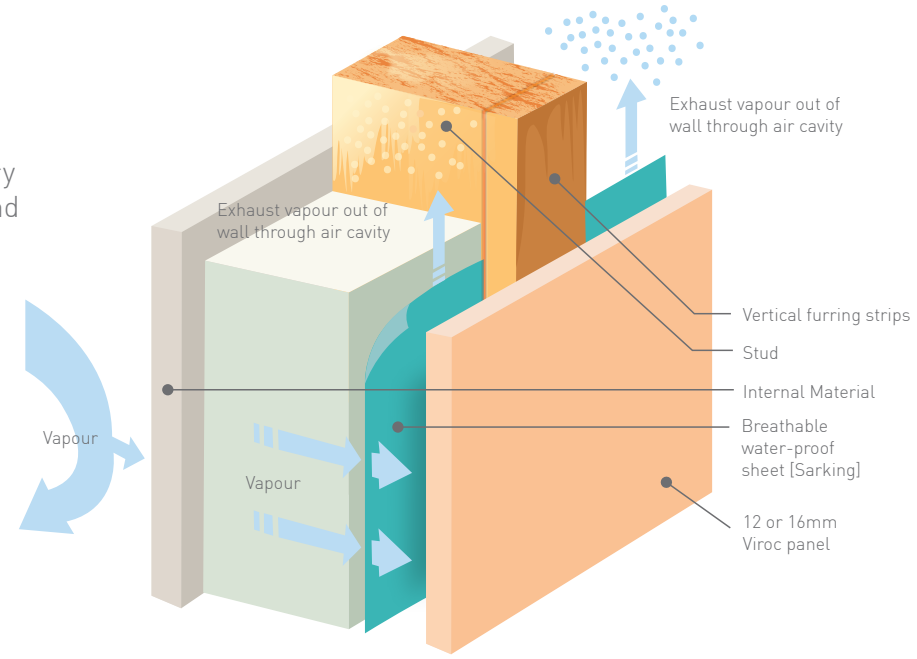
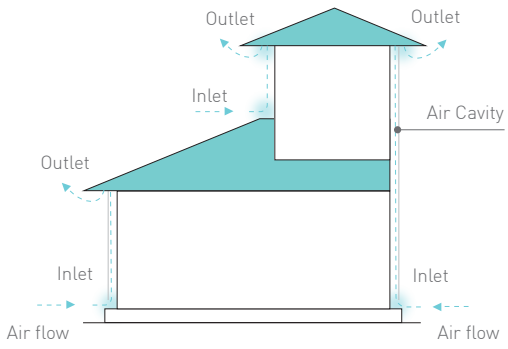
Outdoor cladding applications

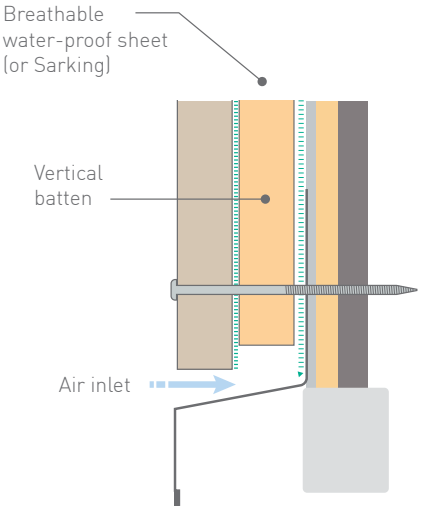
The Viroc system is a cavity-based extruded fibre-reinforced cement panel wall cladding. Viroc panels are available in range of surface profiles and patterns. Panels are rebated to form hidden laps and are fixed with clips to form a drained and ventilated cavity. The system incorporates a primary and secondary means of weather resistance (first and second line of defence) against water penetration by wall framing with a normal 15mm drained and ventilated cavity.



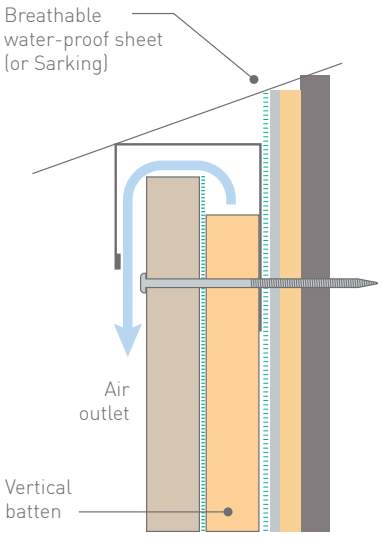
Key points of the rain screen system



Groundsill



Soffit



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VERY IMPORTANT!

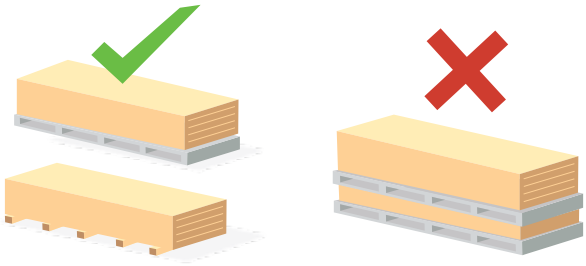
Viroc panels do not contain silica, unlike other alternatives in the market. Using Viroc ensures safe working conditions by eliminating the possibility of inhaling silica dust when drilling, cutting and abrading panels during installation or handling. Harmful effects from inhaling silica can lead to potentially disabling lung diseases like Silicosis.

1. Work outdoors where feasible or use mechanical ventilation
2. Wear an approved respirator.
3. Warn others in the area.

Handling the Viroc panels

Transporting Viroc panels

- When transporting the panels by vehicle, stack them flat.
- Tie the panels down and cover with plates to avoid damage or shifting when braking.
- Take extra care to avoid damaging panels when loading/unloading.
- When hoisting panels, always put spacers between the panels and ropes or straps to avoid damaging them.
- Do not stack pallets with more panels on the top of the pallet than underneath, as this could cause panels to collapse.



Storage of Viroc panels

- Store panels flat and under cover. Keep the panels dry and off the ground prior to installation to avoid moisture conditions that could affect the quality of the work.
- Panels should not be stacked more than two pallets high and should be loaded with a fork-lift or sling, taking care not to drop the pallet.
- Keep the panels clean when handling on site and take care not to damage the edges.
- If necessary to stand panels on edge prior to installation, take care to avoid rough or abrasive surfaces that could damage the factory-applied coating or sealer.
- Panels should be carried mid-span and on edge for ease of handling and to avoid breakage,

VERY IMPORTANT!

- Carry the panels by holding their lengthwise edges under your arm.
- Take extra care to avoid hitting anything with the panels. Dropping the panels may damge the edges.
- Don't touch the panels with dirty hands.

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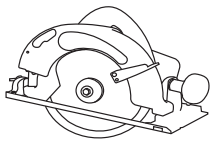
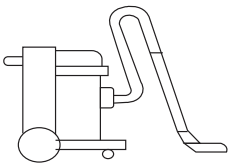
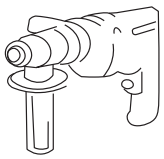
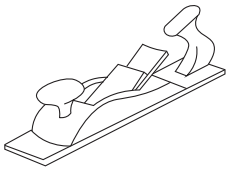
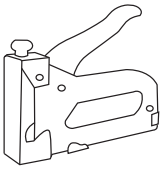
NECESSARY TOOLS


Dust-proof circular saw

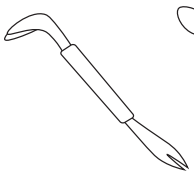

Dust collector

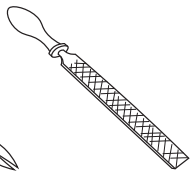

Electric drill/screw driver

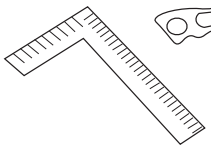

Melamine planer

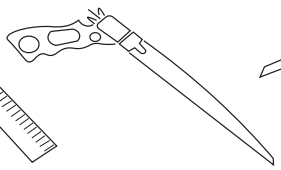

Tacker

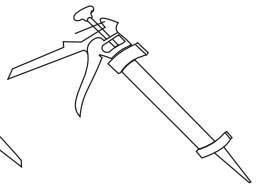

Hammer

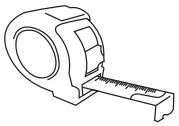

Nail Claw

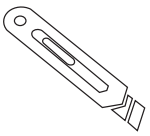

Hand file

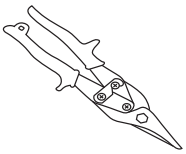

Framing square


Slate saw

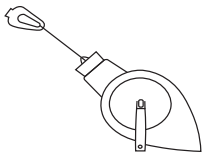

Sealant cartridge gun

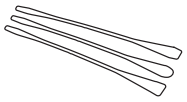

Tape measure


Cutter knife


Tin shears


Plumb bob


Chalking line


Sealant spatulas

INSTALLATION ORDER

Timber frame/steel frame with clips (15mm)

1. Check the frame
2. Install sill flashing
3. Install waterproof breathable sheet
4. Marking
5. Install accessories (outside & inside corners, vertical joints and etc.)
6. Measurement
7. Cut
8. Fasten siding panels
9. Touch up & paint inspection
10. Sealant

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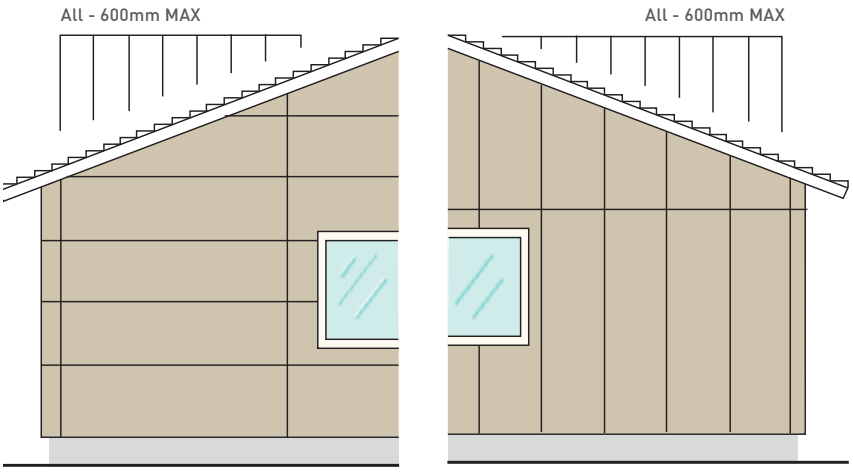
1. Panel set-out

- When laying out the panels, take into consideration the appearance of the building, the length of provided accessories and how to minimize material waste.
- Layout express joint in advance to create an aesthetically pleasing finish.
- Include the inside dimension of the pre-formed outside corners in consideration of panel arrangement.
- Vertical joints should be aligned with studs.
- Include the sealant joint width (10mm) for each vertical joint.
- Pay attention to window locations and eave soffit height to provide more than 150mm max for the panels above and below window frames (B, C, figure below right) and panels below the soffit (A).
- Avoid installing less wide panels in these locations.



Horizontal Installation

Vertical Installation

Sheets are 1250x3000mm in 12mm thickness. Refer to fixing diagram 60 mm max.

1. Panel set-out

Viroc panels have been tested and results reported by Summermore Pty Ltd. to the requirements of:

- AS/NZS 1170.0
- AS/NZS 1170.1
- AS/NZS 1720.1
- AS 1684

Wind Loading	Speed	Equivalent from Test Data
Low	←32m/s	N1, N2
Medium	37m/s	C1, N3
High	44m/s	C2, N4
Very High	50m/s	C2, N4
Extra High	55m/s	C2, N4
Specific Design	→55m/s	Engineer designed

As wind zones in NZS 3604 are a simplified method of calculating wind action based on AS/NZ 1170.2, it is recommended that fixing testing data is made readily available to suitably qualified engineers for Specific Design.

Testing data shows suitable fixing details for wind speeds up to 60m/s (C3), which is outside the scope of NZS 3604.

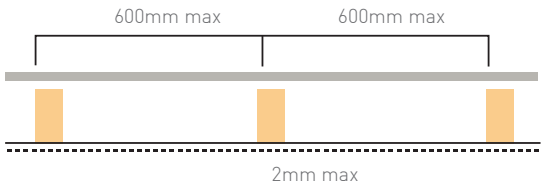
Viroc has been certified by Summermore Pty Ltd. to meet and generally exceed the requirements of NZS 1170.5 (Earthquake Actions in New Zealand).

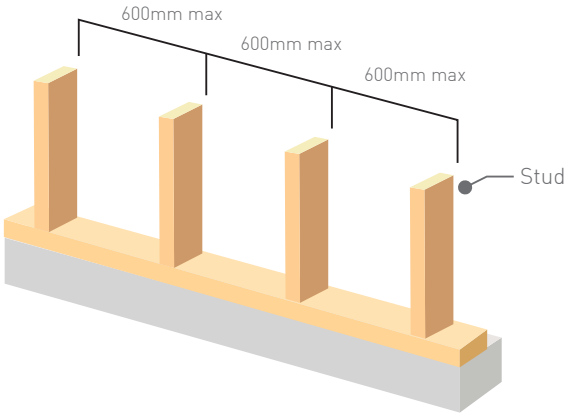
3. Check the frame

Timber frame

Check that the frame is set out to accommodate wind loading, services and openings. Allow for 35mm battening and flashing plus.

- Carefully place spacers so as not to block the ventilation holes behind the eave flashing.
- Check flashing is horizontal with a level.
- Fix the flashing with nails or screws at intervals of 600mm or less.

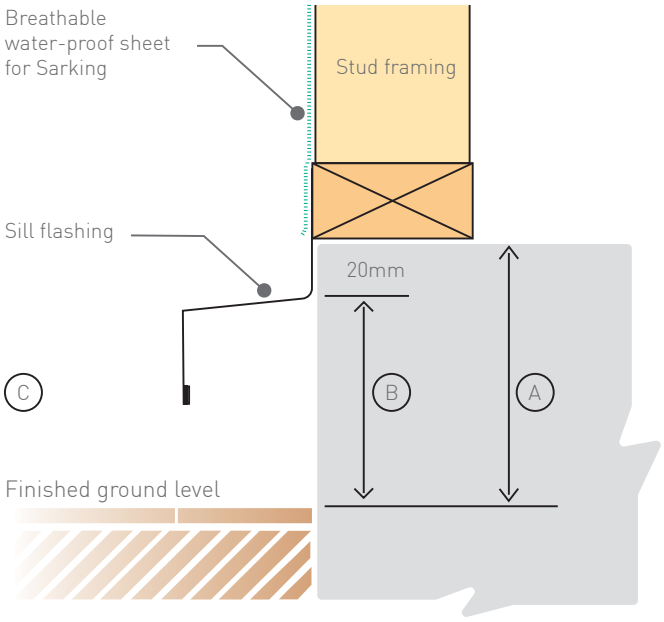




A.
Should meet National Construction Code (NCC) 2016 Volume Two. 3.1.2.3 Surface water drainage (b) slab-on-ground - finished slab heights.
1. 50mm or more
2. 100mm or more
3. 150mm or more

B.
1. 30mm or more
2. 80 or more
3. 130 or more

C.
1. Paved concrete areas
2. Low rainfall intensity, sandy, or well-drained areas
3. Any other areas



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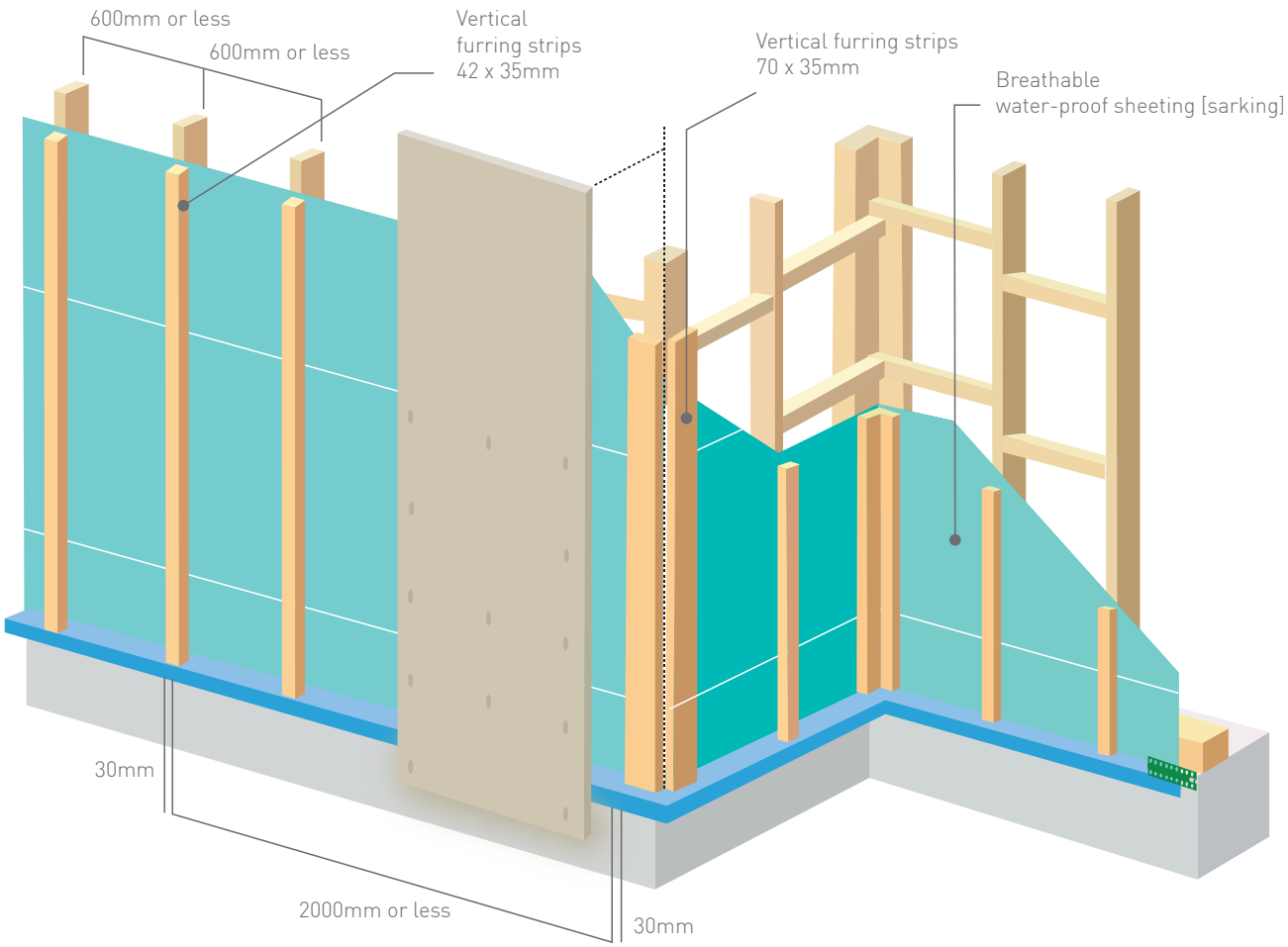
3. Check the frame

Timber frame

Vertical panel installation shown below. Allow for batten ventillation for horizontal batten runs.

- Carefully place spacers so as not to block the ventilation holes behind the eave flashing.
- Check flashing is horizontal with a level.
- Fix the flashing with nails or screws at intervals of 600mm or less.



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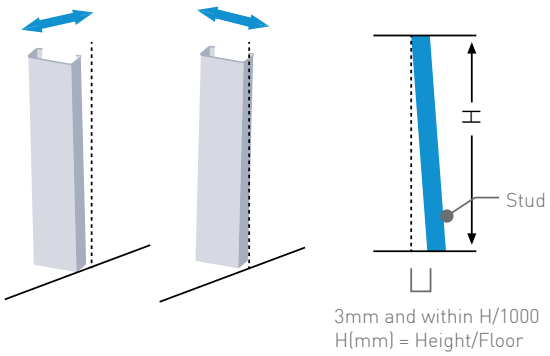
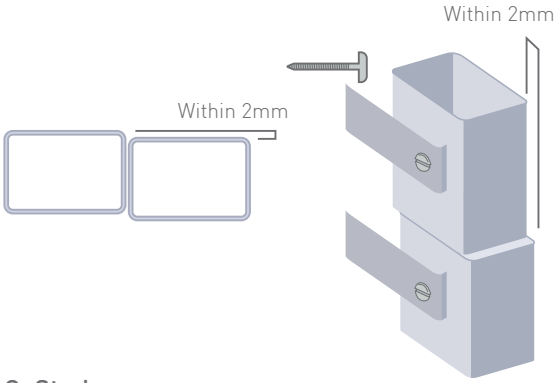
3. Check the frame (continued)

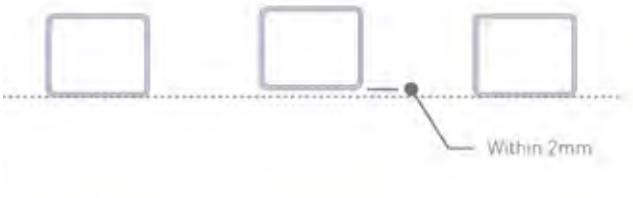
Steel Frame



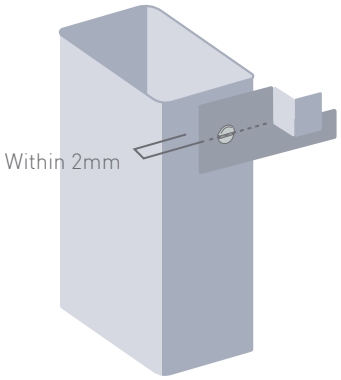
A. Frame vertical unevenness



C. Stud unevenness



B. Eye height unevenness



D. Screw heads & sash frame fringe

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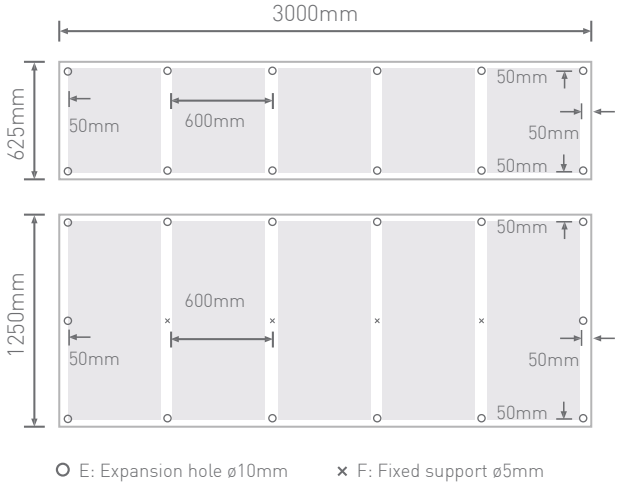
3. Check the frame (continued)

Timber frame

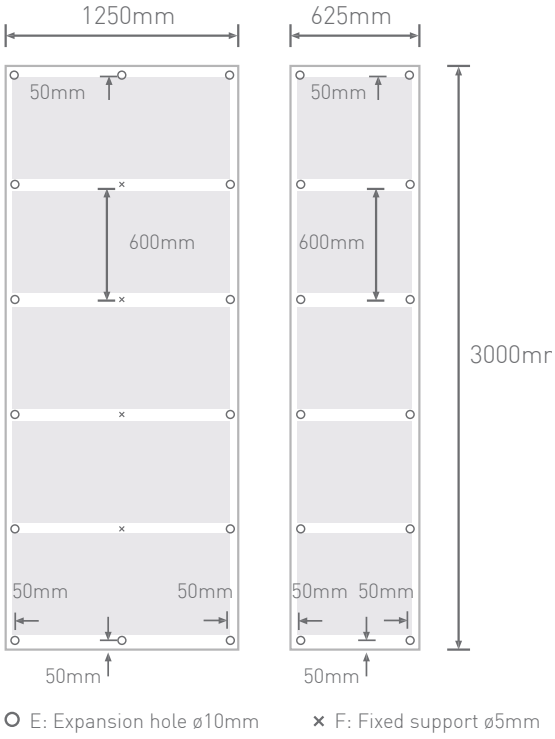
Note that fixing are required as per generic certification and wind loads.

The maximum dimension of the Viroc panel, when applied on a metallic structure is 1500 x 1250mm

Horizontal Isolation



Vertical installation



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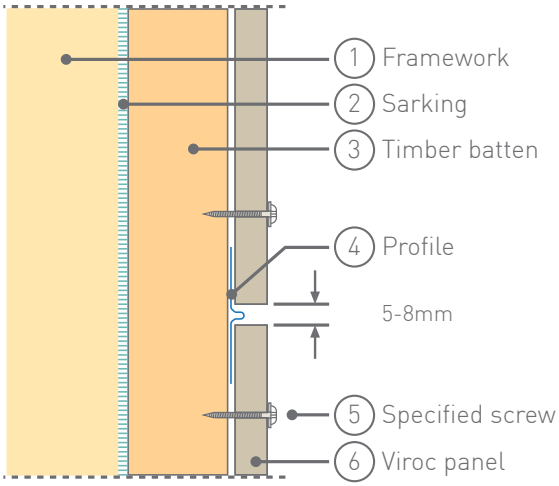
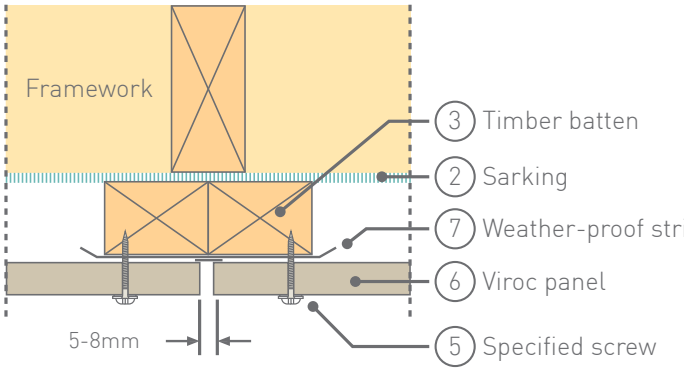
4. Board fastening

Wall runs vertical and horizontal

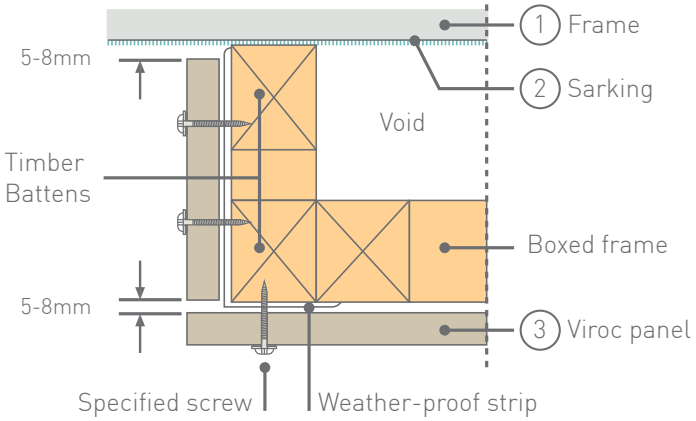
1. Framework.
2. Sarking.
3. Timber batten.
4. Join profile.
5. #10 Specified screw.
6. 12mm Viroc panel.
7. Weather-proof strip.





Returns

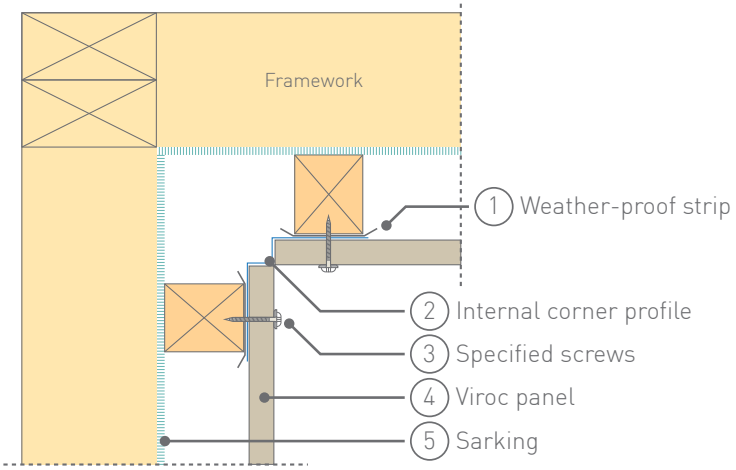
1. Frame.
2. Sarking.
3. 12mm Viroc panel.



4. Board fastening (continued)

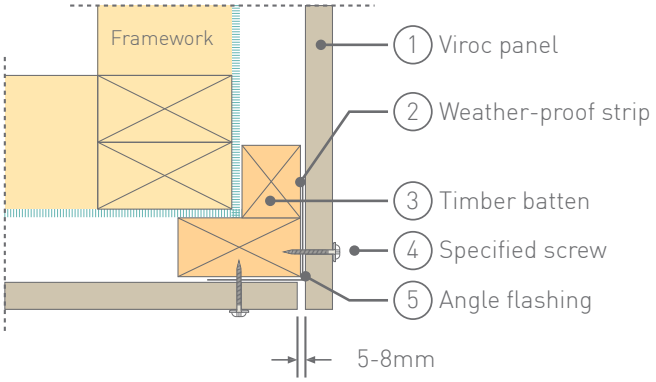
Internal corners

1. Weather-proof strip.
2. Internal corner profile.
3. #10 specified screw.
4. 12mm Viroc panel.
5. Sarking.



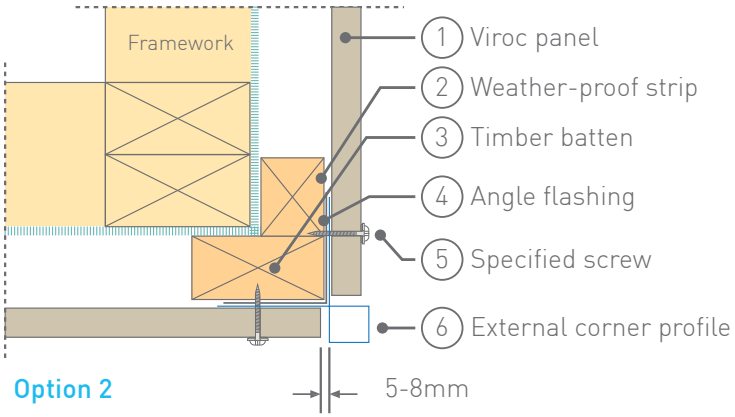
External corners

1. 12mm Viroc panel.
2. Weather-proof strip.
3. Timber batten.
4. #10 specified screw.
5. Angled flashing.



Option 1

1. 12mm Viroc panel.
2. Weather-proof strip.
3. Timber batten.
4. Angled flashing.
5. #10 specified screw.
6. External corner profile.



Option 2

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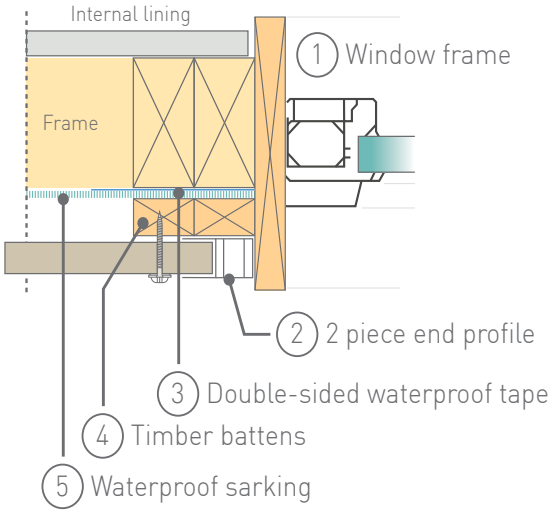
4. Board fastening (continued)

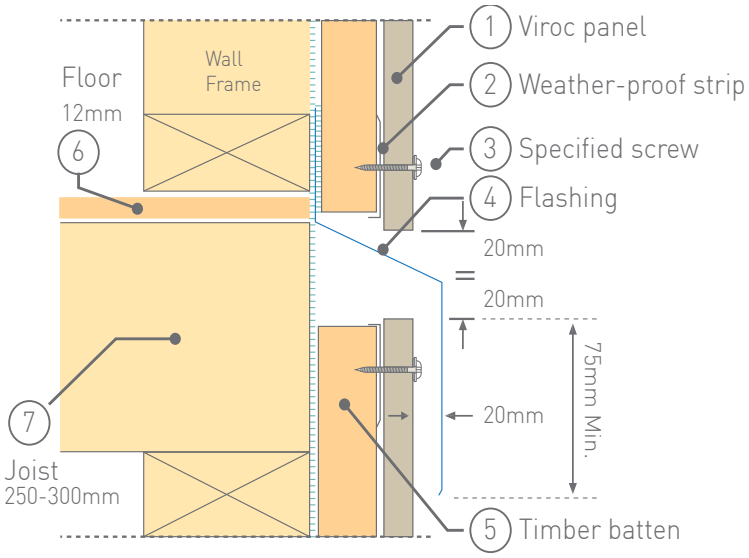
Window Jamb board detail

1. Window frame.
2. 2-piece end profile.
3. Double-sided waterproof tape.
4. Timber batten.
5. Waterproof sarking.



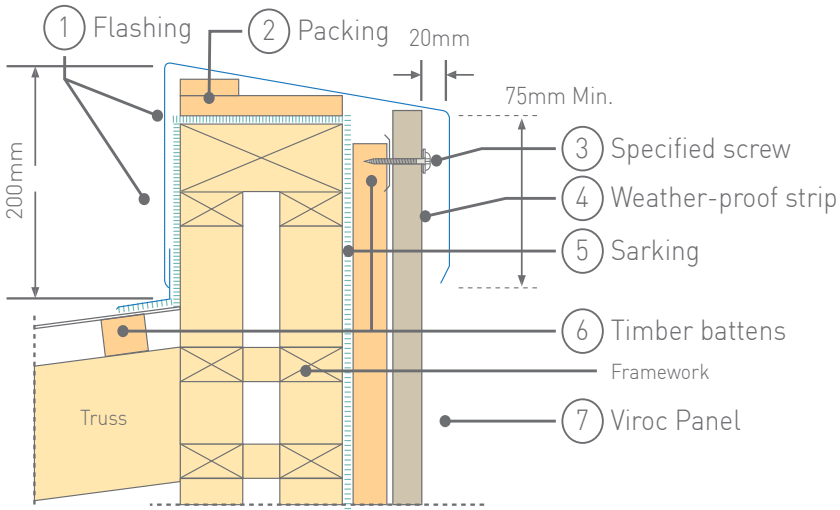
Horizontal break between storeys

1. 12mm Viroc panel.
2. Weather-proof strip.
3. #10 specified screw.
4. Flashing.
5. Timber battens.
6. #12mm floor.
7. Joist(250-300mm)



Parapets

1. Cover flashing.
2. Packing strips.
3. #10 specified screw.
4. Weather proof strip.
5. Sarking.
6. Timber battens.
7. 12mm Viroc panel.



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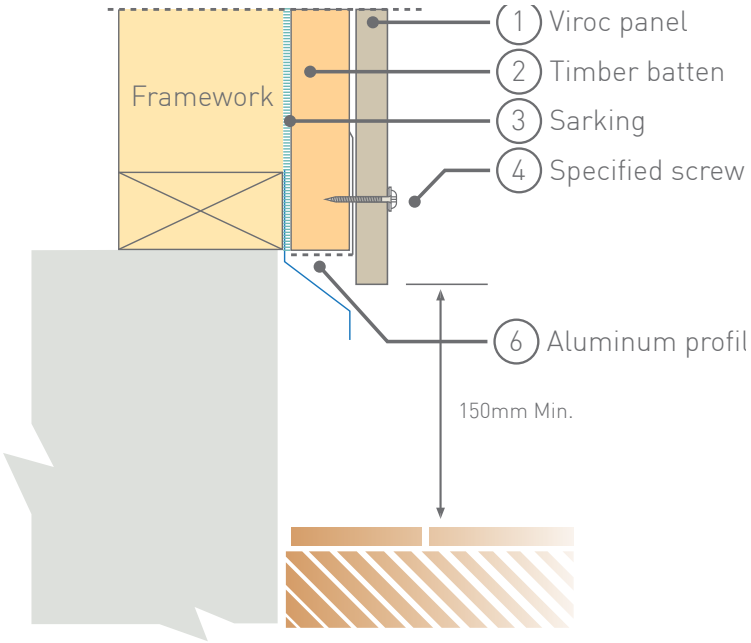
4. Board fastening (continued)

Ground detail

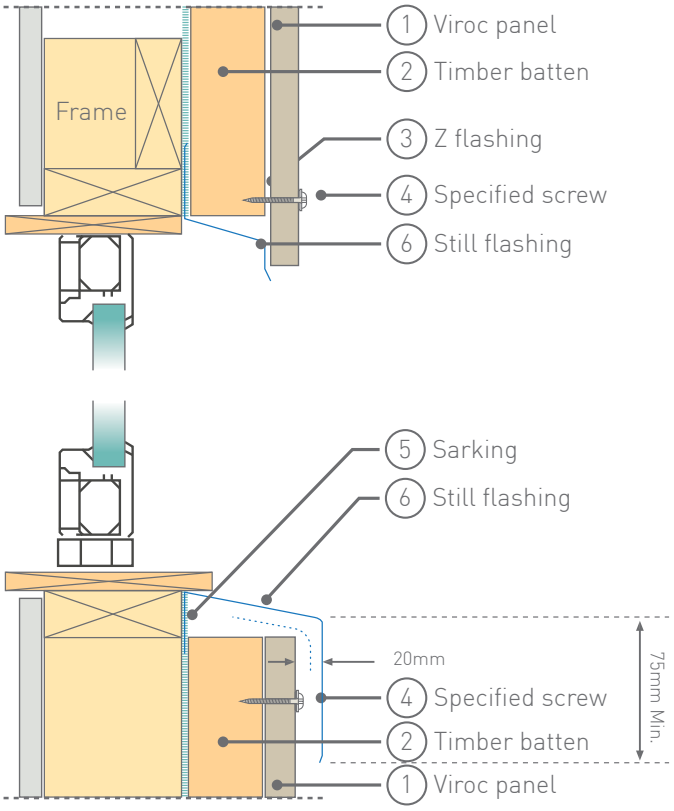
1. 12mm Viroc panel.
2. Timber batten.
3. Sarking.
4. #10 specified screw.
5. Copy to be provided.
6. Aluminium profile.



Lintel Section

Ground detail

1. 12mm Viroc panel.
2. Timber batten.
3. Z flashing.
4. #10 specified screw.
5. Sarking.
6. Sill flashing.



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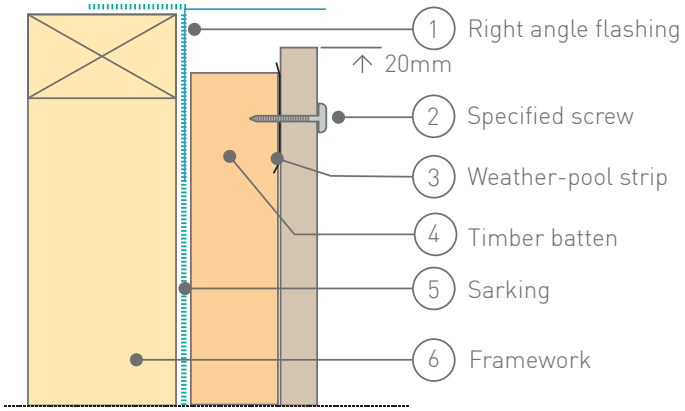
4. Board fastening (continued)

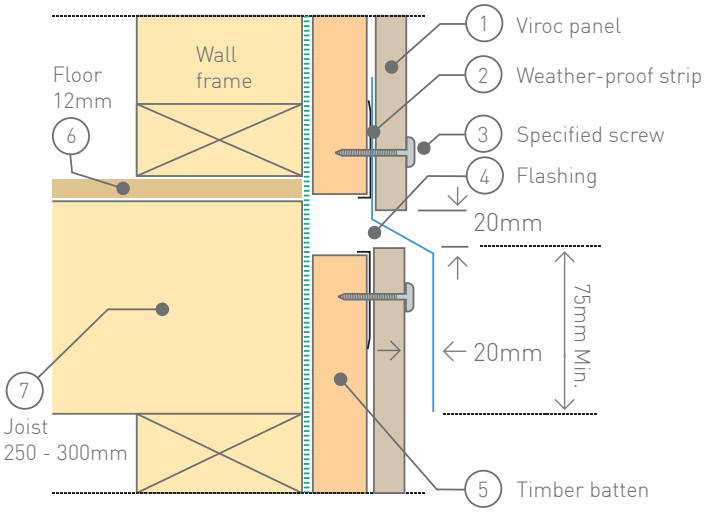
Termination detail

1. Right angle flashing.
2. Specified screw.
3. Weather-proof strip.
4. Timber batten.
5. Sarking.
6. Framework.



Material change or alternative storey break

1. 12mm Viroc panel.
2. Weather-proof strip.
3. #10 specified screw.
4. Aluminum profile.
5. Timber battens.



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5. Applying Sealant

Please note:

For External Use

1. Seal front, back and all edges of sheet prior to installation
2. Allow to fully dry
3. Once installed, again seal front, edges, cut lines and all penetrations

For Internal Use in Wet Areas

1. Seal front, back and all edges of sheet prior to installation
2. Allow to fully dry
3. Once installed, again seal front, edges, cut lines and all penetrations

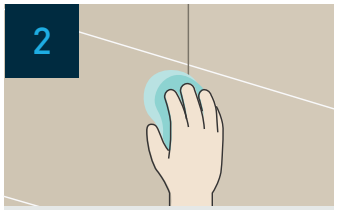
For Internal Use in Dry Areas

1. Sealant not required, can be used to increase gloss effect

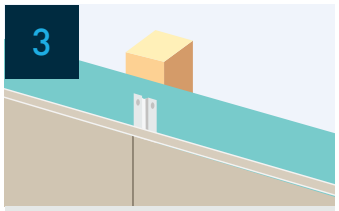
Sealant Maintenance

- Regular maintenance coating is advised to maintain water resistance.
- Rule of thumb is once water stops beading up and running off, coating is due for maintenance.
- Always advisable to be proactive with maintenance, as once an issue is noticed, the damage may be irreversible.

Check weather before applying sealant..

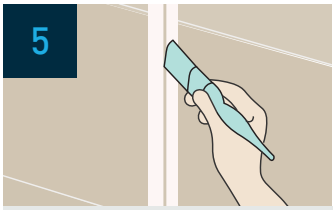


Clean the target joints.

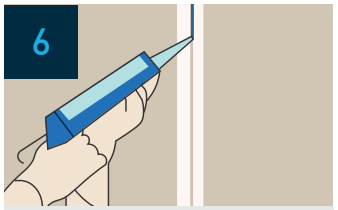


Fill the joints with a backup material.

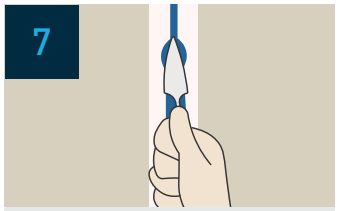
Attach masking tape.



Apply primer.

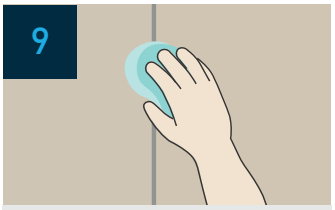


Caulk the joints.

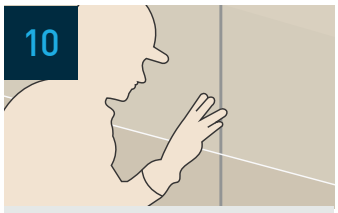


Skim the surface.

Remove the masking tape. This should be conducted before sealant is dry.



Clean. This should be conducted after the sealant is dry.



Check the finish.

Note:

No need to fill the joints with a backup material if metal joiners with bond breaker are used.

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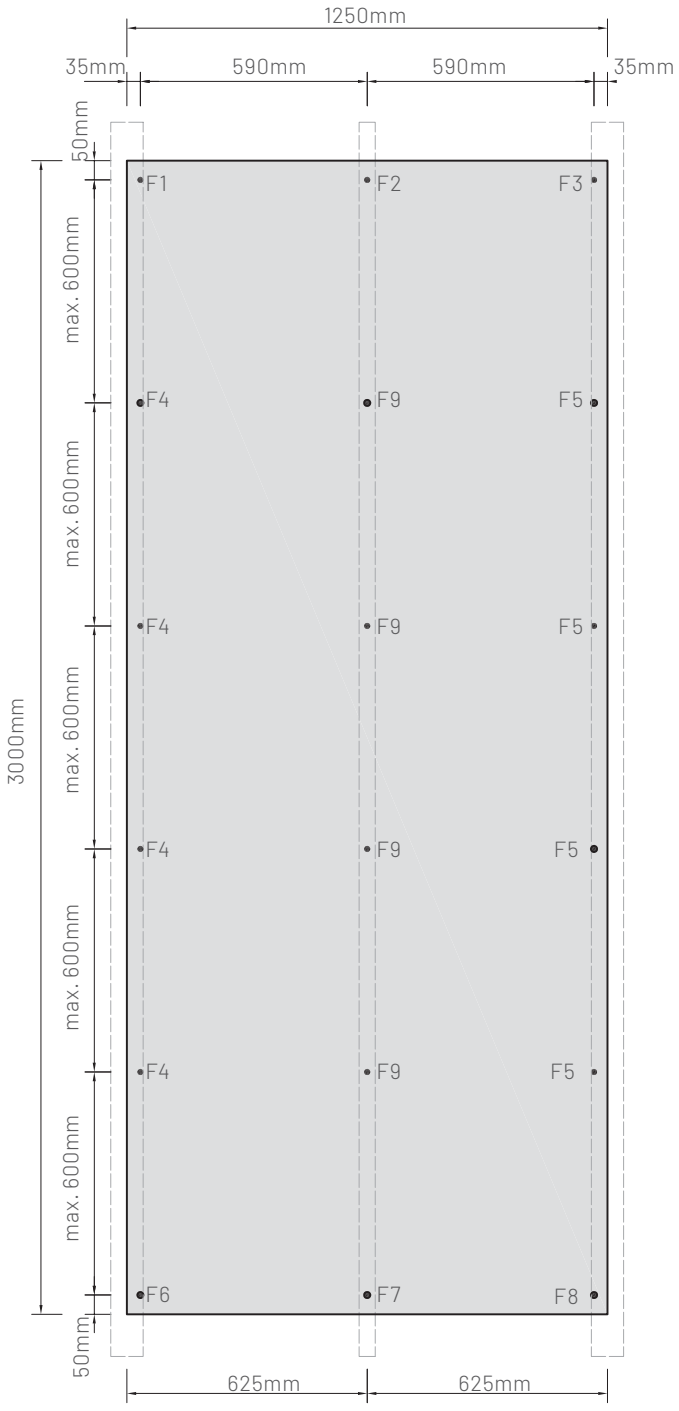
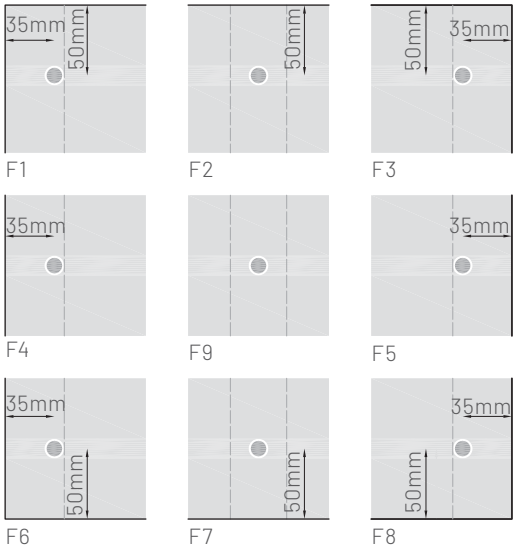
6. Internal Wall Cladding

Board fastening

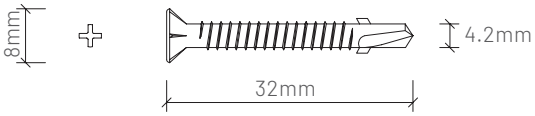


Distances to edges

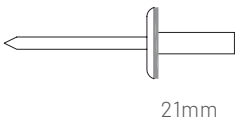


Fastening to steel structures

IMET C8-4.2x32

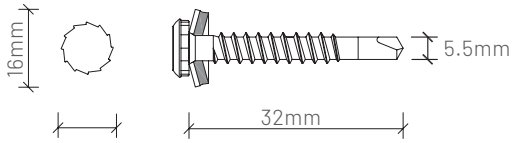


Rivet C16-5x21

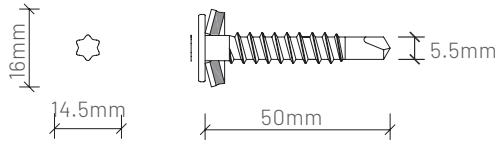


Alternative screws for metallic structures

EMET V12-A16-5.5x32



EMET C14-A16-5.5x50



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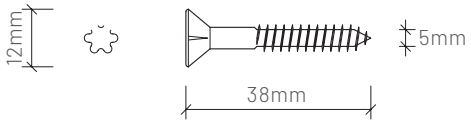
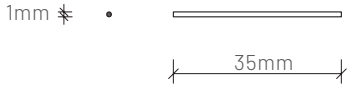
6. Internal Wall Cladding (continued)

Fastening to timber structures

IMAD C12-5.5x38

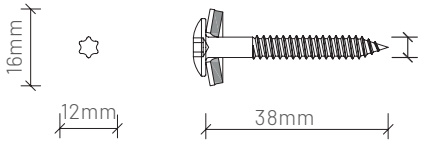


NAIL 1x35



Alternative screw for wood structure

EMAD C12-A16-4.8x38

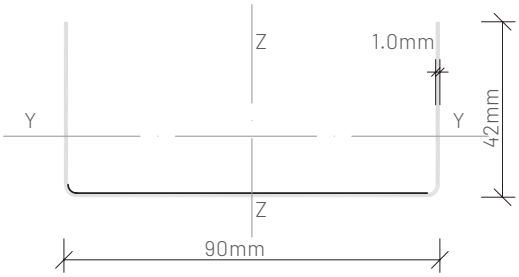


Profiles

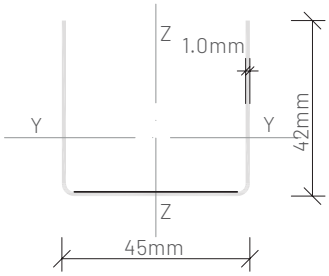
Steel:

Prole thickness should be 1mm minimum, galvanized a according to Standard EN10326 Class Z 275 minimum.

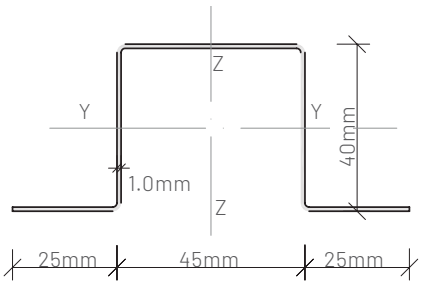
Prole U90 - 42x90x42



Prole U45 - 42x45x42

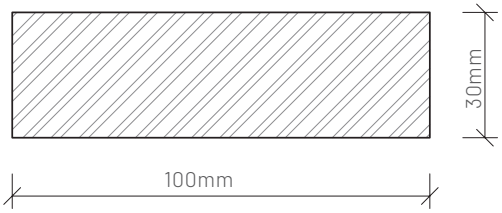


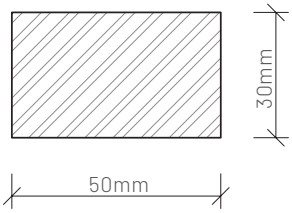
Prole Omega45 - 25x40x45x40x25



Wood:

Class resistance C18 according to Standard EN338.





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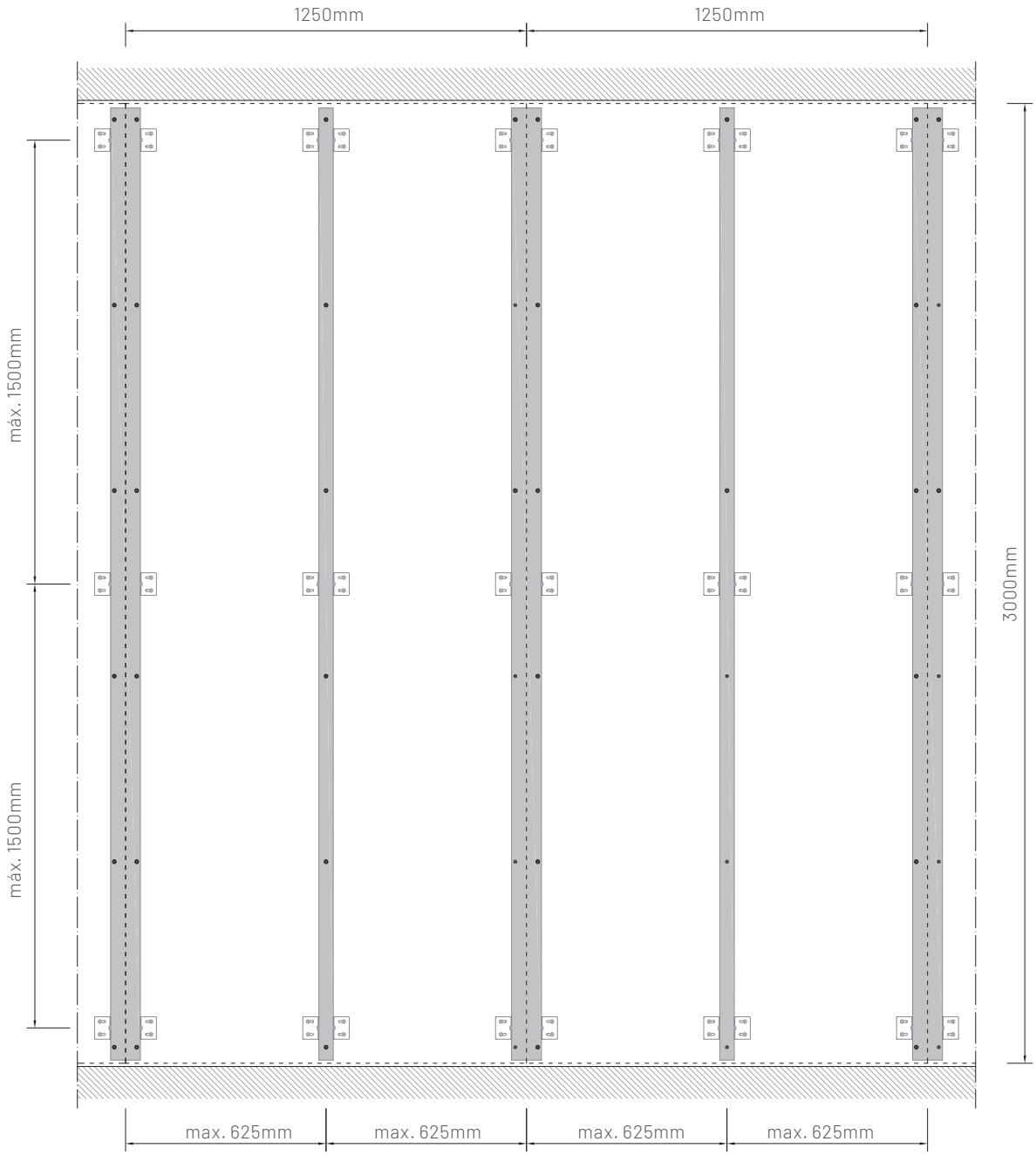
6. Internal Wall Cladding (continued)

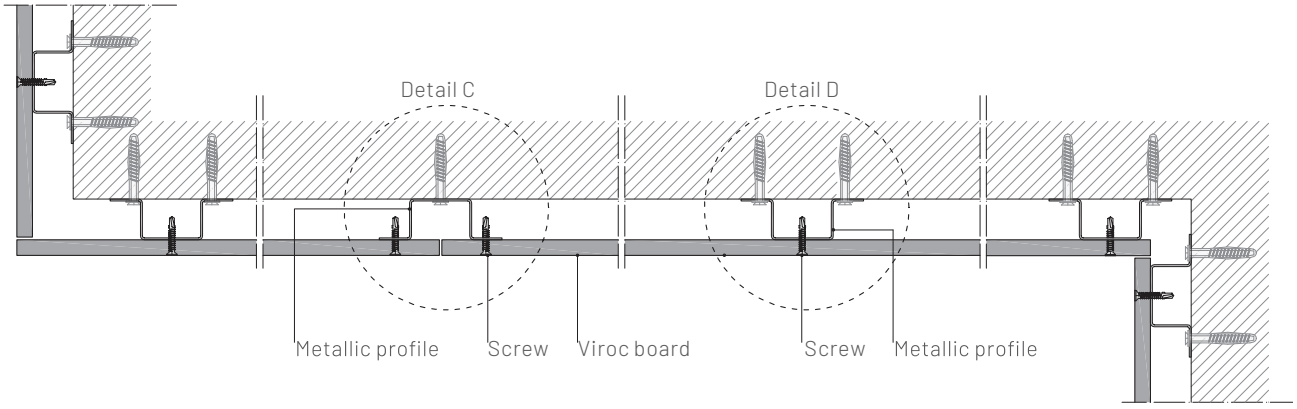
Support structure



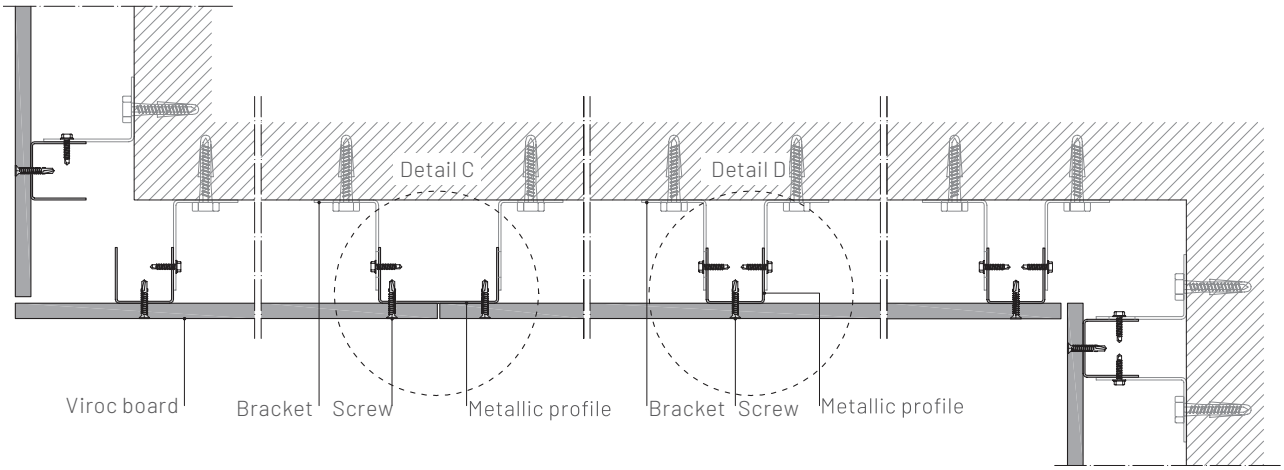
6. Internal Wall Cladding (continued)

Horizontal sections

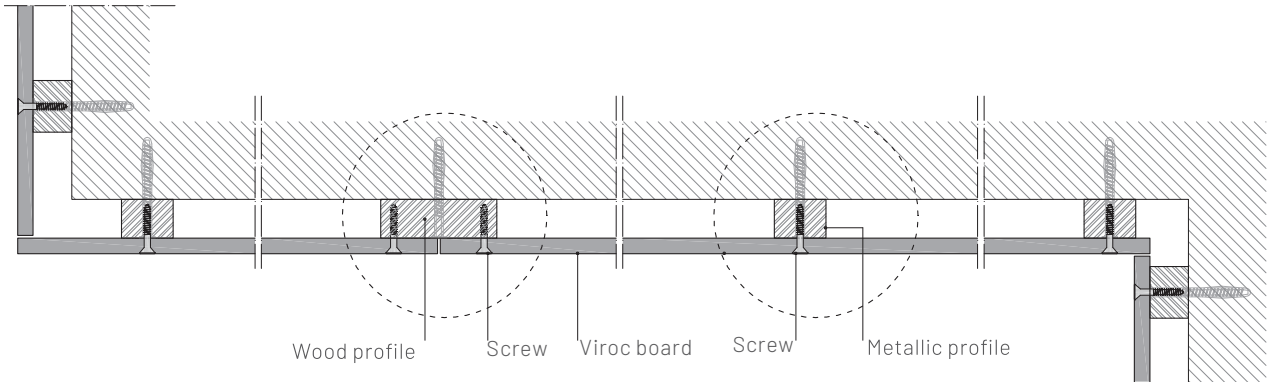
Steel structure



Steel structure (alternative)



Wood structure



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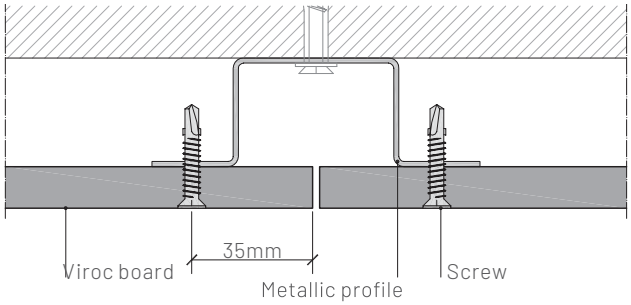
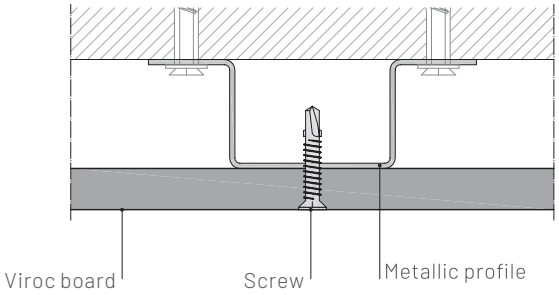
6. Internal Wall Cladding (continued)

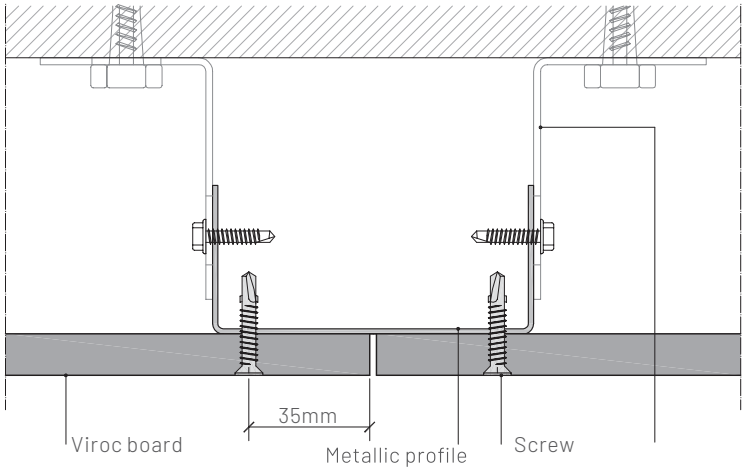
Detail A (steel structure)
Joints between boards



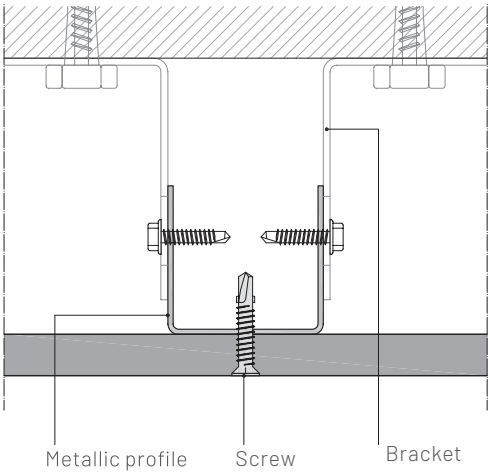
Detail B (steel structure)
Board central zone



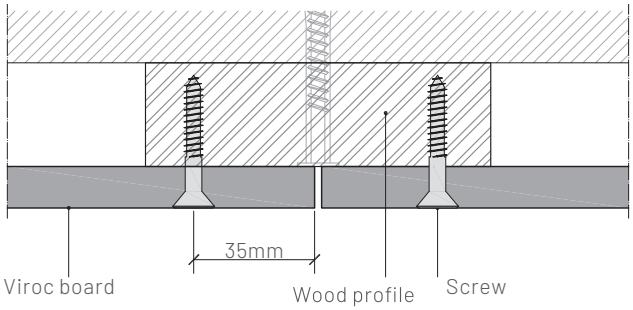
Detail C (steel structure, alternative)
Joints between boards



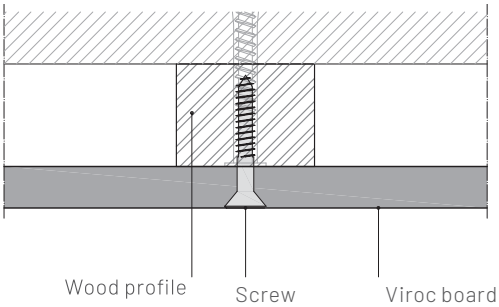
Detail D (steel structure, alternative)
Board central zone



Detail E (wood structure)
Joints between boards



Detail F (wood structure)
Board central zone



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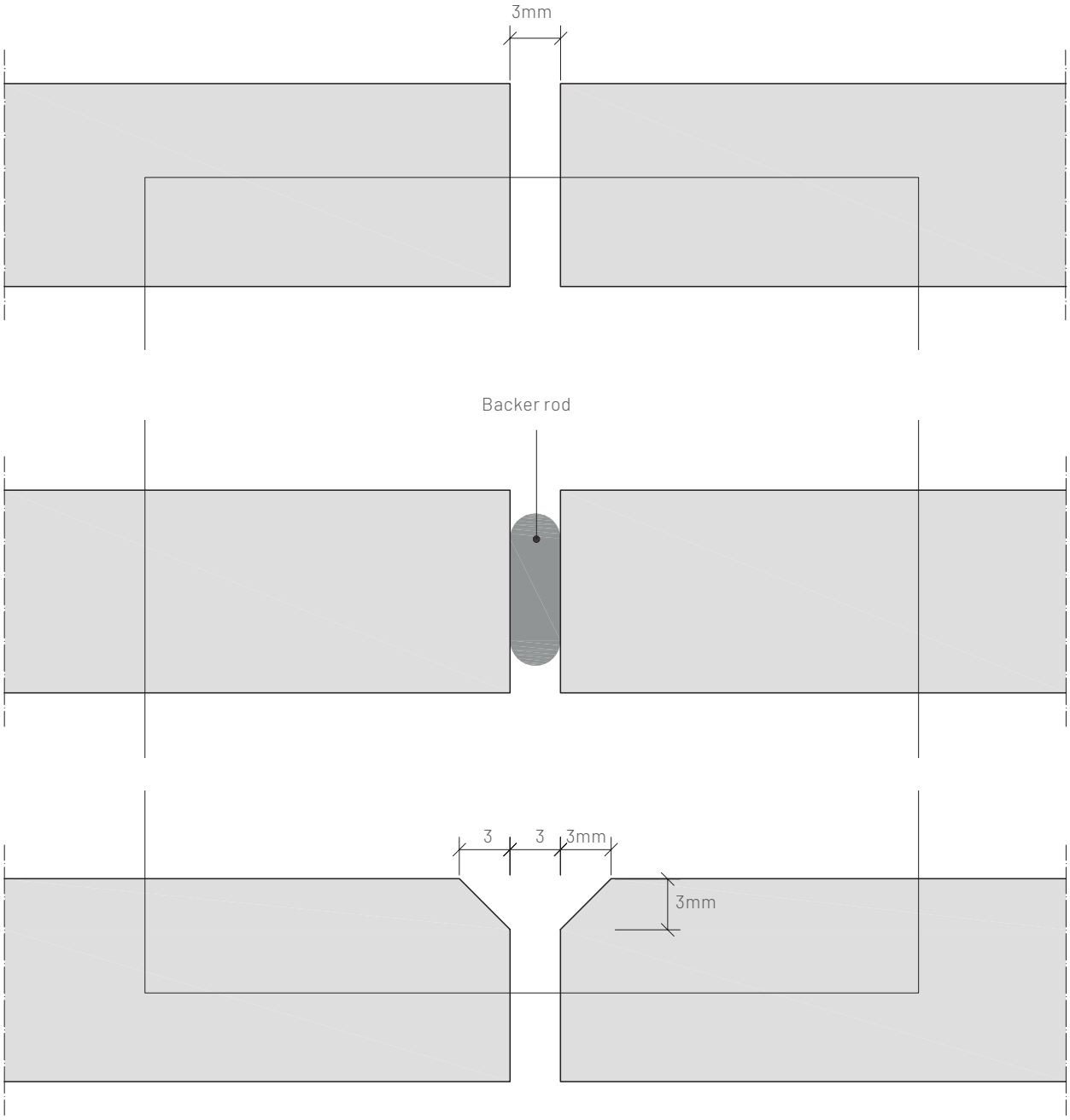
6. Internal Wall Cladding (continued)

Detail of the joint



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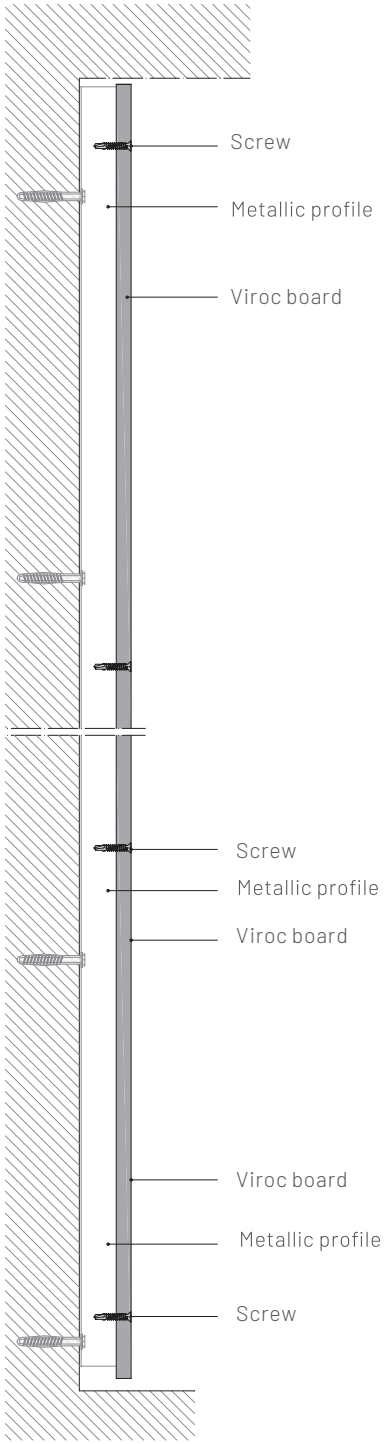
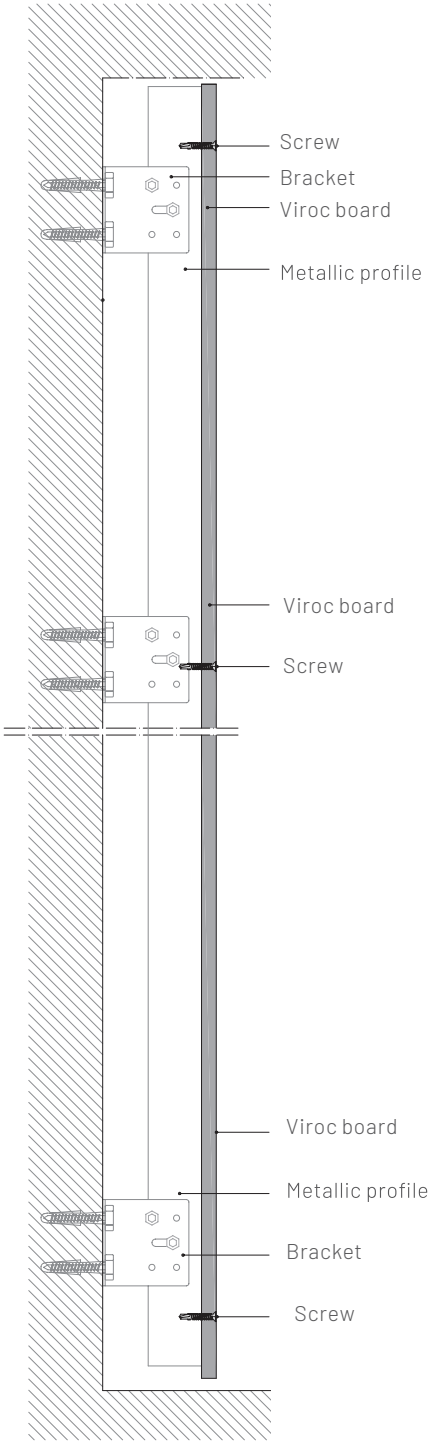
6. Internal Wall Cladding (continued)

Vertical sections

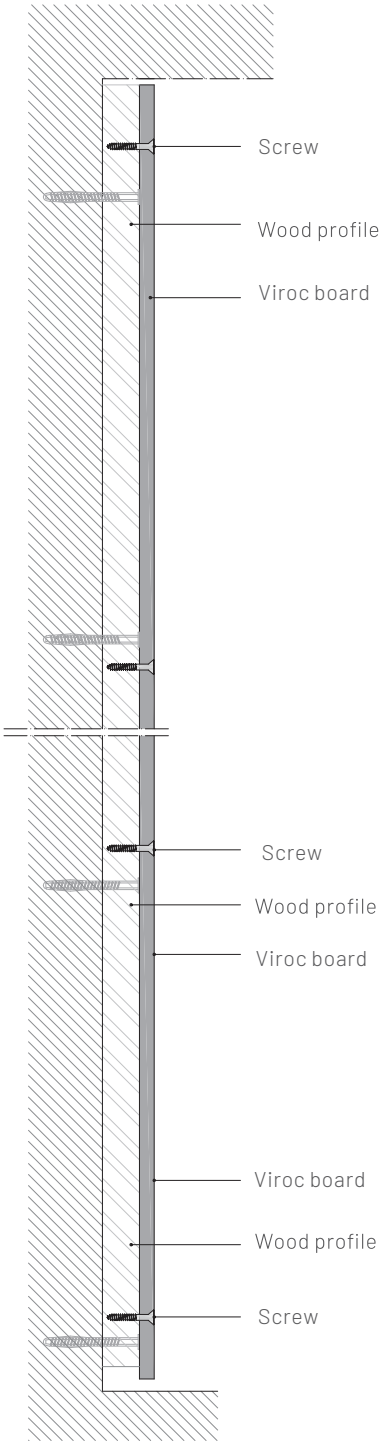
Steel structure



Steel structure (alternative)



Wood structure



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