



INSTALLATION MANUAL
WOOD SUBSTRUCTURE

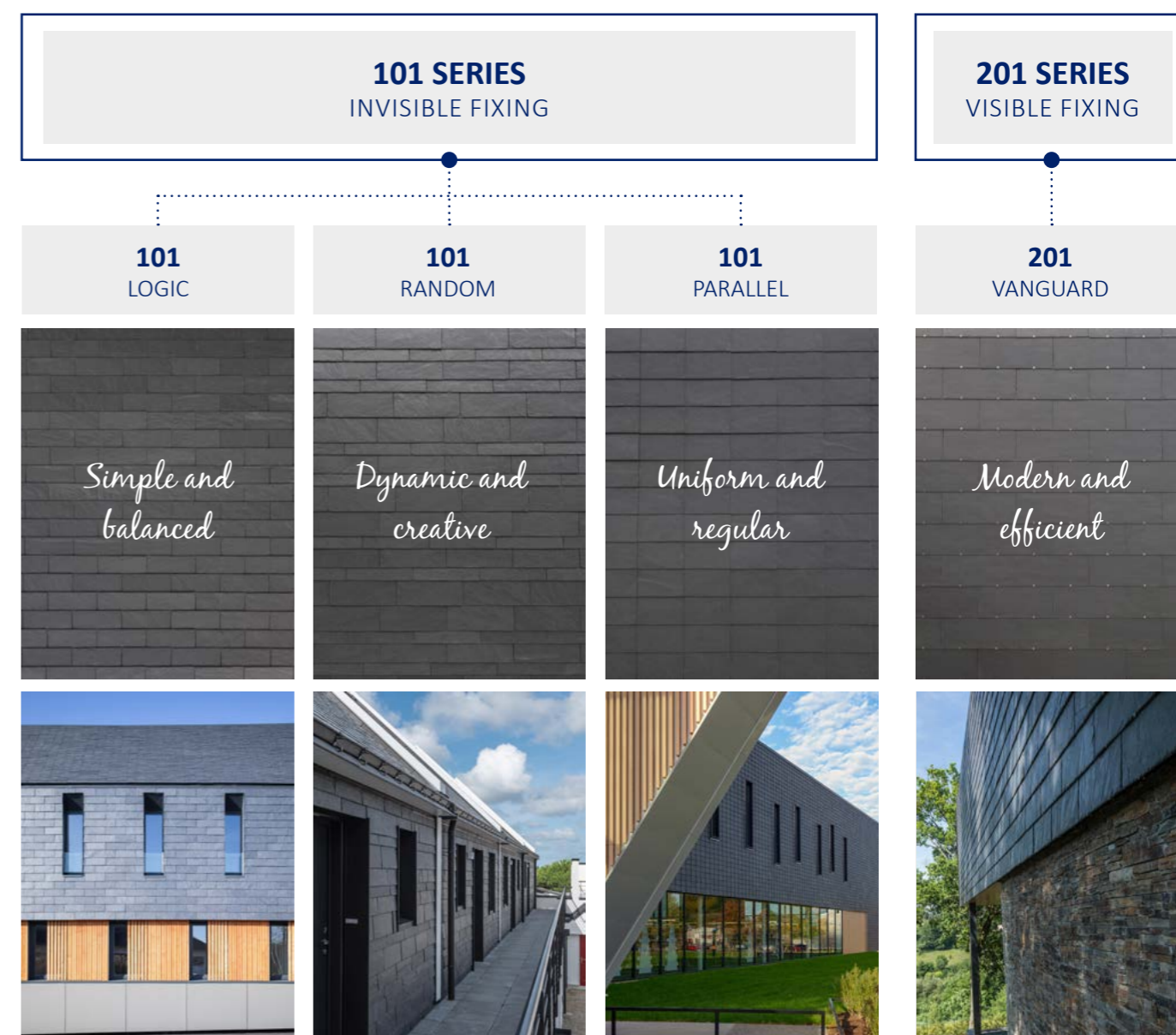
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/ CUPACLAD® SYSTEMS

The CUPACLAD® rainscreen cladding systems have been developed from the necessity of adapting natural slate to new architectural trends and styles that demand a more sustainable approach. The slate used in our systems is a natural product carefully selected for its durability and high performance from our 16 quarries. The CUPACLAD® systems combine the efficiency of ventilated cladding and the properties of natural slate offering a competitive and sustainable alternative for all cladding requirements.

The CUPACLAD® range offers a number of alternatives guaranteeing a perfect adaptation for a variety of projects. The fasteners used for the CUPACLAD® systems have been developed following an in-depth design process to ensure a quick and easy installation. CUPACLAD® offers a new world of design possibilities using natural slate.

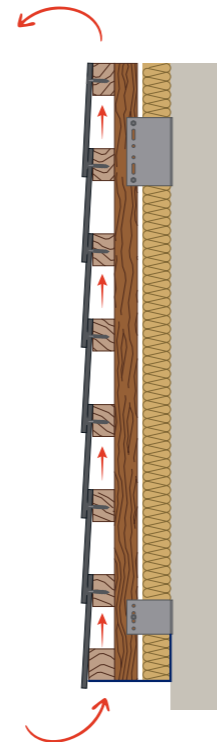


/ VENTILATED FACADE

Ventilated façade is now considered the most efficient constructions system for envelope purposes. The combination of a ventilated system together with an insulation system gives numerous advantages in terms of thermal and acoustic properties. It avoids thermal bridges and condensation issues.

The rainscreen cladding system consists of a load bearing wall, a layer of insulation and a covering material fixed to the building with the help of a supporting structure. This system creates a gap between the insulation and covering material called an air cavity.

For optimum performance the system must allow constant air circulation through the cavity creating a natural convection process. Warm air inside the cavity is lifted and released to the exterior resulting in a continuous ventilation cycle. This so called “chimney effect” is one of the advantageous characteristics of a rainscreen cladding.

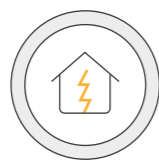


MAIN ADVANTAGES_



ELIMINATION OF HUMIDITY

Rainwater penetration is greatly reduced, and any moisture is removed through the constant ventilation, reducing the risk of any condensation.



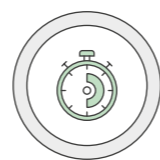
STRUCTURAL MOVEMENT REDUCTION

The air cavity avoids temperature variations resulting in less pronounced structural movements. This reduces the risk of cracks and other structural issues.



COST SAVINGS

Thermal efficiency is increased due to the cooling effect in summer and greater heat retention in winter.



DURABILITY

The cladding material is kept dry due to continuous ventilation. Many issues related to humidity (efflorescence etc...) are reduced resulting in a longer life span of the installation.

To know more about the advantages of the ventilated façade: ‘What is a rainscreen cladding system and what are the advantages?’ Blog CUPA PIZARRAS: <https://www.cupapizarra.com/uk/news/what-is-rainscreen-cladding-advantages/>

/ CUPACLAD® SYSTEM COMPONENTS

1 SYSTEMS

CUPACLAD® 101 LOGIC SYSTEM_



COMPONENT	CHARACTERISTIC
SLATE 	<p>Slate size: 400x200 / 500x250 mm</p> <p>Nominal thickness: 7,65 mm</p> <p>Slates per m²: 16,7 / 10</p> <p>Weight per m² (slate): ≤30 kg/m²</p> <p>Overlap (vertical): 50 mm</p>
SELF-DRILLING CUPACLAD®101 SCREW 	<p>Length: 38 mm</p> <p>Diameter: 4,80 mm</p> <p>Material: Stainless steel A4</p> <p>Head diameter: 12 mm</p>

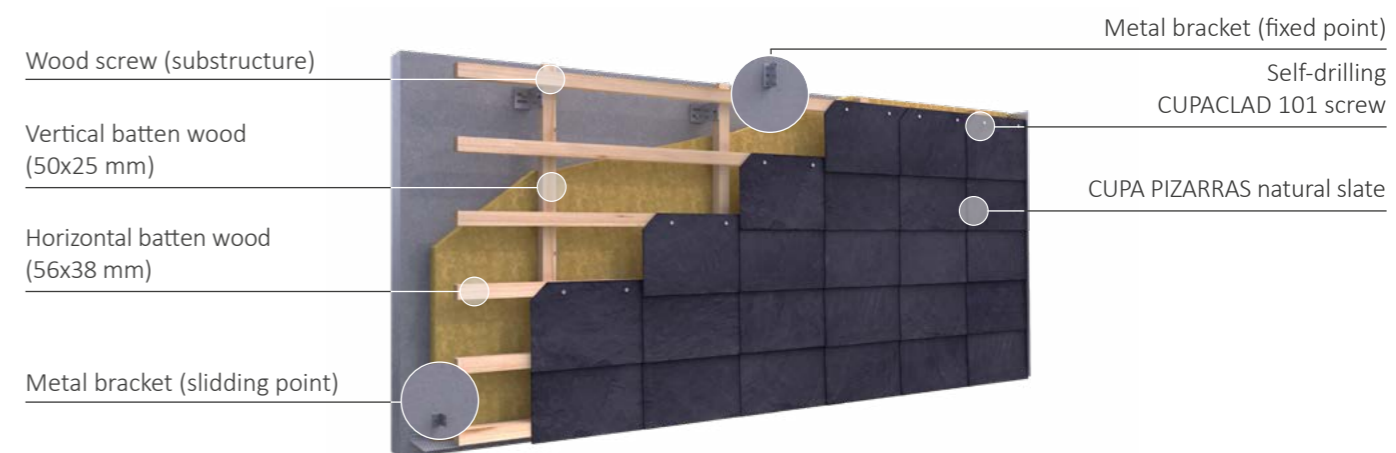
/ CUPACLAD® SYSTEM COMPONENTS

CUPACLAD® 101 RANDOM SYSTEM_



/ CUPACLAD® SYSTEM COMPONENTS

CUPACLAD® 101 PARALLEL SYSTEM_



COMPONENT	CHARACTERISTIC
<p>SLATE</p>	<p>Slate size: 500x250 mm 500x200 mm 500x150 mm</p> <p>Nominal thickness: 7,65 mm</p> <p>Slates per m²: ± 15</p> <p>Weight per m² (slate): ≤30 kg/m²</p> <p>Overlap (vertical): 50 mm</p>

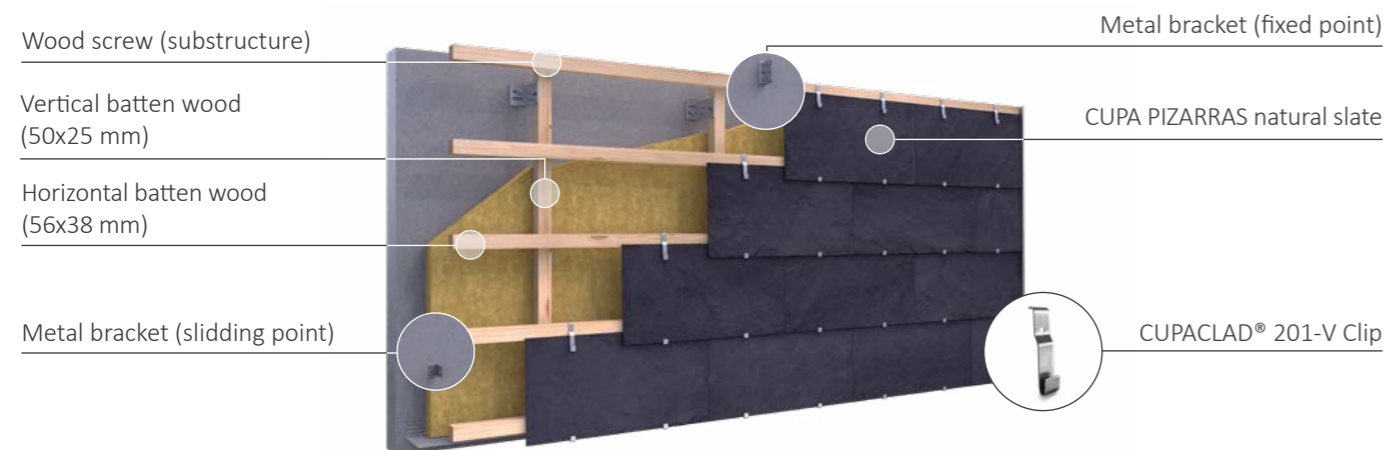
COMPONENT	CHARACTERISTIC
<p>SLATE</p>	<p>Slate size: 400x250 mm</p> <p>Nominal thickness: 7,5 mm</p> <p>Slates per m²: 14,3</p> <p>Weight per m² (slate): ≤30 kg/m²</p> <p>Overlap (vertical): 50 mm</p> <p>Overlap (horizontal): 50 mm</p>

<p>SELF-DRILLING CUPACLAD®101 SCREW</p>	<p>Length: 38 mm</p> <p>Diameter: 4,80 mm</p> <p>Material: Stainless steel A4</p> <p>Head diameter: 12 mm</p>
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<p>SELF-DRILLING CUPACLAD®101 SCREW</p>	<p>Length: 38 mm</p> <p>Diameter: 4,80 mm</p> <p>Material: Stainless steel A4</p> <p>Head diameter: 12 mm</p>
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/ CUPACLAD® SYSTEM COMPONENTS

CUPACLAD® 201 VANGUARD SYSTEM_



COMPONENT	CHARACTERISTIC
SLATE 	Slate size: 600x300 mm Nominal thickness: 7,5 mm Slates per m²: 6,4 Weight per m² (slate): ≤25 kg/m ² Overlap (vertical): 40 mm

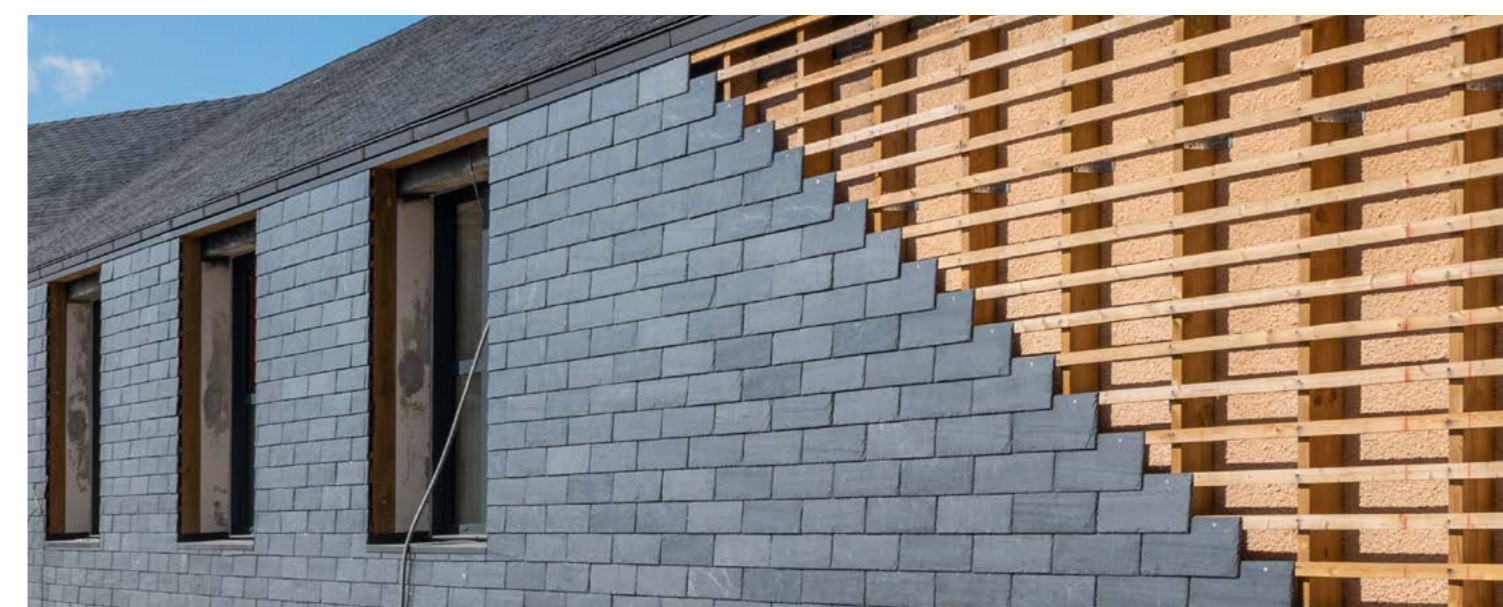
SCREW FOR CLIP 	Length: 30 mm (l) Diameter: 4 mm (d) Material: Stainless steel A4 Head diameter: 8 mm (dk)
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CLIP 	Length: 79 mm Width: 15 mm Thickness: 1,5 mm Material: Stainless steel A4
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/ CUPACLAD® SYSTEM COMPONENTS

2 SUBSTRUCTURE

COMPONENT	CHARACTERISTIC
SLIDING POINT METAL BRACKET 	Length: 75-250 mm Width: 40 mm Height: 60 mm Thickness: 3 mm Material: 6060-T6
FIXED POINT METAL BRACKET 	Length: 75-250 mm Width: 40 mm Height: 120 mm Thickness: 3 mm Material: 6060-T6

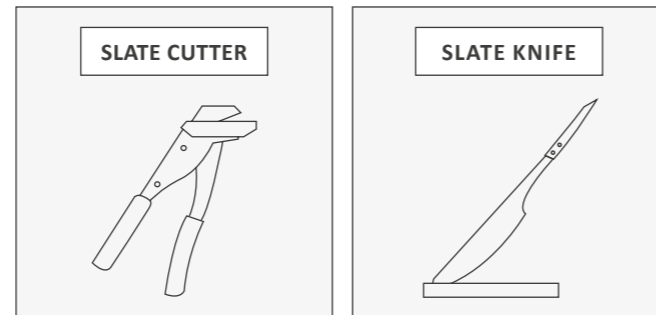


/ CUPACLAD® TOOLS

The following tools are required to perform the CUPACLAD system installation:

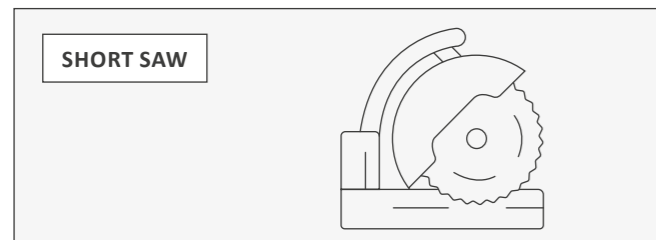
• SLATE CUTTER

The slates may be cut on site using a manual cutter to create corners and detailing. Extra care must be taken when handling the slates.



• SHORT SAW

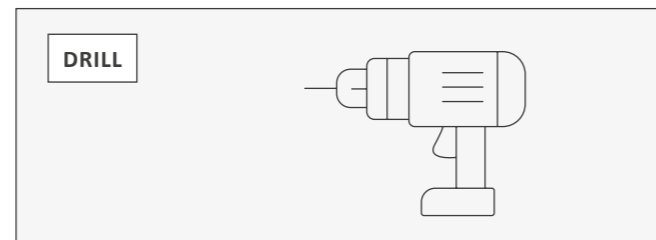
Short saw or circular saw to cut vertical battens, horizontal battens and flashings.



• DRILL (WITH TORQUE LIMITING COUPLING)

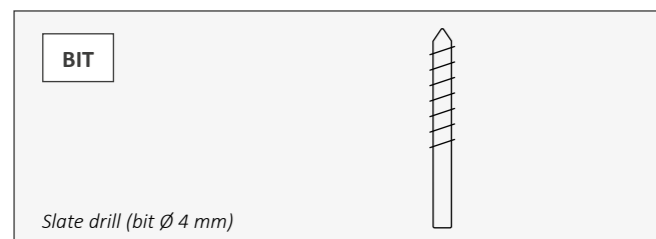
All fixings must be installed using a torque.

*See next document, for further details: Machining Instructions



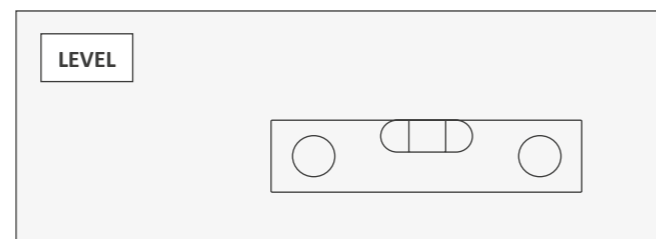
• BIT FOR DRILLING SLATE / FIXING SLATE

If needed, slates can be drilled according to the recommendations detailed in document "Machining instructions".



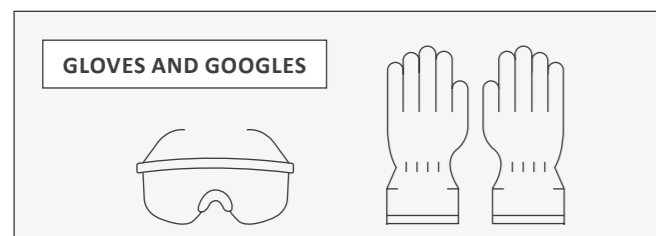
• LEVEL OR A LASER METER

A level or a laser meter must be used to verify that the metal substructure is correctly plumbed.



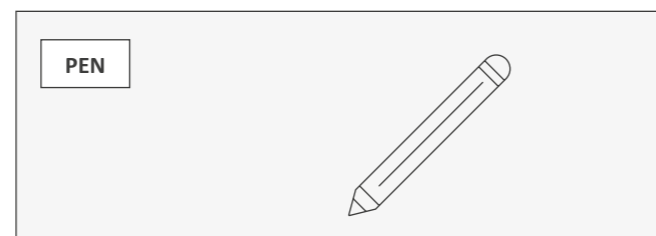
• GLOVES AND GOOGLES

Protective gloves and goggles must always be used.



• PEN

A pen can be used to mark the slate pieces.



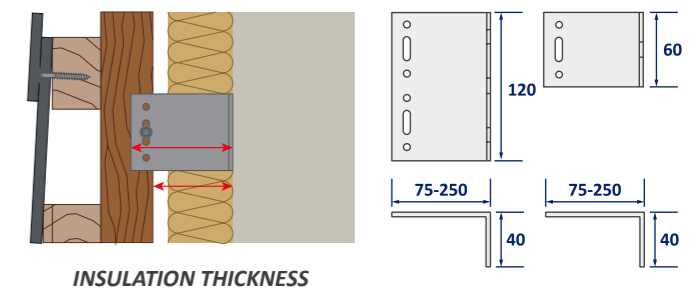
/ CUPACLAD® FIXING METHOD

SUBSTRUCTURE

The secondary substructure installation is common for all systems. That means, the installation of brackets and vertical batten.

1 METAL BRACKETS

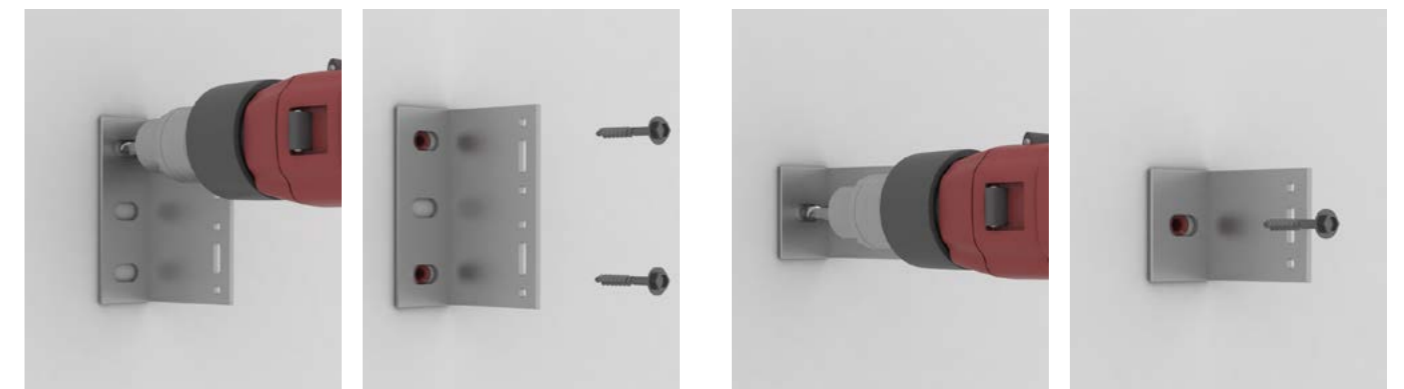
Metal brackets are required for fixing the vertical batten to the supporting wall. This allows adjustment of the distance between the substructure and the supporting wall to compensate for any irregularities and allowing the use of an insulation material behind the air cavity if specified. The **dimension** of the **metal bracket** will depend on the **thickness of the insulation** material to be installed in each case.



Two kind of brackets must be used in order to achieve optimal installation:

• **Fixed point bracket:** should be secured to the solid structure of the building in order to resist vertical weight and horizontal wind loads.

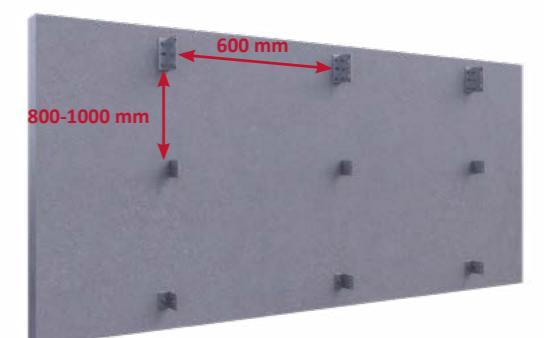
• **Sliding point bracket:** secure the remaining length of the vertical batten to the wall using elongated holes, to allow movement due do the thermal expansion of aluminum.



The metal brackets are installed in **alternate courses** on each side of the vertical batten.

The maximum distance between metal brackets in horizontal and vertical direction:

- Horizontal distance = 600 mm
- Vertical distance = 800-1000 mm

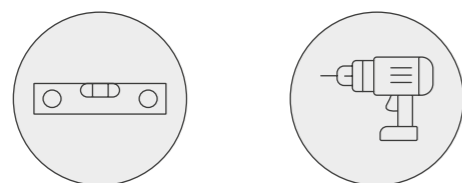


/ CUPACLAD® FIXING METHOD

SUBSTRUCTURE

2 VERTICAL WOOD BATTEN

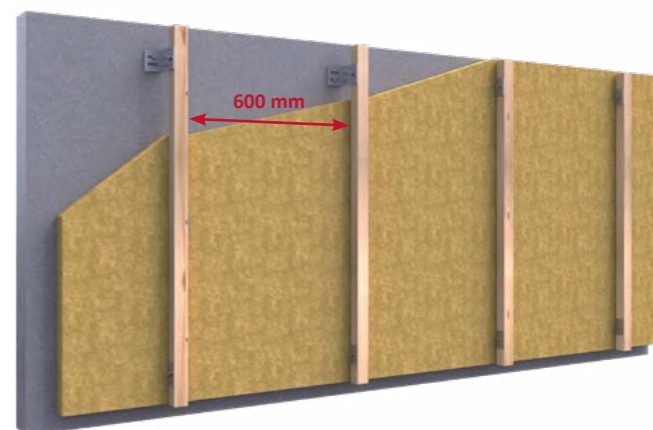
Fix the vertical profiles to the metal brackets allowing **at least 2 cm** for an air cavity. The vertical profiles must be **perfectly leveled** before fitting the rest of the system components.



The vertical profile is secured to both brackets:

- **Fixed-point bracket**, using the round holes.
- **Sliding-point bracket**, using the elongated holes.

The **maximum distance** between vertical profile is **600 mm**:



Notes:

The gap between the vertical rails must be clarified on a project basis taking into account the following variables (the exposure of the site, height of the building, location, distance from the sea...)

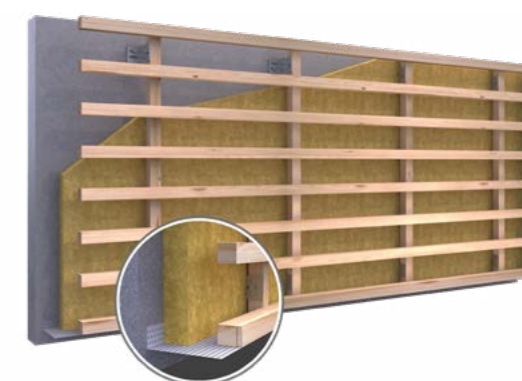
/ CUPACLAD® FIXING METHOD

SUBSTRUCTURE - 101 SYSTEMS

1 FIXING OF A VENTILATED FLASHING

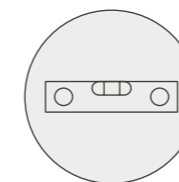
The installation of a perforated profile ensures ventilation.

Fix a ventilated flashing at the first course of the cladding to prevent insects / small animals from getting up. The distance between floor - substructure of the cladding should be **≥ 50 mm**.



2 HORIZONTAL WOOD BATTEN

The horizontal profiles must be **perfectly levelled**, as their position defines the alignment of the slates. Taking the top edge of the batten as the reference.



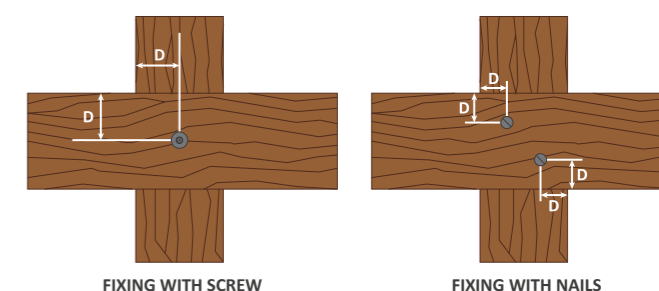
Fixing of the horizontal battens

The horizontal battens are fixed to the vertical battens at each intersection. The fixing can be done either by nailing or screwing:

- Nailing is done using two stainless steel nails which are fitted diagonally on the overlapped area formed by the battens. The minimum distance between nails should be as specified in the following table.
- Screwing is done using a stainless steel screw. The screw is normally fitted in the center of overlapped area formed by the battens.

The joining of two consecutive horizontal battens must meet the following:

- Each end of the horizontal battens should have its own fixing to the vertical batten, leave a gap of 3 mm between them.



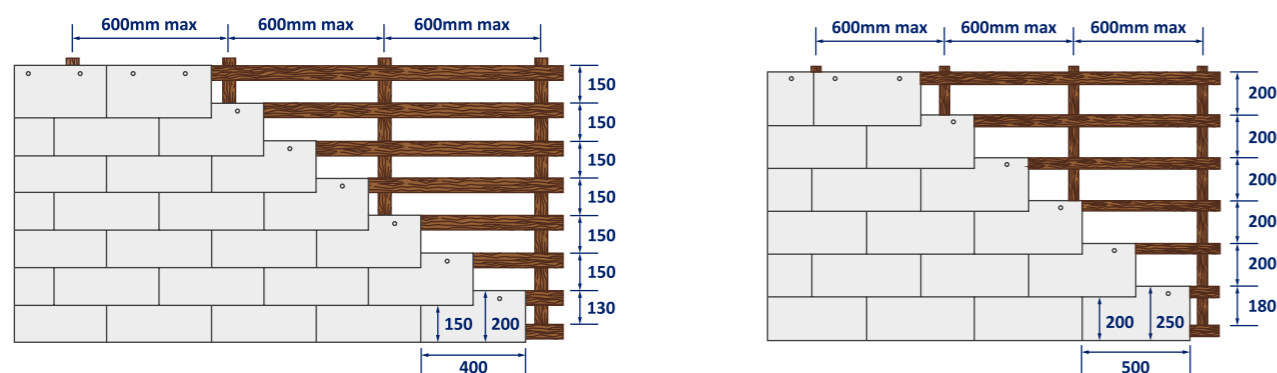
TYPE OF FIXING	DISTANCE D
Screw	3 x screw ϕ
Nail	5 x nail ϕ

/ CUPACLAD® FIXING METHOD

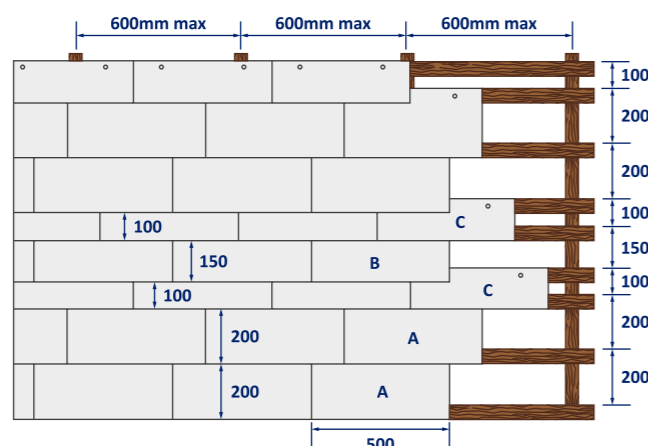
SUBSTRUCTURE - 101 SYSTEMS

The distance between profiles varies depending on the chosen system.

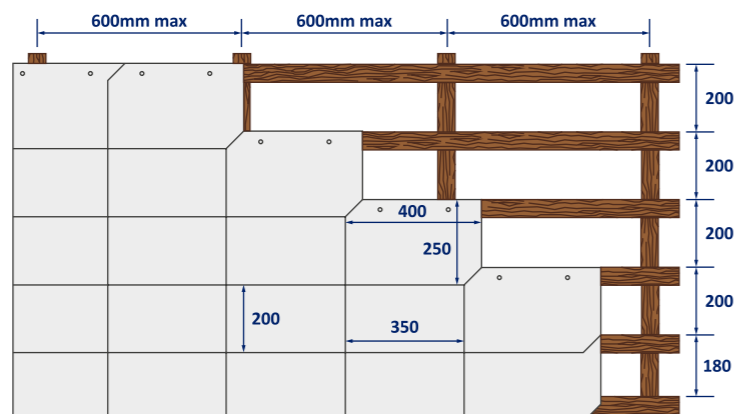
CUPACLAD 101 Logic: 150 mm (40x20 cm slate) and 200 mm (50x25 cm slate), leaving an overlap between slates of 50 mm:



CUPACLAD 101 Random: 200, 150, 100 mm, leaving an overlap between slates of 50 mm:



CUPACLAD 101 Parallel: 200 mm, leaving an overlap between slates of 50 mm both vertical and horizontal direction:



/ CUPACLAD® FIXING METHOD

SUBSTRUCTURE - 101 SYSTEMS

3 FIXING THE FIRST COURSE SLATE

- Cut a slate to a height of **80 mm** approximately.
- Fix it with the reverse matching the bottom edge of the slate with the first 101 horizontal batten.

4 FIXING OF SLATES WITH THE SELF-DRILLING CUPACLAD® 101 SCREW

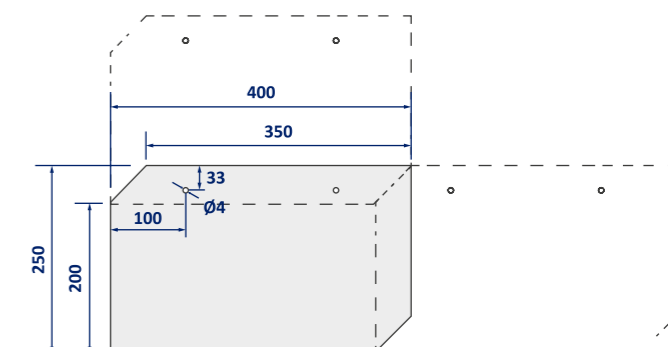
Each slate must be **aligned** with the **upper edge** of the batten and fitted with two stainless steel screws. CUPACLAD® 101 slates are always **pre-holed** at the required position, making its installation quicker and problem free.

CUPACLAD® 101 self-drilling screws have a flat head that guarantees a flawless fixing. In CUPACLAD® 101 Logic and CUPACLAD® 101 Random, slates must be installed with an offset respect to the previous row. This offset will be half of the length of the slate.



Notes:

CUPACLAD® 101 Parallel slates are installed with a double 50 mm overlap, both vertical and horizontal. Their cut angles of the slates ease their positioning and fixing on the horizontal battens.

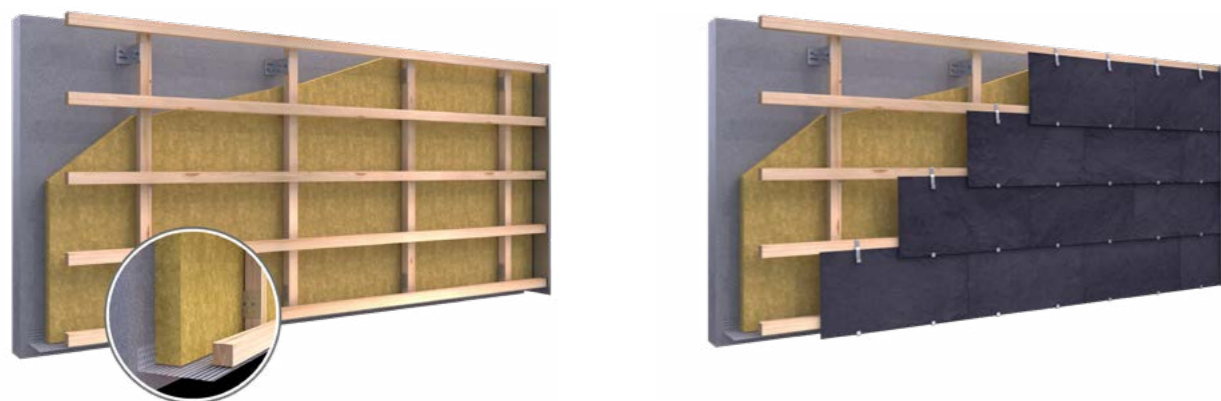


/ CUPACLAD® FIXING METHOD

SUBSTRUCTURE - 201 SYSTEM

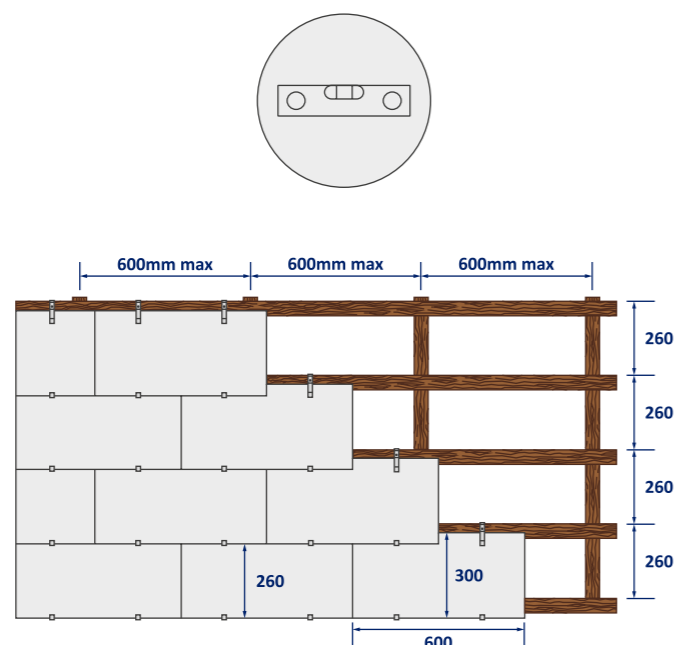
1 FIXING OF A VENTILATED FLASHING

Fix a ventilated flashing at the first course of the cladding to prevent insects/ small animals from getting up. The distance between floor- substructure of the cladding ≥ 50 mm and the installation of a perforated profile ensure ventilation.



2 CUPACLAD® 201 HORIZONTAL PROFILES

The horizontal battens must be perfectly level as their position defines the alignment of the slates, taking the top edge of the batten as the reference. The distance between profiles is 260 mm leaving an overlap between slates of 40 mm:



/ CUPACLAD® FIXING METHOD

SUBSTRUCTURE - 201 SYSTEM

3 FIXING THE SLATE WITH THE 201 VANGUARD CLIPS

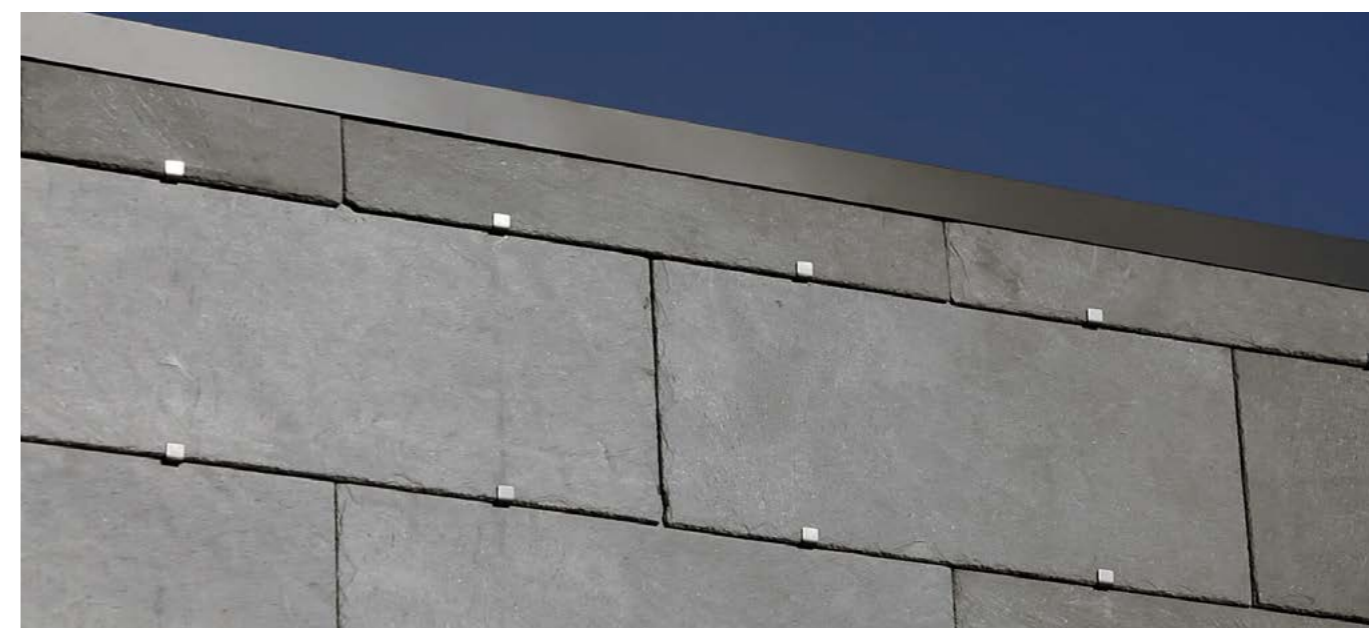
The clip will be screwed to the wooden batten at the indicated distance. Each slate is supported by two lower clips, and held by two upper ones.

Slates must be installed with an offset to the previous row. This offset will be half of the length of the slate.



4 FIXING THE SLATES TO THE TOP OF THE CLADDING

At the top of the cladding when joining the gutters or flashing it is necessary to use a wooden batten, to which the slate must be fitted with two self-drilling screws or rivets.

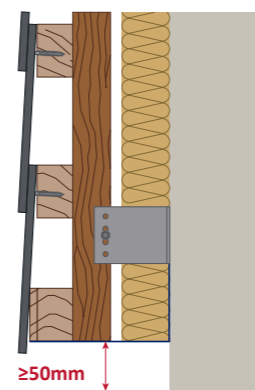


/ CONSTRUCTION DETAILS

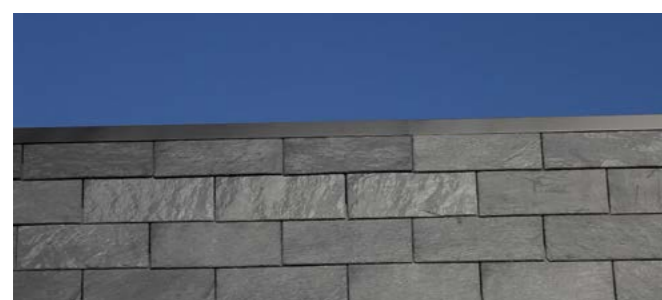
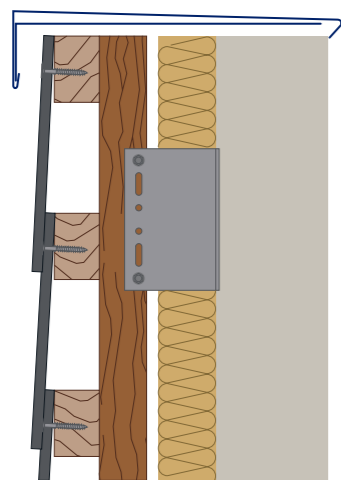
CUPACLAD 101 - LOGIC, RANDOM AND PARALLEL

1 CUPACLAD BASE

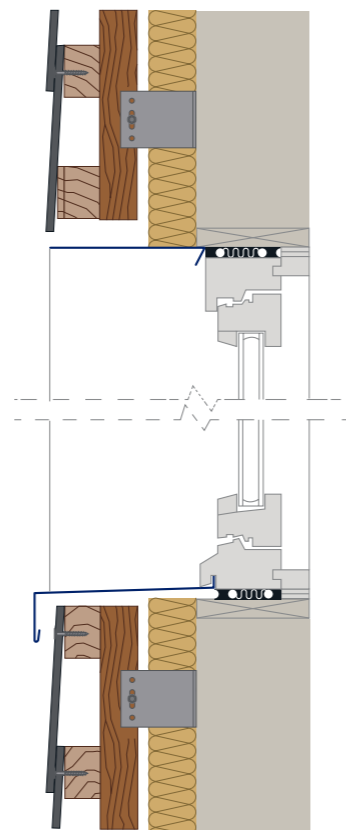
At the first course of the cladding, the opening at the inner channel must include a ventilated profile that also incorporates a mesh to prevent the entry of insects and small mammals.



2 CUPACLAD COPING



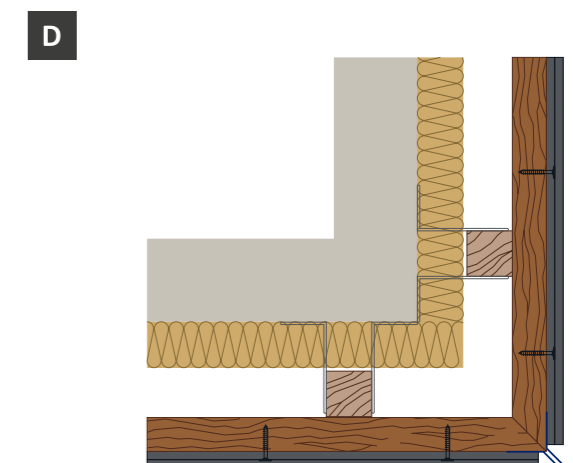
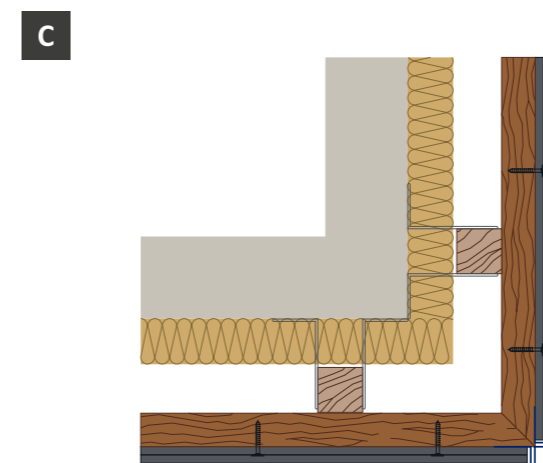
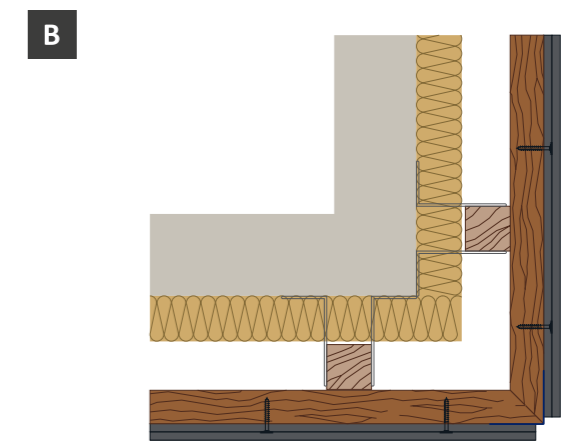
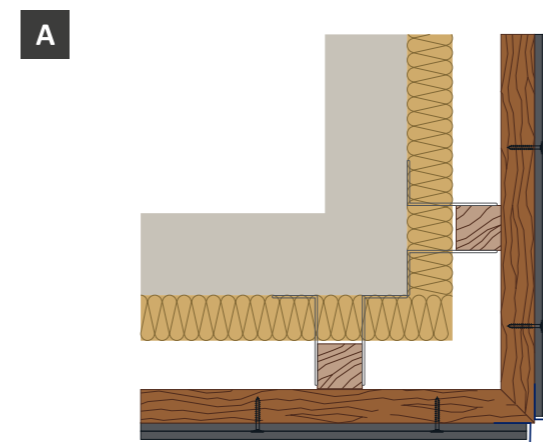
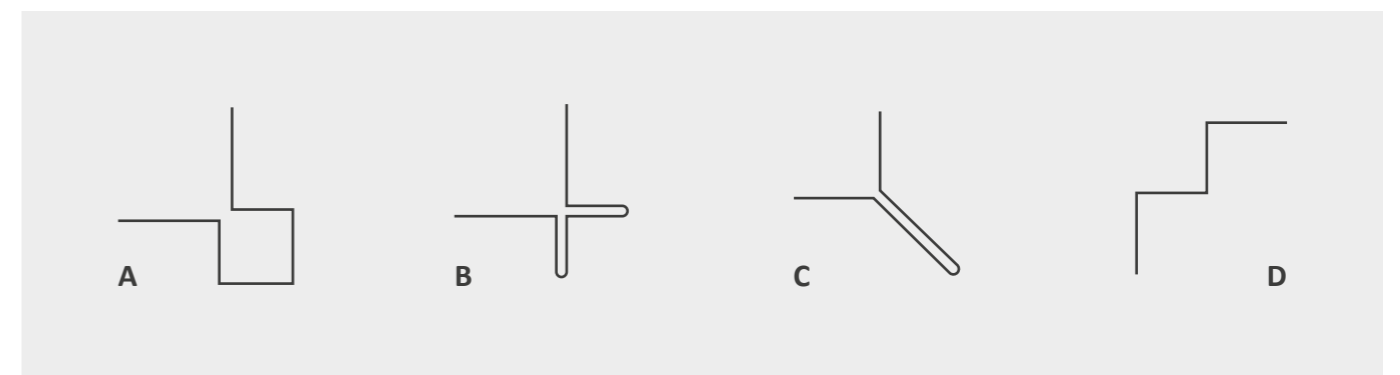
3 CUPACLAD WINDOW REVEAL



/ CONSTRUCTION DETAILS

CUPACLAD 101 - LOGIC, RANDOM AND PARALLEL

4 CUPACLAD CORNER FLASHINGS

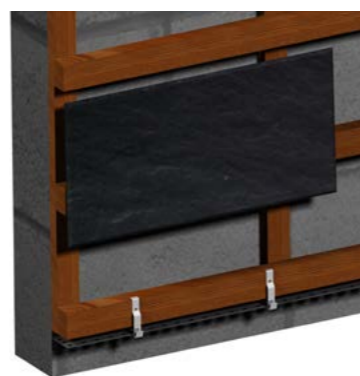


/ CONSTRUCTION DETAILS

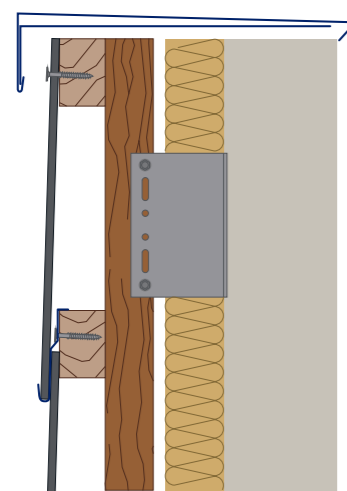
CUPACLAD 201 VANGUARD

1 CUPACLAD BASE

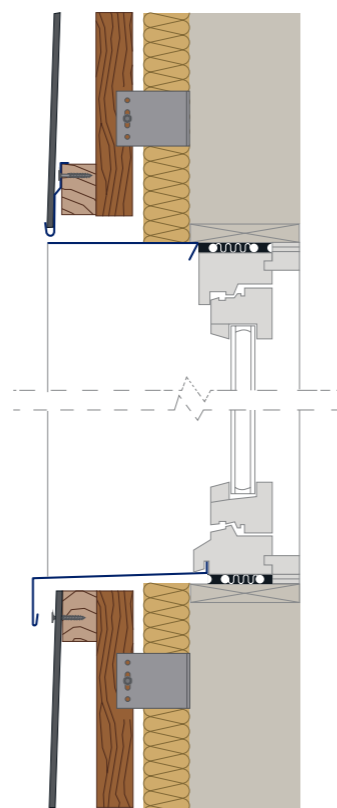
At the first course of the cladding, the opening at the inner channel must include a ventilated profile that also incorporates a mesh to prevent the entry of insects and small mammals.



2 CUPACLAD COPING



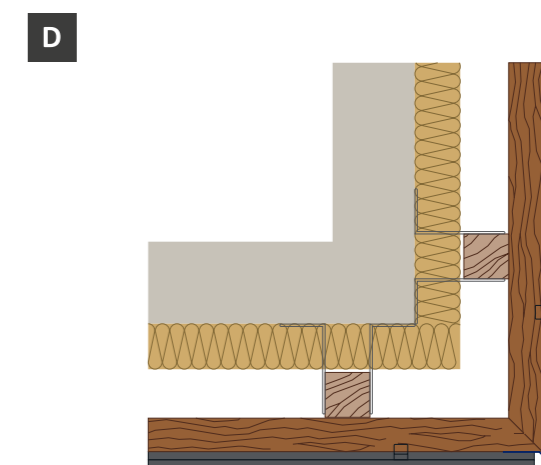
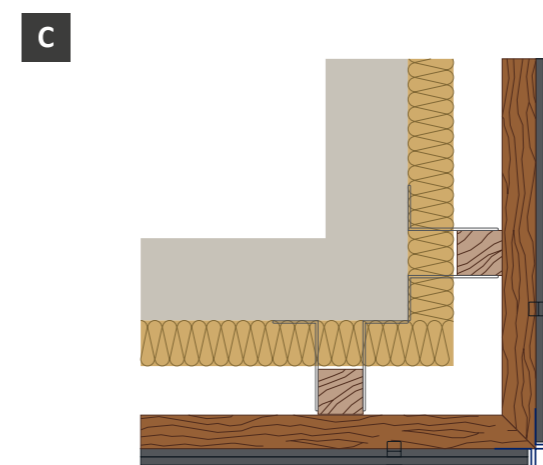
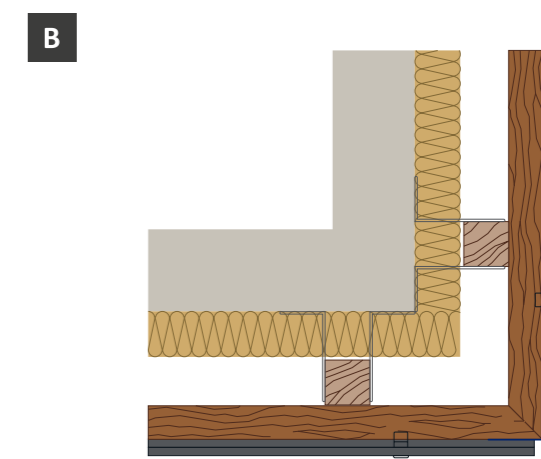
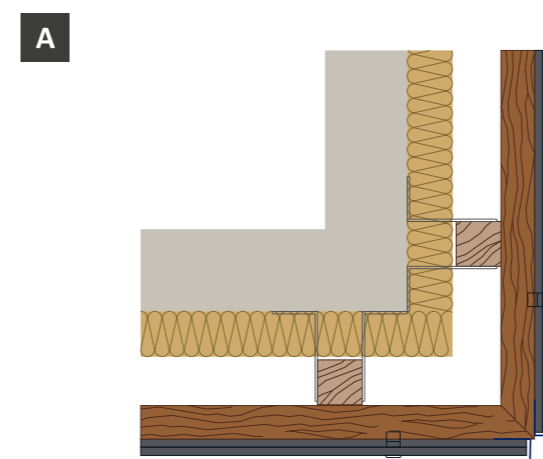
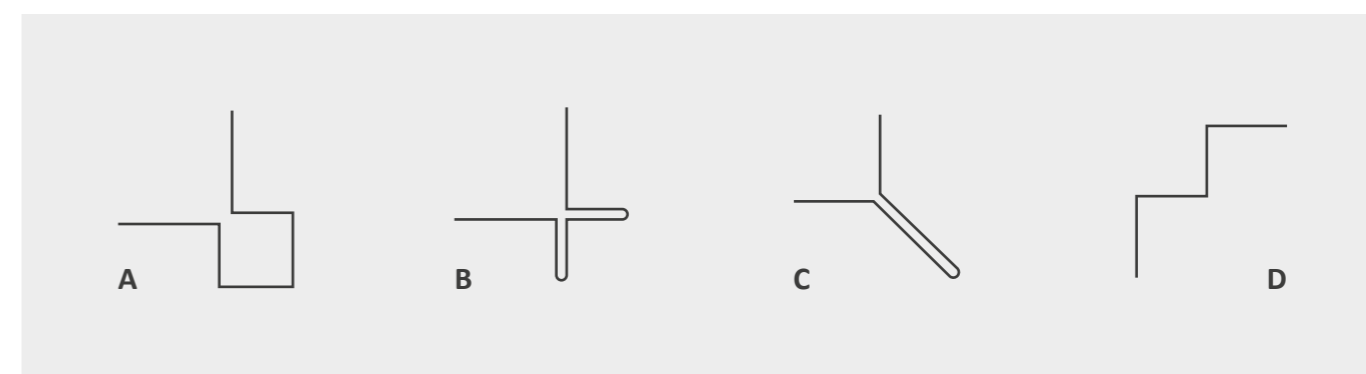
3 CUPACLAD WINDOW REVEAL



/ CONSTRUCTION DETAILS

CUPACLAD 201 VANGUARD

4 CUPACLAD CORNER FLASHINGS





 CUPACLAD

CUPACLAD

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