

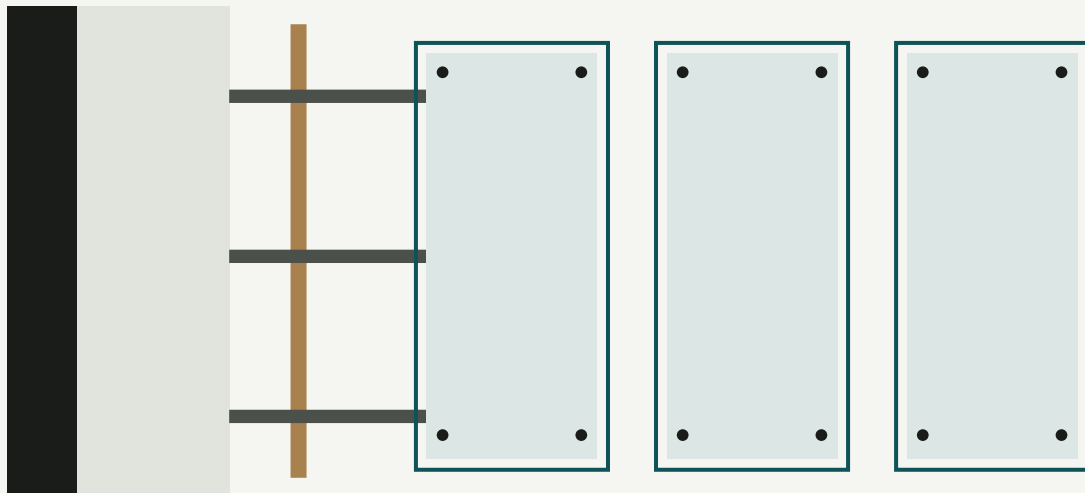
APPLICATION ENGINEERING

Exterior Compact Laminate

INSTALLATION GUIDE

Design coordination, direct fixing, movement joints, subframe interfaces and reference concealed-fixing details.

VENTILATED EXTERIOR PANEL ASSEMBLY



01 / PURPOSE

Use this guide as a coordination document

The guide organizes the reference installation details into a WIVICS workflow. Final panel size, thickness, support spacing, fasteners, anchors, subframe and weathering details must be verified for the actual project.

System principle

1. Define exposure, substrate and design loads.
2. Configure panel thickness, module, joints and support grid.
3. Coordinate machining, fixed/sliding points and interfaces.
4. Install, inspect and record the completed assembly.

SCOPE

Included

- Panel joints and movement
- Corner and machining principles
- Direct-fixing point logic
- Reference support-grid dimensions
- Openings and termination concepts
- Concealed-fixing reference concept

SCOPE

Project-specific

- Wind and structural calculations
- Fire, code and approval requirements
- Anchor pull-out and substrate capacity
- Waterproofing and flashing design
- Fastener material and coating selection
- Shop drawings and installation method statement

IMPORTANT

This document does not replace structural design or approved shop drawings.

Where a drawing, calculation, product approval or local code requires a different value, the project-specific requirement governs. Do not begin installation until conflicts are resolved in writing.

02 / DESIGN INPUTS

Confirm the conditions before panel release

Panel geometry and fixing cannot be selected independently from the building substrate, exposure, drainage path and installation sequence.

01

Panel

Grade, thickness, finish, module, grain direction, exposed edges and maximum sheet utilization.

02

Loads

Wind pressure and suction, impact, maintenance access and any local concentrated loads.

03

Support

Substrate condition, anchor zones, corrosion environment, tube/profile size and tolerances.

04

Movement

Panel dimensional movement, building movement, thermal range and joint width.

05

Moisture

Ventilation, drainage, flashings, cavity continuity and openings or penetrations.

06

Execution

Access, lifting, machining location, setting-out datum, inspection hold points and replacement access.

Release gate

Approved shop drawings must identify every panel, joint, fixed point, sliding point, support member, opening, corner, flashing and non-standard condition before fabrication starts.

03 / JOINTS

Allow panels to move and the cavity to drain

A joint is a functional part of the assembly. It coordinates dimensional movement, tolerance, ventilation, drainage and the intended visual rhythm.

10 mm

Nominal reference joint

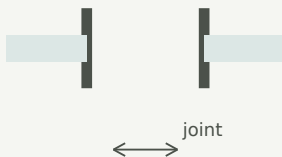
The supplied details use an 8-10 mm range and repeatedly identify 10 mm as the minimum/reference value. WIVICS therefore carries 10 mm as the coordination starting point, subject to project verification.

2 mm/m

Movement allowance reference

Coordinate the joint and hole geometry so panel movement is not restrained. Confirm the actual movement calculation for the selected panel and climatic range.

Open vertical



CONCEPT - NOT TO SCALE

Closed vertical



CONCEPT - NOT TO SCALE

Tongue detail



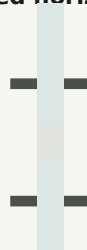
CONCEPT - NOT TO SCALE

Open horizontal



CONCEPT - NOT TO SCALE

Halved horizontal



CONCEPT - NOT TO SCALE

Tongue detail



CONCEPT - NOT TO SCALE

04 / CORNERS + MACHINING

Protect the edge and preserve movement clearance

Closed corners provide a controlled appearance, but the selected detail must not lock the panels together or block required drainage.

Internal / return



$$b \geq 5 \text{ mm}$$

REFERENCE CONCEPT

External / profile



$$c \geq 10 \text{ mm}$$

REFERENCE CONCEPT

Open corner



project-defined

REFERENCE CONCEPT

MACHINING

Fabricate clean, controlled edges

- Prefer CNC machining before delivery to site.
- Use carbide- or diamond-tipped tooling suitable for compact laminate.
- Support the sheet fully and control feed to prevent edge chipping.
- Coordinate every cut-out, hole, notch and edge treatment on the shop drawings.
- Reject panels with cracks, delamination, chipped corners or incorrect hole geometry.

EDGE RULE

$$d = 1/2 t$$

Source reference for a corner machining dimension.
Confirm the final profile with the fabricator.

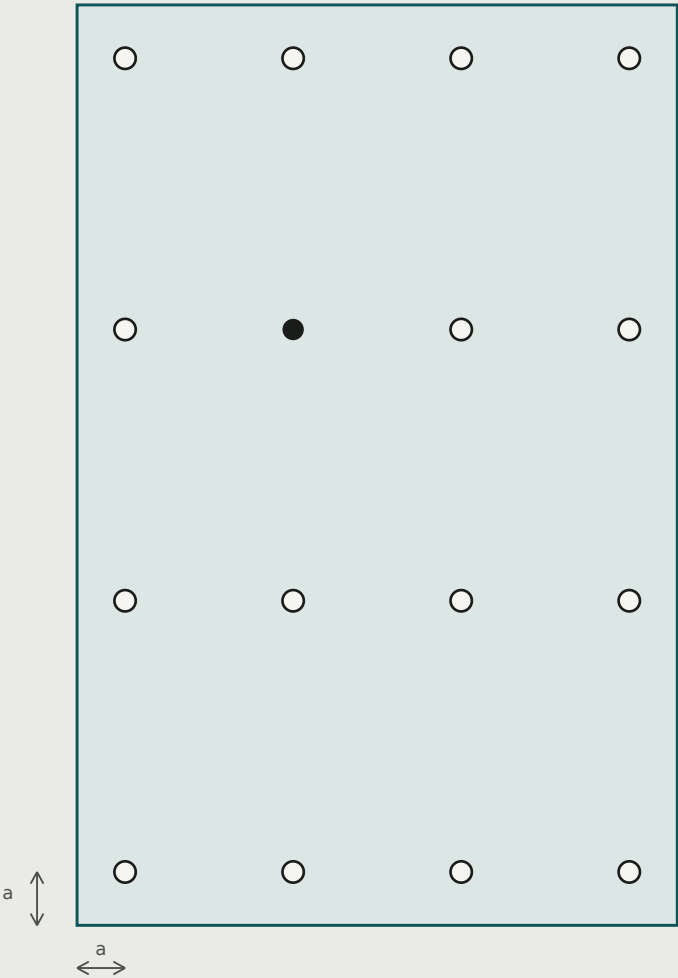
Do not machine an unapproved field solution

If site machining is unavoidable, use an approved method statement, protect the finished face and edge, verify the tool and pilot cut, and record the revised panel identification.

05 / DIRECT FIXING

Use one fixed point; let the remaining points slide

The fixed point establishes the panel position. Oversized sliding holes allow dimensional movement without transferring unwanted stress into the sheet.



FIXING LAYOUT CONCEPT

Reference maximum fixing intervals

PANEL THICKNESS	X DIRECTION	Y DIRECTION
8 mm	600 mm	600 mm
10 mm or more	700 mm	700 mm

Use these as source-reference limits only. Reduce spacing when calculations, edge zones or project approvals require it.

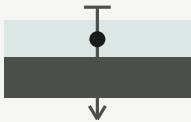
REFERENCE

Edge + hole geometry

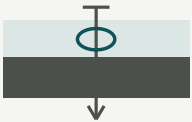
- Panel basis: 8 or 10 mm; max. 1200 x 2400 mm
- Edge distance a: 20-50 mm
- Fixed hole: 5.5 mm diameter
- Sliding hole: 8 mm diameter
- Nominal joint: 10 mm

Verify panel size, loads and the approved fastener system.

Fixed point



Sliding

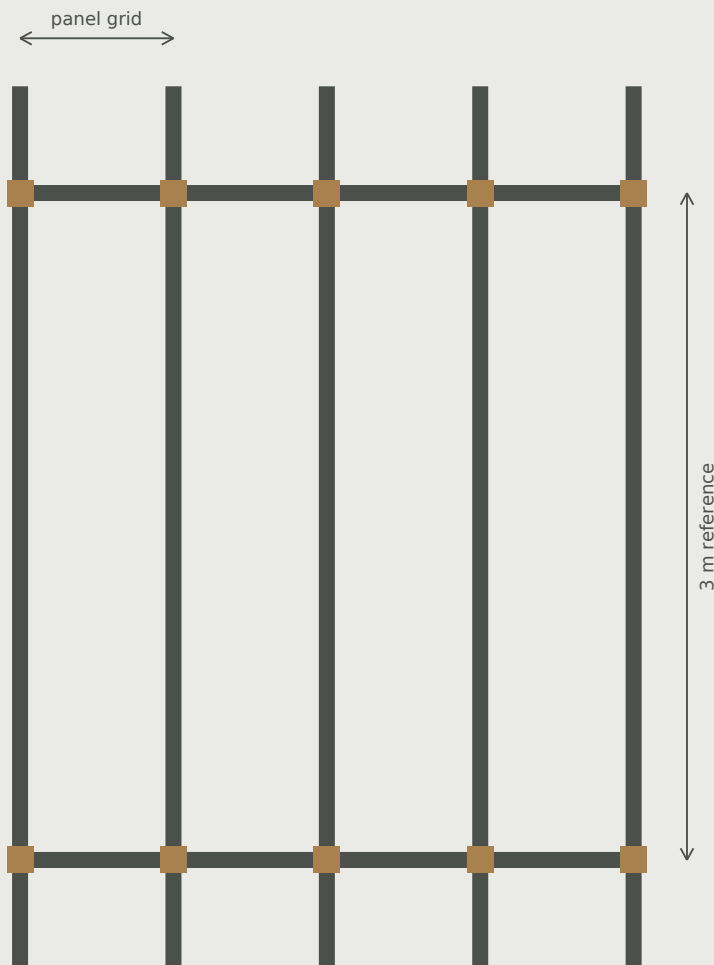


Seat the head correctly. Do not clamp an oversized sliding hole so tightly that panel movement is prevented.

06 / SUBFRAME

Coordinate the support grid with every panel fixing point

The subframe transfers panel loads to the building. Its geometry, anchors, welds and corrosion protection must be designed and inspected as a complete system.



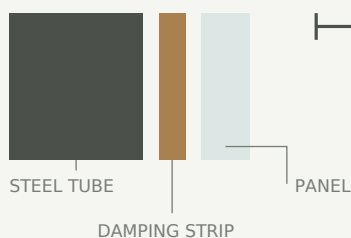
SUBFRAME ELEVATION - CONCEPT

SOURCE**Reference components**

- 80 x 40 x 2 mm galvanized steel tube
- M10 anchor bolt
- Bracket not thinner than 5 mm
- 1-2 mm vibration-damping strip
- Corrosion treatment to welded areas

VERIFY**Engineering checks**

- Design loads and deflection
- Anchor type and embedment
- Weld size and accessibility
- Galvanic compatibility
- Cavity depth and drainage
- As-built tolerance

Typical direct-fixing build-up

Continuous support and damping strip must align with the approved fixing line. Do not bridge unsupported gaps or draw a distorted frame flat by tightening the panel.

07 / INSTALLATION

Install from an approved datum and preserve the designed clearances

The sequence below converts design intent into a controlled site operation. Record each hold point before the next layer hides the work.

1

Receive + protect

Check panel IDs, dimensions, finish, edges and damage. Store flat, supported and protected from contamination.

2

Survey substrate

Confirm anchor zones, line, level, plumb and opening dimensions against the approved drawings.

3

Install subframe

Set brackets and rails to datum. Inspect anchors, welds, corrosion treatment and tolerances.

4

Apply interface strip

Install the specified continuous 1-2 mm damping/separation strip at panel support lines.

5

Set out panels

Transfer panel grid, joint lines and fixing-point locations. Dry-check corners and openings.

6

Fix the datum panel

Install the approved fixed point first, then sliding points. Maintain joint width and do not over-tighten.

7

Continue + interface

Work in the planned direction. Complete flashings, window, eave, base and penetration details.

8

Inspect + hand over

Check alignment, movement, fasteners, drainage and finish. Record nonconformities and as-built changes.

STOP WORK

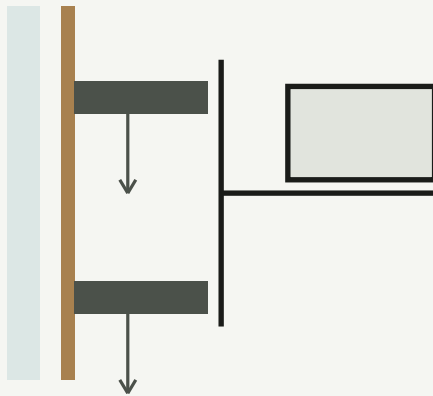
Stop if the substrate, panel, hole, joint or support line does not match the approved documents. Do not force-fit panels or conceal a deviation.

08 / INTERFACES

Keep water-management layers continuous at openings and terminations

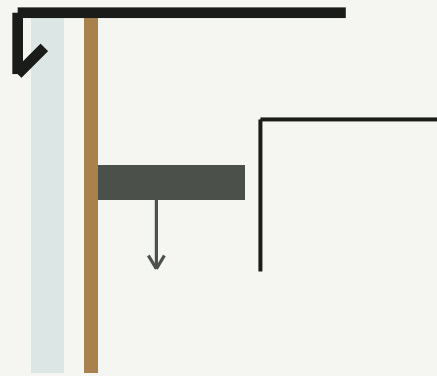
These diagrams show coordination intent, not a universal waterproofing detail. Flashings, membranes, seals, drips and cavity closures must follow the project envelope design.

Window jamb / vertical



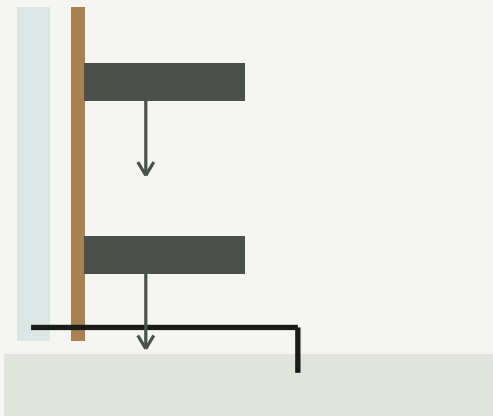
Coordinate return, sill and head as one opening.

Eaves / top termination



Provide drip, ventilation and closure as designed.

Base / lower termination



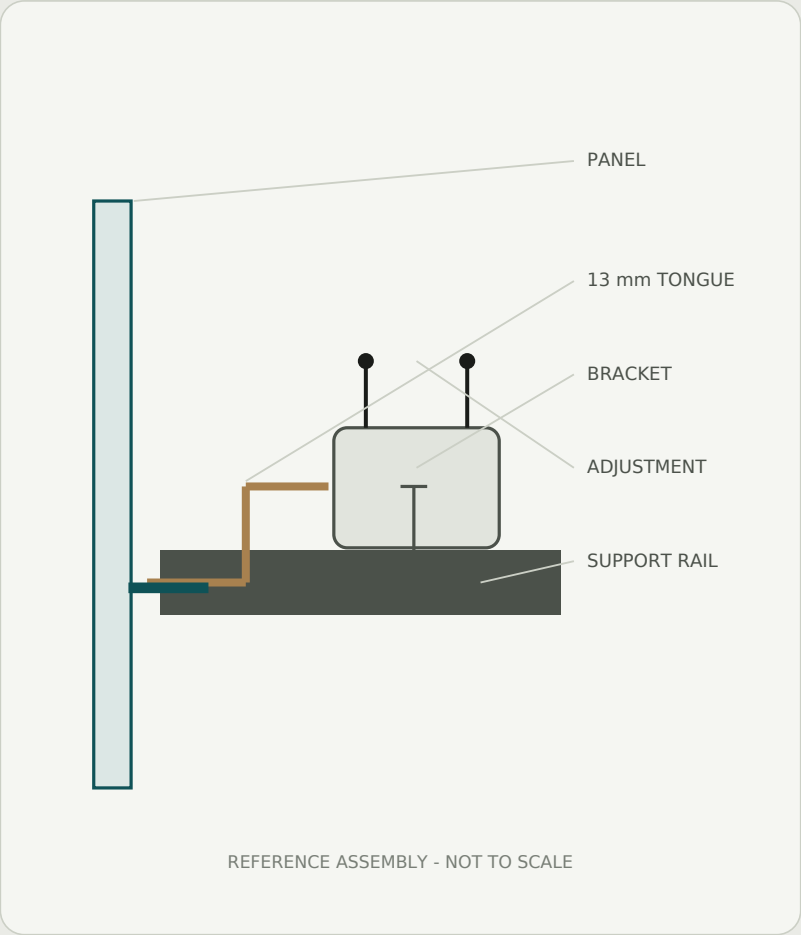
COORDINATE

- Panel clearance above finished level
- Cavity drainage and insect protection
- Drip edge and splash-back exposure
- Termination profile and replaceability
- Adjacent waterproofing continuity

09 / CONCEALED FIXING

Treat concealed fixing as a separate engineered system

The supplied reference drawings show a bracket, adjustment bolts, stainless self-drilling screw, blind rivet and a 13 mm tongue element. These details must not be combined casually with the direct-screw layout.



REQUIRED
System information

- Tested bracket and rail data
- Panel groove/tongue geometry
- Rivet and screw specification
- Adjustment and locking method
- Design load capacity
- Installation tolerances

HOLD POINT

Do not release a concealed-fixing package until the proprietary system, calculations, mock-up and replacement method are approved.

Direct vs concealed fixing

ITEM	DIRECT FIXING	CONCEALED FIXING
Panel face	Visible color-head screws	No face fasteners
Movement	Fixed + sliding holes	System-specific clips/rails
Engineering	Fastener + support grid	Bracket, rail, groove and fastener
Release	Approved direct-fix layout	Approved proprietary assembly

10 / INSPECTION

Close the work with evidence, not appearance alone

Inspect the substrate, concealed work and completed surface in stages. Record the approved deviations and retain traceable as-built information.

1 Before panels

- ☐ Substrate survey accepted
- ☐ Anchors and brackets verified
- ☐ Subframe line, level and plumb recorded
- ☐ Weld treatment and corrosion protection complete
- ☐ Damping strip continuous at support lines

2 During installation

- ☐ Panel identity and orientation correct
- ☐ Joint gauges used
- ☐ Fixed point located as approved
- ☐ Sliding holes and fastener seating verified
- ☐ Corners, openings and flashings coordinated

3 Final handover

- ☐ Surface alignment and joint rhythm accepted
- ☐ No chipped edges, cracks or distorted panels
- ☐ Drainage and ventilation paths unobstructed
- ☐ Fastener finish and torque/seating consistent
- ☐ As-built drawings and inspection records issued

Minimum handover package

Approved shop drawings / structural and anchor records / material and fastener data / inspection photographs / nonconformance close-out / as-built panel schedule / cleaning and replacement instructions

DOCUMENT BASIS

Prepared from nine installation-detail images supplied for WIVICS review. The diagrams in this guide have been redrawn and reorganized for coordination clarity; they are not scaled construction drawings.

PROJECT REVIEW

Configure the assembly for the actual conditions.

Share the application, location, elevation, panel module, substrate, exposure, drawings and required performance. WIVICS can coordinate the panel configuration, fabrication logic and installation interfaces for project review.

APPLICATION	Exterior cladding / facade panel
SYSTEM	Compact laminate panel
METHOD	Direct or approved concealed fixing
OUTPUT	Coordinated panel and interface package