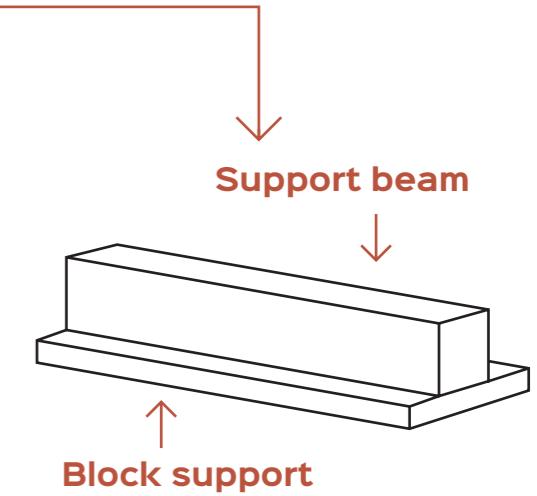
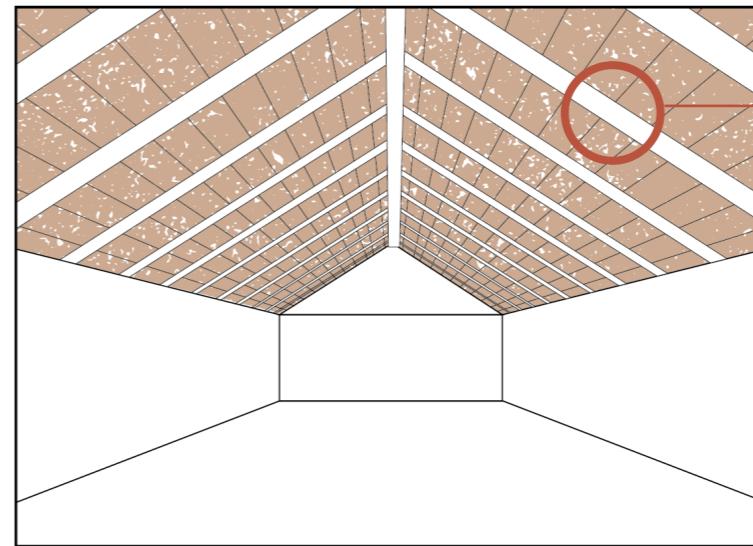


**There is no need to use mortar between the blocks.**

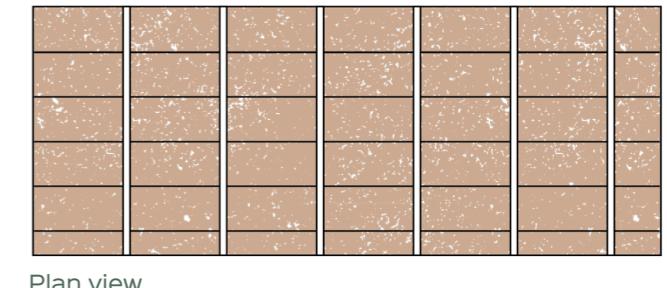
If the surface area is greater than 15 m<sup>2</sup>, expansion joints between screed slabs must be considered.

If the **foundations/slabs** are **poorly levelled/irregular**, it might be necessary to use a **levelling screed** between the foundations/slabs and the waterproofing screen.

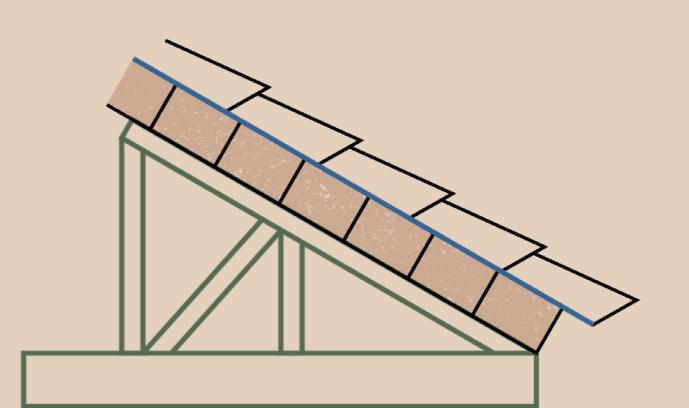
# Roofing



- To avoid leaks, use a thin layer of mortar on only the exterior surface of the joints, between the blocks.
- If you use **ECOblock7** or **ECOblock11**, you will need an airbox with at least 30 mm or 20 mm, respectively.
- You will need a structure to place the blocks on a support beam.
- Considerations regarding the weight of the blocks/strength of the structure have to be analysed on a case-by-case basis, using a structural engineer and Cânhamor's technical support.
- The exterior plane of the blocks should be protected with tiling.
- Ensure that tiles are correctly laid to avoid water infiltration.

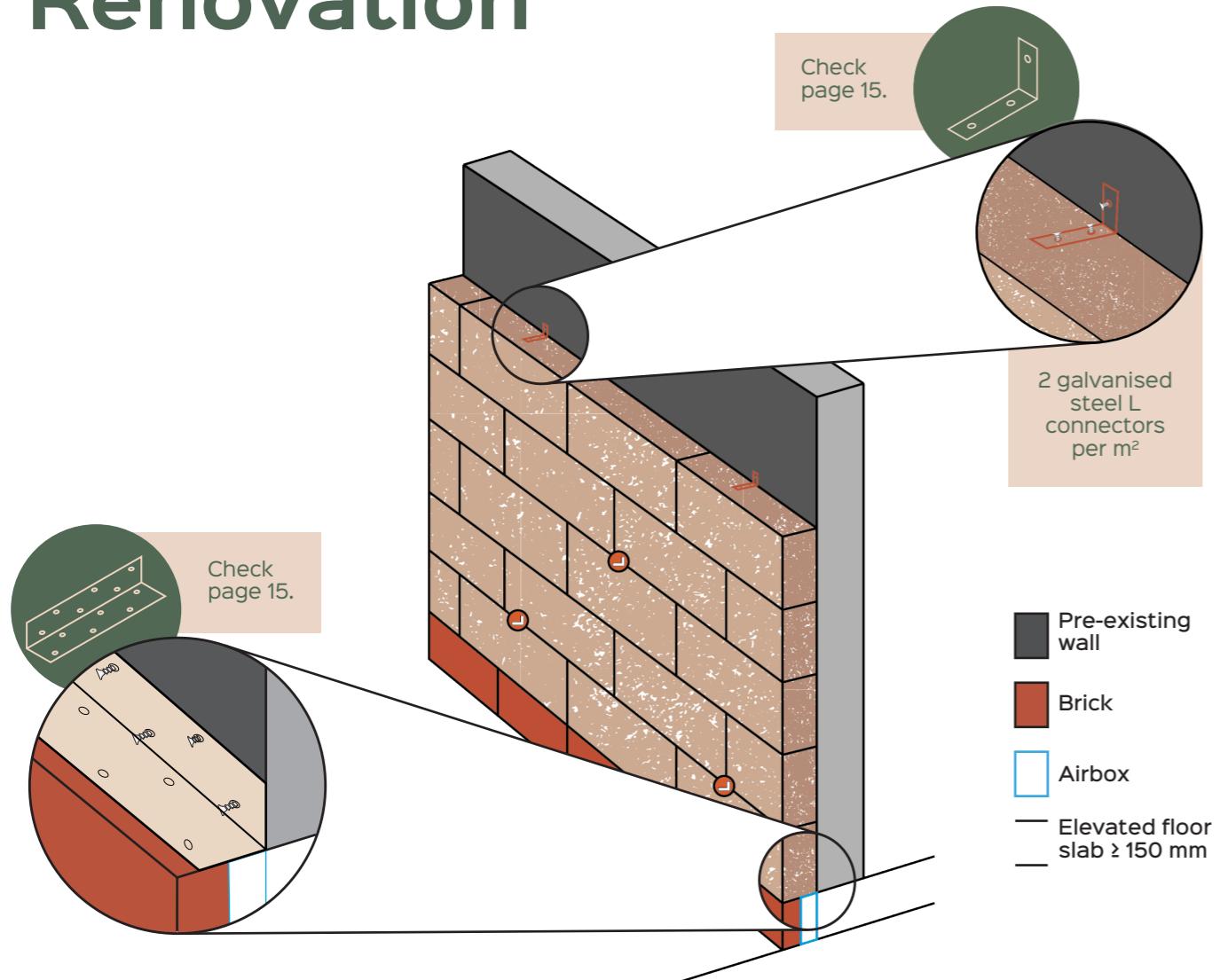


Plan view



Blue line: Breathable membrane. Green line: Wooden support frame.

# Renovation



Ensure that the **pre-existing wall** is structurally **solid**.

Use **lime-based mortar** for **extra reinforcement** between the pre-existing wall and the blocks.

**Ensure that there is a minimum level of flatness/alignment of the pre-existing wall** with some roughness, so that the mortar between the blocks and the wall has a good surface for adhesion.

If you use **ECOblock7**, you will need a **brick 40 mm thick and a 30 mm airbox**. If you choose **ECOblock11**, you will need a **brick 70 mm thick and a 40 mm airbox**.

Ensure that the supports (galvanized steel L-connectors and support rails – see page 15) are as well fixed as possible to the pre-existing wall. Use the materials (screw, bushing/chemical bushing) that best suit the pre-existing wall.

**If you plan to build walls higher than 4.5 metres**, please contact Cânhamor's technical department.

For walls lined on the inside, use the same method, except that there is no need for starter rails as the blocks can be supported directly on the interior floor.

# Finishings and Load Securing

## Finishings

**Exterior plastering is mandatory.**

**On the inside it is optional, but it is recommended.** In case of any doubts please contact Cânhamor's technical support.

Before plastering, you must **wait at least 14 days** to ensure that the mortar sets between the blocks.

Ensure that the **blocks are always moist before plastering**.

In the days following application, especially if these are very hot days, we recommend moistening the plaster to prevent it from drying too quickly.

**The thickness of the block will depend on the supplier you choose** (check the finishings sheets). The fibreglass mesh inside the plaster gives it greater strength and flexibility. This mesh is placed in the middle of the final thickness of the plaster, never against the ECOblocks.

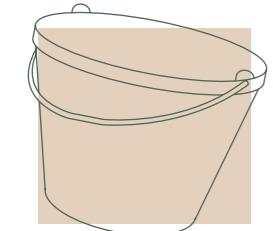
In the areas where the wooden eaves come into contact with the plaster, always leave a margin of a few millimetres (3-5 mm), filling it with silicone to avoid tensions causing cracks in the plaster.

## Securing Loads

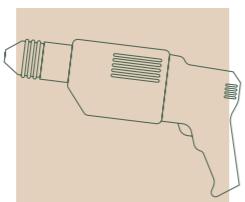
**You can use specific screws, but if that's not possible, we offer conventional alternatives.** You can see our suggestions on page 15.

In cases where you might have a higher load (suspended toilets, for example), we suggest creating a **wooden or concrete framework/structure** to distribute the weight evenly over several fixing points and a larger area.

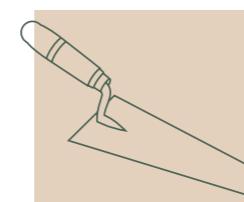
# Required Tools



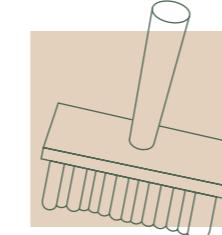
Bucket



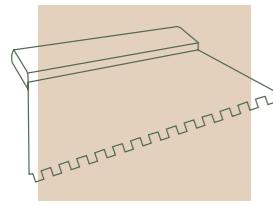
Drill



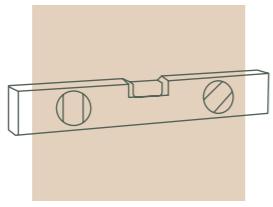
Trowel



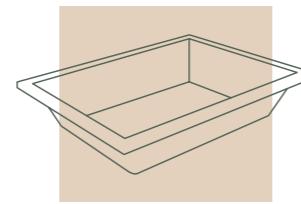
Brush



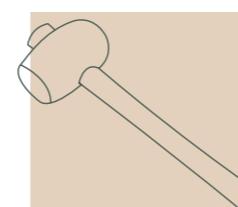
Notched spatula



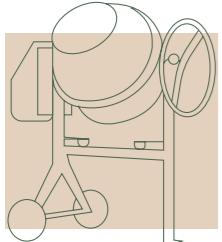
Spirit level



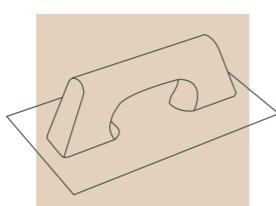
Trough



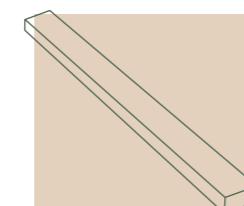
Rubber mallet



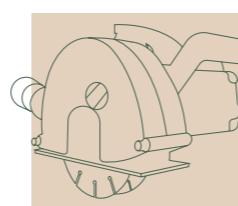
Cement mixer



Plastering trowel

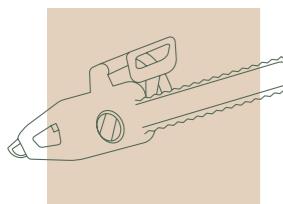


Plastering ruler

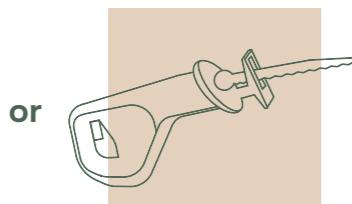


Milling cutter

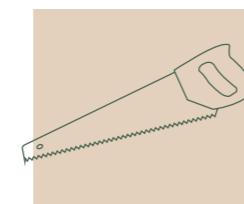
or



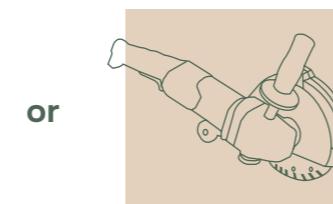
Chainsaw



Sabre saw



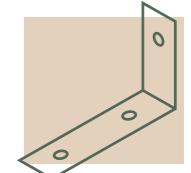
Handsaw

Angle Grinder  
(big or small)

# Technical Information

## L Connector: galvanised steel

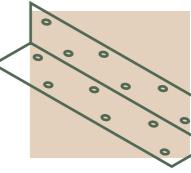
Attaching ECOblocks to pre-existing pillars/walls.



Length (mm)	Width (mm)	Height (mm)	Bore Diameter (mm)
70	25	50	8

## Support/Starter rail

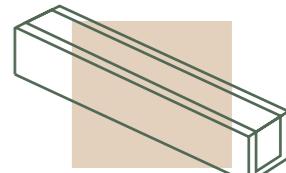
Starter rail to prevent rising damp and support the weight of the wall.



Weight of the rail (kg)	Length (mm)	Width (mm)	Height (mm)	Bore Diameter (mm)
5,7	1200	100	100	10
4,56	1200	60	100	10

## Lintels

For doors and windows. For other lintel lengths please contact our technical team.



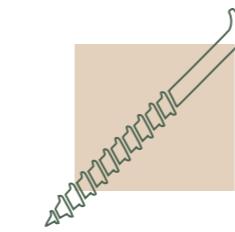
Thickness (mm)	Weight kg)	Height (mm)	Lintel length (mm)	Lintel span length (mm)
90	42	200	1600	1200
120	46	200	1600	1200
150	68	200	1600	1200
200	92	200	1600	1200
250	100	200	1600	1200
300	107	200	1600	1200

## Securing Loads

Fixing loads and permitted weights per fixing point.

## Specific screws

Diameter (mm)	Length (mm)	Pullout strength (kg)	Supported weight (kg)
6	100	18	26
8	160	34	37



## Conventional Alternatives

	Anchoring depth (mm)	Width (mm)	Supported weight (kg)
Direct Screw	≥ 70	6	≤ 5
Screw + plastic bushing *	≥ 70	8	≤ 25
Screw + chemical bushing	≥ 100	8	≤ 50

\*sizes are related to the Fischer Duopower bushing.



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[www.canhamorhemp.com](http://www.canhamorhemp.com)

