

ANYIPRO Horizontal Siding System

Construction & Installation Technical Guide

Scope of Application: This guide applies to the on-site construction and installation of the ANYIPRO Concealed Clip Rain-Barrier Curtain Wall System. The content covers technical requirements throughout the entire process, including product specifications, storage and handling, cutting and processing, batten layout, ventilation control, and joint construction. It is intended for construction personnel, project technical leads, and installation supervisors.

Panel Thickness:

Standard 8 mm

Standard Dimensions:

2440 × 150 mm (8 ft × 6 in)

Installation Process:

Concealed dedicated clips, no exposed fasteners

System Function:

Rain-barrier curtain wall + ventilated air cavity



System Design Concept

High Efficiency & Clean Appearance:

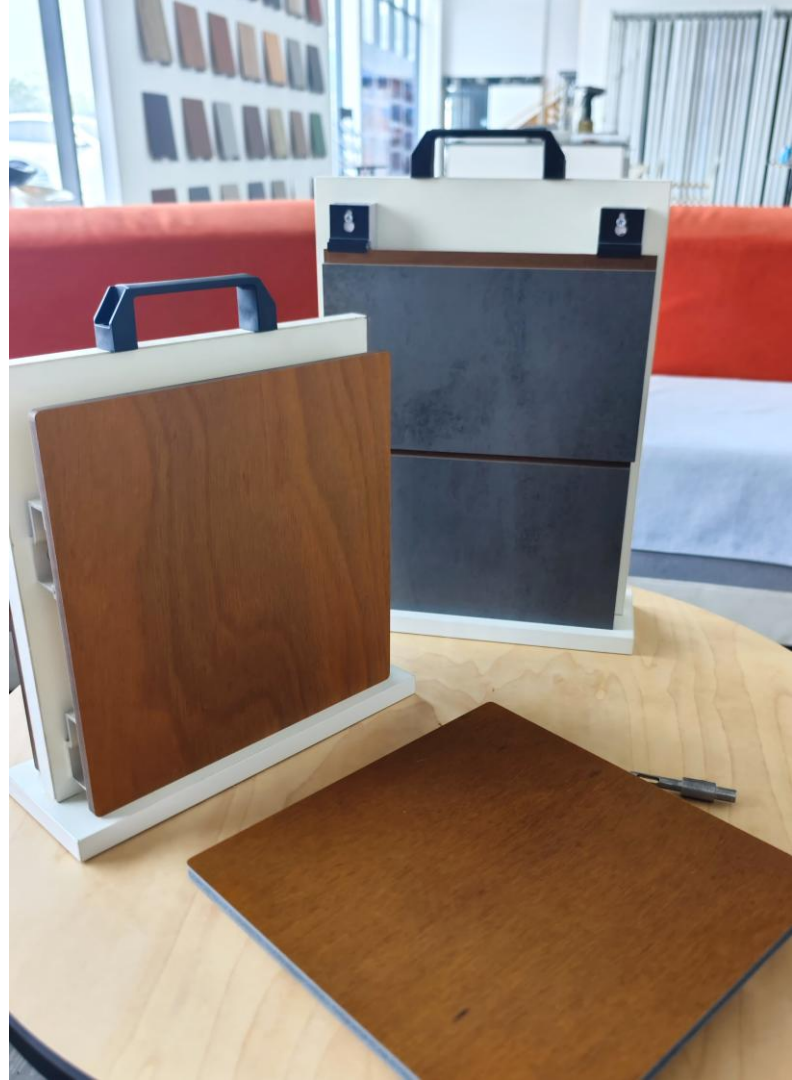
The ANYIPRO Horizontal Siding System utilizes a concealed dedicated clip design to achieve fast and simple installation of finished siding panels. The core advantages lie in high installation efficiency, a clean appearance without exposed fasteners, and excellent rainproof and moisture-proof performance.

Ventilation & Air Cavity:

This system connects and fixes the panels to the wall battens via concealed clips. A ventilation air cavity of no less than 6 mm is reserved behind the panels to effectively block rain penetration, promote wall drying, and significantly enhance the durability and lifespan of the exterior wall.

Substrate Compatibility & Thermal Expansion:

The system is compatible with various structural substrates, including common wall base materials such as OSB and plywood. It integrates with a Water Resistant Barrier (WRB) to form a complete exterior wall protection system. Simultaneously, the clip design allows the panels to expand and contract freely during temperature and humidity fluctuations, preventing cracking or warping caused by over-constraint.



Strict Storage & Site Handling Regulations

On-site storage and handling operations of panels directly affect installation quality and finished product performance. The manufacturer shall not be held liable for panel damage caused by improper operations, and the construction unit shall strictly comply with the following specifications.

Environmental Protection

Panels must be strictly protected from rain and direct sunlight during storage to avoid drastic changes in temperature and humidity, which can lead to moisture absorption, warping, or discoloration. Storage areas should be dry, well-ventilated, and covered.

Protection of Remaining Panels

Opened but unused panels must have the remaining portion covered with the protective cardboard box or original packaging to prevent contamination, scratches, and moisture, keeping the panel surface clean and intact.

Unloading & Unpacking

When removing panels from a pallet, each piece must be lifted vertically as a whole. Dragging or pulling from one side or diagonally is strictly prohibited. Dragging rigid corners can scratch the surface of the panel underneath, causing unnecessary waste.

Storage Requirements

Prior to installation, panels must be laid flat, kept dry, and properly covered. Wet installation is strictly prohibited—installing panels in a wet state will cause joint shrinkage and deterioration after drying, resulting in irreversible aesthetic defects.

Prohibited Stacking Practices

Uninstalled panels that have been removed from packaging are strictly prohibited from leaning against walls or uneven surfaces. Uneven stress can easily cause plastic deformation of the panels, affecting subsequent installation flatness and the system's waterproof performance.





PPE Requirements

Cutting dust poses a potential hazard to the respiratory tract; the construction site must be equipped with dust masks (**FFP2 grade or higher**), safety goggles, and protective gloves.

Cutting Processing Operations & Safety Requirements

Siding panel cutting is a critical process involving both operator safety and cutting quality. Operations must strictly follow the regulations below, with special attention paid to dust protection and correct tool selection.

Tool Selection Specifications

- **Preferred Solution:** Circular saw with a vacuum dust collection device minimizes airborne dust concentration to protect operator health while keeping the workspace clean.
- **Alternative Solution:** Handheld circular saw (without dust collection) operators must wear standard-compliant dust masks and safety goggles, and nearby personnel must be evacuated or protected.

Key Technical Parameters

- **Blade Diameter:** Circular saws with a blade diameter of ≥ 8 inches must be used.
- **Blade Type:** Fine-tooth blades must be used to ensure smooth and clean cuts.
- **Cutting Method:** Operate in the same manner as processing hardwood, plywood, or OSB.
- **Airflow Direction:** The workstation airflow must safely blow dust away from the operator and surrounding personnel.

Wall Support & Batten Layout Requirements

Warning: The layout spacing of battens and clips directly determines the long-term uniform stress distribution and stability of the system. Construction exceeding the specified spacing will cause the mid-span of the panels to hang unsupported, leading to deflection and warping, or even clip detachment. This must be strictly executed.

600mm

Maximum Batten Spacing (600 mm)

The maximum layout spacing for fixing battens on the wall surface is 600 mm (24 inches). Certain battens may be omitted depending on the design, but the spacing must never exceed this limit.

600mm

Maximum Clip Spacing (600 mm)

The maximum horizontal layout spacing for fixing clips on the wall is also 600 mm (24 inches), keeping consistent with the batten spacing.

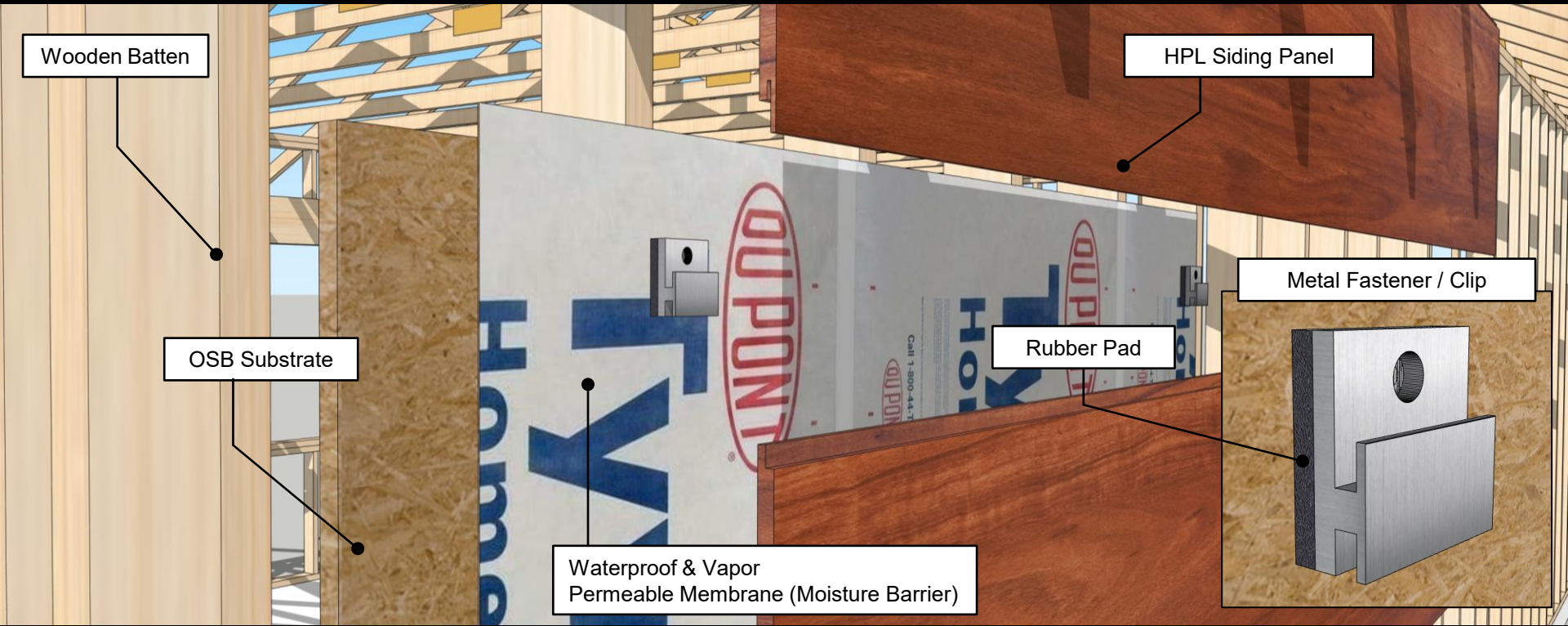
≥ 3

Minimum Support Points

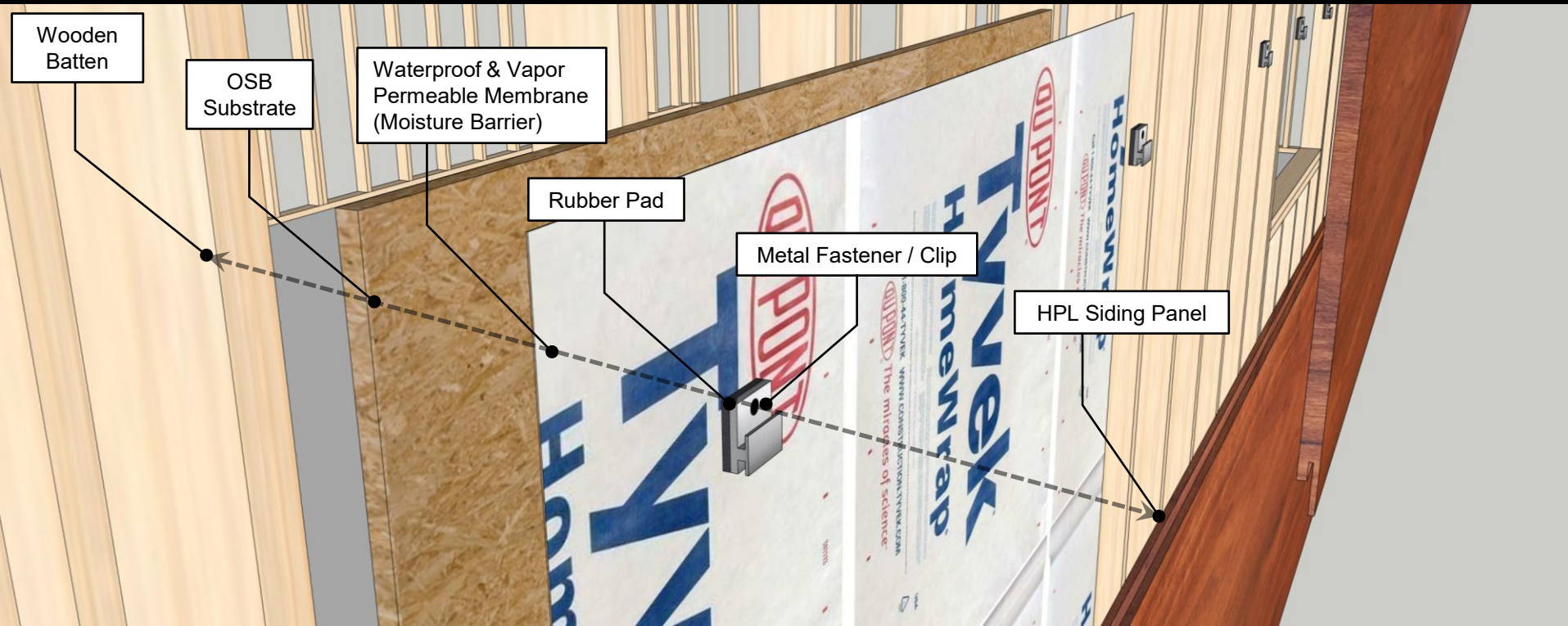
Each panel strip must have at least 3 independent support points along its length to ensure uniform stress distribution and prevent mid-span sagging.

Supplementary Specifications: The above spacing requirements are the upper limits allowed by the system. Actual construction should integrate panel length, load conditions, and local wind pressure codes, with closer layout spacing applied where necessary. Batten substrates must be waterproof wooden battens or galvanized metal battens; the use of untreated ordinary lumber is strictly prohibited.





Structure Labeling - Wood Structure House (Metal Batten-Free Installation)



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Support Point Density Specifications for Different Panel Lengths

Principle: Panel strips of different lengths have significantly different requirements for support point configurations due to varying aspect/slenderness ratios. Operators must determine support locations and quantities based on the actual cut length of the panels, and avoid applying a single uniform spacing standard to all panel lengths.



Long Panels (Length > 1200mm)

A support point must be set every 400–600 mm along the length. Excessive spacing will cause obvious deflection of the mid-span under self-weight and wind loads, which may develop into permanent deformation over time. It is recommended to plan a unified support layout diagram combined with batten positions.

Medium Panels (300–600 mm)

In addition to the support points at both ends, an extra support point must be added exactly in the middle of the panel strip to form a three-point support system. This center support effectively prevents the panel from bulging or sagging in the middle due to expansion and contraction caused by temperature and humidity changes.

Short Panels (Length < 300mm)

When the length is short, the panel's own rigidity is sufficient to maintain its shape. Only two support points are required, one at each end, to meet requirements. Excessive mid-span supports may restrict normal expansion and contraction and should be avoided.

Scientific Ventilation & Expansion/Contraction Control

Core Technology: The ventilation layer and expansion/contraction control are key to the system's waterproof durability. Each panel strip must distinguish between "Fixed Points" and "Floating Points" installation methods to accommodate material expansion and contraction across seasons, preventing panel cracking, warping, or clip damage due to over-constraint.

Ventilation Layer Requirements

A ventilation air cavity of ≥ 6 mm must be reserved behind the panel strips to ensure unobstructed convection. Adequate ventilation effectively eliminates internal moisture, prevents condensation accumulation, and extends the lifespan of the panels and substrate.

Fixed Point (Anchor Point) Method

- **Quantity:** Each panel strip has one and only one fixed point.
- **Position:** The fixed point must be located exactly at the dead center of the panel strip.
- **Installation:** Use structural adhesive to securely bond and fix the dedicated clip to the panel.
- **Function:** Controls the panel so that its center position does not shift during expansion and contraction.

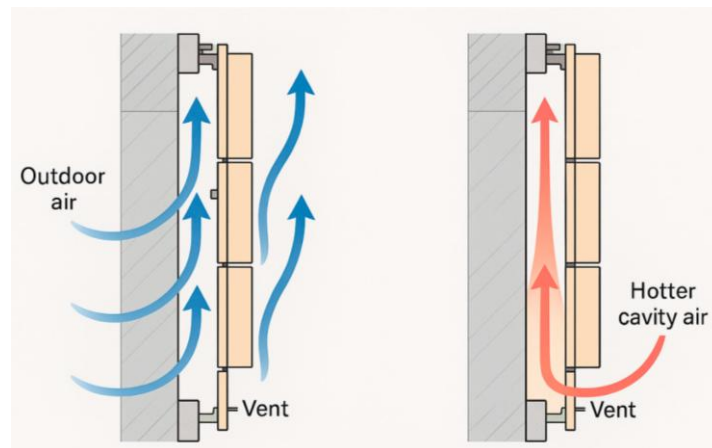
Floating Point Method

Configuration: All clip locations other than the fixed point (the center clip) are configured as "Floating Points".

Installation: Do not apply structural adhesive between the clip and the back of the panel at floating points. The panel must be allowed to slide freely left and right within the clips to accommodate linear expansion and contraction caused by temperature and humidity changes.

Why Distinguish Fixed and Floating Points?

Natural and composite panels can experience linear deformation of several millimeters per meter in high temperature-differential environments. If all clips are fixed, the panels cannot move, and accumulated internal stress will cause panel cracking or clip failure. The combined "Fixed Point + Floating Point" solution allows the panel to expand and contract symmetrically based on the center point, ensuring position stability while releasing internal stress.



← Free-Sliding Zone | Active
Free-Sliding Zone | Active Points

Active | Active Points →
Active Points | Free-Sliding Zone



Only one fix point
Only one fix point

Relieve internal forces from center

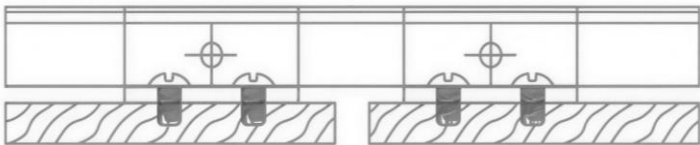
Active | Semrg Points →
Adapt to temp/humidity changes

← Active Points

Sectional View
Fixed Point (Anchor)

Active Points →





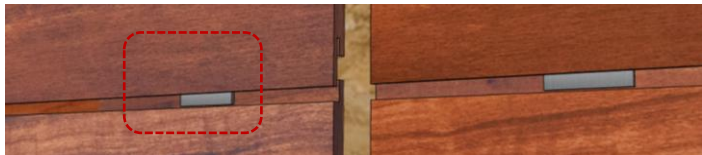
Panel Gaps & Precise Spacing Parameters

Warning: Gap configuration is a critical parameter for the system's waterproof performance and aesthetic quality. Various gaps during installation must strictly follow the values below and must not be compressed or eliminated at will; otherwise, panel failure will occur due to unreleased expansion stress. "Dead joints" (zero-clearance tight fitting) are strictly prohibited.



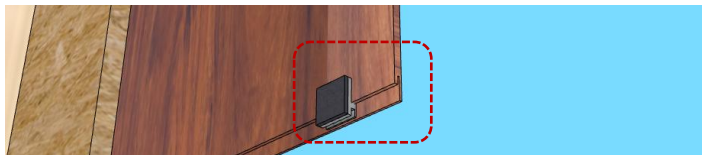
Vertical Gaps

≥ 6mm elastic expansion joint must be reserved at the butt joints of adjacent panel strips in the same row. This joint provides space for thermal expansion and contraction and must not be blocked with caulking or filling materials.



Horizontal Gaps

The horizontal gap between upper and lower rows of panels is typically maintained at 3 mm. This gap works in tandem with the rear ventilation layer to guide water drainage.



Clip Edge Distance

The distance from the center point of the fixed clip to the edge of the panel should be strictly controlled within the range of 20–40 mm. Being too close to the edge can easily cause the panel edge to split, while being too far results in insufficient clip constraint.



Ventilation Air Cavity Spacing

The core ventilation cavity gap (A) inside the system must maintain $\geq 6\text{ mm}$ under all working conditions.

Note: Dedicated positioning spacers or the clip's built-in alignment features must be used during construction to ensure uniform and consistent spacing.

Construction Sequence & Top Termination Process

Note: The installation must strictly follow the principle of bottom-to-top, row-by-row installation.

Clear briefings must be given to all installation personnel prior to construction to prevent sequencing errors that lead to rework.

Step 5: Remove Protective Film

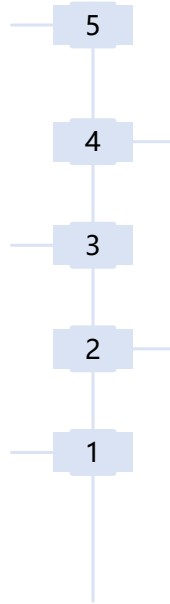
Immediately after a panel is installed on the wall, peel off the front protective film to prevent residue from affecting the appearance. High temperatures make the film harder to remove later.

Step 3: Add EPDM Rubber Strips

Pad an 8 mm thick EPDM rubber strip behind the first row panels to ensure they do not tilt after installation, maintaining surface flatness. This step is critical; if the top row is crooked, horizontal deviations will accumulate row by row down the wall.

Step 1: Install the Starter Strip

Install a 1-1/4 inch dedicated starter strip at the bottom baseline of the wall to ensure consistent angles and accurate horizontal leveling for the first row of panels.



Step 4: Install Upward Row by Row

Install the panel strips sequentially upward row by row, using concealed clips for each row, taking care to differentiate between fixed and floating point locations.

Step 2: Fix the Top Row of Panels

The first row of panels is uniquely permitted to be fixed directly using visible self-tapping screws. This row's fixing method is the sole exception to the concealed rule.

-  The padding of EPDM rubber strips is a crucial step to ensure the flatness of the first row of panels and must not be omitted. Once the first row of panels is skewed, it will cause the horizontal deviation of all subsequent rows of panels to accumulate layer by layer.

Core Joint Minimum Clearance & Flashing Requirements

Importance: Spacing configurations and flashing methods at various wall intersection joints represent the final line of defense for the system's waterproof performance. The following parameters are mandatory minimum requirements, some of which are integrated into the International Residential Code (IRC). They must be executed without compromise.

Joint Position	Minimum Clearance Requirement (Inches)	Conversion (cm / mm)	Remarks & Precautions
Roofline & Gutters to Cladding	≥ 2 inches	≥ 5.08 cm (≈ 5.1 cm)	Ensures roof drainage does not directly wash over cladding, preventing long-term water logging penetration.
Decks, Patios & Masonry Penetrations	≥ 1/4 inches	≥ 0.635 cm (≈ 0.6 cm)	Caulking/sealing is prohibited at these specific locations to preserve drainage pathways.
Foundation Grade to Cladding	≥ 4 inches	≥ 10.16 cm (≈ 10.2 cm)	Must comply with IRC codes to prevent ground splash water and soil contamination.
Concrete Mortar & Brick/Stone Structures	≥ 1 inches	≥ 2.54 cm (≈ 2.5 cm)	Prevents mortar from absorbing water and back-osmosing, keeping the back of the cladding dry.
Eaves Roof Tile Extension	≥ 1 inches (extending past fascia board)	≥ 2.54 cm (≈ 2.5 cm)	Locations with eave gutters must ensure tiles project sufficiently to guide drainage.

General Installation Requirements

- Various joints (windows, wall corners, penetrations, etc.) must be fitted with Z-shaped or L-shaped waterproof flashings according to design.
- The overlapping direction of flashings must ensure that water drains outward; reverse overlapping is strictly prohibited.

Why Clearances Matter

Joint clearances provide drainage pathways and accommodate movement from thermal expansion. Insufficient clearance leads to capillary water penetration, long-term dampness, corrosion at panel bottoms, rusted clips, and substrate damage, culminating in systemic waterproof failure.

Typical Joint Construction

Base & Head Details

Standard Structural Layers (From Inside to Outside)

01 OSB Wall Sheathing / Plywood Substrate

Structural base layer providing overall support and fastening foundation

02 Water Resistant Barrier (WRB)

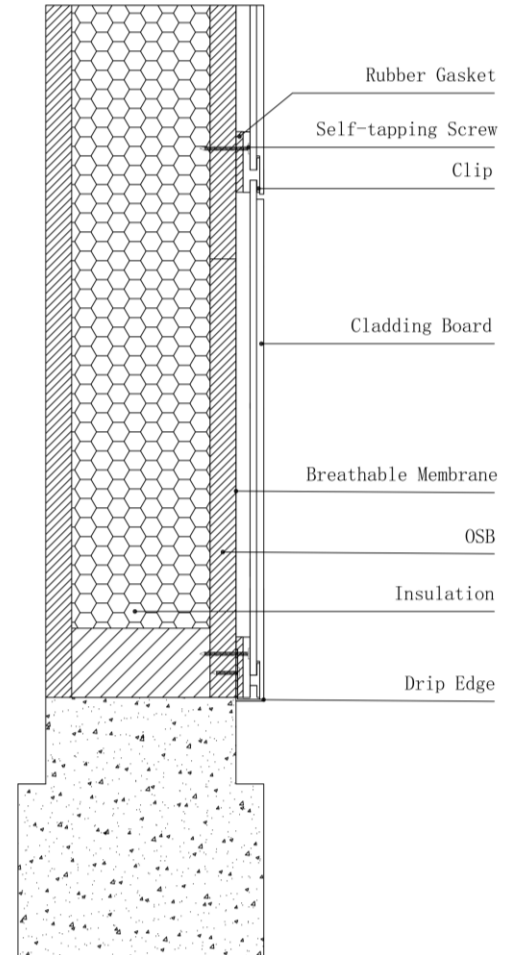
Blocks liquid water penetration while allowing water vapor to escape outward

03 Dedicated Fixed Clip & Matching Siding Panel

Concealed clip installation, forming the main decorative surface layer

04 Aluminum Alloy J-Channel Trim + Fixing Screws

Top and bottom edging, sealing terminations and guiding drainage



Typical Joint Construction

Base & Head Details

Base & Head Ventilation Assurance

The bottom and top counter-flow ports serve as the intake and exhaust vents for the entire ventilation system; their effective ventilation area directly determines the air circulation quality behind the wall.

Perforated Insect Screen:

An insect screen must be installed at the bottom port to prevent insects from nesting in the ventilation layer while keeping airflow unobstructed.

Ventilation Layer Net Depth:

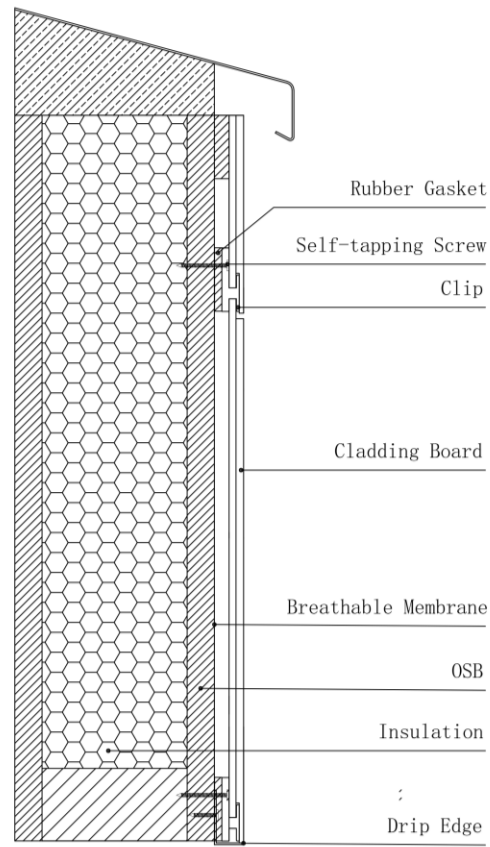
The net depth of the ventilation layer at the insect screen must maintain ≥ 6 mm.

Top Exhaust:

Top termination ventilation ports must not be blocked, ensuring hot and humid air can smoothly discharge upward.

J-Channel Installation:

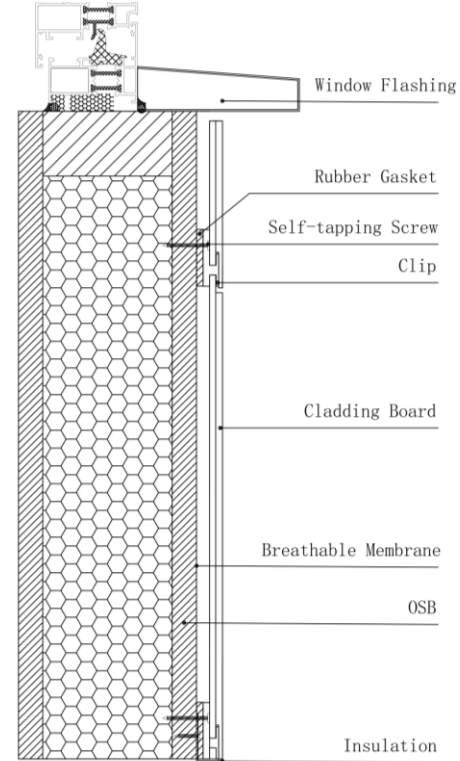
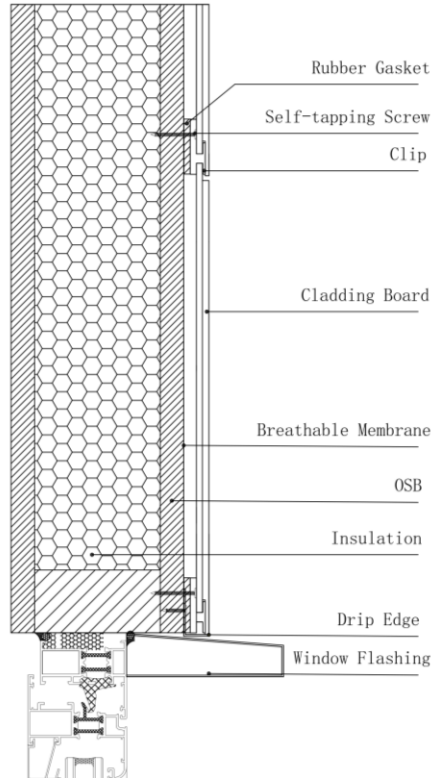
Fixing screw spacing for the aluminum J-channel should not be too dense, avoiding restrictions on the thermal expansion and contraction of the trim profile.



Correctly constructed base and head joints effectively create a "Chimney Effect" natural ventilation, continuously carrying away moisture inside the wall, which is the fundamental guarantee for the system's long-term durability.

Typical Joint Construction Openings & Corners

Door and window openings and corner nodes are the weakest and most difficult parts to construct in terms of exterior wall waterproofing. Such nodes must not only meet the requirements of waterproof sealing but also reserve sufficient space for the expansion and contraction of the panels. They must be strictly implemented in accordance with the following technical parameters.



Typical Joint Construction Openings & Corners

Critical Parameters for Corners & Vertical Main Joints

Comprehensive Air Cavity Thickness:

The comprehensive system air cavity thickness of corners and main joints must be $> 20\text{mm}$ (3/4 inch). Note: The requirement of $> 20\text{mm}$ at corners is much larger than the 6mm required for normal positions, because corner areas accumulate more water and are harder to ventilate, requiring a larger buffer space.

Vertical Expansion Joint Width:

The width of expansion joints at vertical main joints must be $> 6\text{mm}$ (1/4 inch).

Sealing Restrictions:

Expansion joints at corners and joints are strictly prohibited from being sealed tight with rigid fillers. A flexible approach using backer rods + weather-resistant silicone sealant should be employed.

Flashing Priority:

Flashing installation around all openings must be completed before cladding installation, ensuring the correct direction for water routing.

