Code Compliance Research Report
CCRR-0527

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Revised Date: 01-22-2025
Renewal Date: 01-31-2026

DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION
Section: 07 42 43 – Composite Wall Panels

REPORT HOLDER:
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REPORT SUBJECT:
Max Compact Exterior F-Quality Exterior Cladding System

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2024, 2021 and 2018 *International Building Code®* (IBC)
- 2024, 2021 and 2018 *International Residential Code®* (IRC)
- 2022 *California Building Code* (see Section 9)
- 2023 *Florida Building Code* (excluding High-velocity Hurricane Zones) (see Section 9)

NOTE: This report references the most recent Code editions cited. Section numbers in earlier editions may differ.

1.2 The Max Compact Exterior F-Quality exterior cladding system has been evaluated for the following properties (see Table 1):

- Physical properties
- Weather resistance
- Wind load resistance
- Surface burning characteristics

1.3 The Max Compact Exterior F-Quality exterior cladding system has been evaluated for the following uses (see Table 1):

- Use as exterior wall covering on buildings of Types I, II, III, IV and V construction
- Use as interior finish

2.0 STATEMENT OF COMPLIANCE

The Max Compact Exterior F-Quality exterior cladding system complies with the Codes listed in Section 1.1, for the properties stated in Section 1.2 and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.

2.1 2024 IBC and IRC Evaluation Reports

3.0 The Intertek CCRR is an *Evaluation Report* for approval of an alternate material, design, or method of construction in accordance with Section 104.2.3.6.1 of the 2024 IBC and Section R104.2.2.6.1 of the 2024 IRC.**DESCRIPTION**

3.1 Max Compact Exterior F-Quality Panels: The panels are decorative high-pressure laminates (HPL) complying with IBC Section 1408. The panels are supplied in 8mm and 10mm thicknesses in panel dimensions dictated by the building design.

3.2 Exposed Fastener System: This system uses aluminum hat channel to which the panels are attached. The hat channel is 6063 T6 aluminum. Fasteners to attach the panels are #12, 304 stainless steel screws.

3.3 Concealed Fastener System: This system uses extruded aluminum wall brackets, vertical extrusion profiles, horizontal C-hangers and clips. The components are 6063 T6 aluminum. Fasteners used to attach the components are SFS TU F, 316 stainless steel anchors.

3.4 8mm Modulo ME05 System: This system uses vertical battens, and clips that are screwed into the battens and that engage the edge of the panels. The battens are 6063 T5 aluminum. The clips are 6060 T66 aluminum. Fasteners to attach the clips are #12 stainless steel screws.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Flame Spread Characteristics: The panels have a Class A classification (flame spread index of 25 or less and a smoke developed index of 450 or less) when tested in accordance with ASTM E84 (UL 723).

4.2 Wind Resistance: Assemblies tested in accordance with ASTM E330 are described in Section 5.3.

4.3 Ignition Resistance: The panels, when installed in accordance with this report, comply with NFPA 268 when tested at an incident heat flux of 12.5 kW/m^2.

4.4 Potential Heat: The panels have a potential heat of 7482 Btu/lb. based on testing in accordance with NFPA 259.

5.0 INSTALLATION

5.1 General:

The Max Compact Exterior F-Quality exterior cladding system must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

The panels are installed as an open-jointed wall covering with a nominal 3/8-in. gap between panels. The cladding system must be installed over flashing and a water-resistive barrier complying with IBC Section 1402 or IRC Section R703.

The base wall to which the system is attached must be capable of supporting the applied loads.

The panels are installed using one of the systems described in Sections 5.1.1, 5.1.2 or 5.1.3. The attachment systems are designed to create space for insulation and to provide a 1-inch air space between the insulation or water-resistive barrier and the back of the wall panel. See Figures 1 through 3.

5.1.1 Exposed fastener system: H- or J-profile aluminum extrusions are attached to the base wall with fasteners designed for the site construction. The panels are attached to the extrusions with minimum No. 12 screws having a minimum 0.5-in.-diameter head. Spacing of the extrusions and the fasteners is described in Table 2.

5.1.2 Concealed fastener system: Extruded aluminum wall brackets are attached to the base wall with fasteners designed for the site construction. Vertical extrusion profiles are spaced at 16 or 32 in. o.c. and are attached to the wall brackets with #14 fasteners. Continuous horizontal C-hangers are spaced as required for the building design, attached to the vertical extrusion profiles with 1/4-in. x 1-in. stainless steel fasteners. C-shaped clips are placed on the back of the panels, attached with two SFS TU-F anchors per clip, spaced to match the horizontal C-hangers.

5.1.3 8mm Modulo ME05 system: H- or J-shaped channels are attached to the base wall with fasteners designed for the building construction. The Max Compact Exterior Modulo ME05 panels engage the clips, which are then attached to the channels with #12, 1-1/4-in. self-drilling fasteners.

5.2 Interior Walls:

The Max Compact Exterior F-Quality wall panels may be used where a Class A, B or C interior finish is required. When installed with space between panels, the panels must be installed over a substrate having an equal classification.

5.3 Wind Resistance:

See Table 3 for allowable wind loads when installed as described in this report.

Anchorage of the Max Compact Exterior F-Quality system and the supporting wall structure must be designed for each jobsite. Calculations must be provided to the building official demonstrating the system anchorage and supporting wall meets project specified design loads and local code requirements. Design loads must not exceed the allowable wind loads for the system, as described in Table 2.

5.4 Exterior Walls of Types I, II, III and IV Construction:

Based on NFPA 285 testing and engineering analysis, when the Max Compact Exterior F-Quality exterior cladding systems are installed on walls required to be of Types I, II, III or IV Construction, construction must be as described in Table 3.

5.5 Exterior Walls of Type V Construction:

When installed in accordance with this report, the Max Compact Exterior F-Quality exterior cladding system may be used on exterior walls of buildings permitted to be of Type V construction.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 Wind design loads determined from nominal design wind speeds (V_{asd}) in accordance with Section 1609.3.1 of the IBC shall not exceed the maximum allowable wind loads given in Table 3.

6.3 Drawings, design details and calculations verifying compliance with this report and the adequacy of connections and supporting framing must be submitted to the code official for approval. The drawings and calculations must be prepared by a registered design professional when required by the statutes of the jurisdiction in which the project is to be constructed.

6.4 Use on walls required to be of fire-resistance-rated construction is outside the scope of this report.

6.5 The cladding system must be installed by qualified installers acceptable to FunderMax GmbH.

6.6 The Max Compact Exterior F-Quality wall panels are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests in accordance with ASTM E84, ASTM E330, NFPA 259, NFPA 268, and NFPA 285.

7.2 Data in accordance with the ICC-ES Acceptance Criteria Polymer-Based, Polymer-Modified and High-Pressure Laminate Exterior and Interior Wall Cladding (AC92), approved December 2013.

7.3 Intertek Listing Report "FunderMax Max Compact Exterior F-Quality High-Pressure Laminate (HPL) Panels," on the Intertek Directory of Building Products.

8.0 IDENTIFICATION

The Max Compact Exterior F-Quality panels are identified with the manufacturer's name (FunderMax GmbH), the product name, the Intertek Mark as shown below, the Intertek Control Number and the Code Compliance Research Report number (CCRR-0527).

9.0 OTHER CODES

9.1 California Building Code:

9.1.1 The Max Compact Exterior F-Quality exterior cladding system described in Sections 2 through 8 of this report complies with the 2022 *California Building Code* and 2022 *California Residential Code*. Section numbers referenced for the IBC and IRC are the same for the CBC and CRC, respectively.

9.2 Florida Building Code:

9.2.1 The Max Compact Exterior F-Quality exterior cladding system described in Sections 2 through 8 of this report complies with the *Florida Building Code - Building* and *Residential*, for editions indicated in Section 1.1 of this report, subject to the following condition:

- Use of the Max Compact Exterior F-Quality exterior cladding system for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code* has not been evaluated, and is outside the scope of this Research Report.

Intertek is an approved evaluation entity and quality assurance entity pursuant to Florida Statute 553.842 – *Product Evaluation and Approval*.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 - PROPERTIES EVALUATED

PROPERTY	APPLICABLE CODE SECTIONS[1]					
	IBC	IRC	CBC	CRC	FBC-BUILDING	FBC-RESIDENTIAL
Physical properties / durability	1408.7	104.11	1408.7	104.11	1409.7	104.11
Weather resistance	1408.6	R703.1.1	1408.6	R703.1.1	1409.6	R703.1.1
Wind load resistance	1408.4	R703.1.2	1408.4	R703.1.2	1409.4	R703.1.2
Surface burning characteristics	803.1 1408.9 1408.10.1	R302.9	803.1 1408.9 1408.10.1	R302.9	803.1 1409.9 1409.10.1	R302.9
Use in Types I-IV construction	1408.10	Not applicable	1408.10	Not applicable	1409.10	Not applicable

[1]Section numbers pertain to the most recent edition cited in Section 1.1 of this Report.

TABLE 2 – ALLOWABLE WIND RESISTANCE[1]

FASTENING SYSTEM	PANEL THICKNESS	FASTENING	ALLOWABLE WIND RESISTANCE (psf)	
			Positive	Negative
Exposed	10mm	Framing at 16 in; fasteners maximum 32 in. along framing	50	50
Exposed	8mm	Framing at 16 in.; fasteners maximum 25 in. along framing	50	50
Concealed	10mm	Wall brackets attached to base wall at 16 in. horizontally; vertical profiles attached to wall brackets with #14 fasteners; continuous horizontal C-hangers attached to vertical profiles with 1/4-in. x 1-in. fasteners; C-shaped clips attached to the back of the panel with two SFS TU F anchors per clip; clips spaced at 24 in. vertically and 12-in horizontally, or at 18 in. vertically and 16 in. horizontally	50	50
Concealed	10mm	Wall brackets attached to base wall at 32 in. horizontally; vertical profiles attached to wall brackets with #14 fasteners; continuous horizontal C-hangers attached to vertical profiles with 1/4-in. x 1-in. fasteners; C-shaped clips attached to the back of the panel with two SFS TU F anchors per clip; clips spaced at 12 in. vertically and 22 in. horizontally	50	50
Modulo ME05	8mm	Panel height – 16 in. max. (2 fasteners per clip, vertical supports at 16 in. o.c.)	50	49.5
		Panel height – 16 in. max. (3 fasteners per clip, vertical supports at 16 in. o.c.)	50	74.3
Modulo ME05	8mm	Panel height – 24 in. max. (2 fasteners per clip, vertical supports at 16 in. o.c.)	50	33
		Panel height – 24 in. max. (3 fasteners per clip, vertical supports at 16 in. o.c.)	50	48

[1]See Sections 6.2 and 6.3 of this report for conditions of use. These values are not a substitution for project specific calculations.

TABLE 3 – NFPA 285 ASSEMBLIES

Base wall system – Use either 1, 2, 3, or 4	1. Concrete wall 2. Concrete Masonry wall 3. One layer of 5/8-in.-thick Type X gypsum wallboard installed on the interior side of min. 3-5/8-in.-deep minimum 18-ga. steel studs spaced a maximum of 16 in. o.c. Lateral bracing installed min. every 4 ft. vertically or as required. Min. 4 pcf mineral wool shall be friction fit between steel wall studs at each floorline. Height of mineral wool insulation shall be the same as the floor slab thickness. 4. For walls that are not required to be fire-resistance rated, one layer of 5/8-in.-thick Type X gypsum wallboard installed on the interior side of min. 2x4 fire-retardant-treated wood studs spaced a maximum of 16-in. o.c. Lateral bracing installed as required. Minimum 4 pcf mineral wool friction fit between wood wall studs at each floorline. Height of mineral wool insulation shall be the same as the floor slab thickness.
Perimeter Fire Barrier System	Perimeter fire barrier system complying with Section 715.4 of the 2021 IBC shall be installed, as applicable, to fill the void between the edge of the building floor slab and the interior surface of the exterior wall assembly (see Notes 1 and 2).
Stud Cavity Insulation – Use either 1, 2, 3 or 4	1. None 2. Any noncombustible insulation complying with ASTM E136 3. Fiberglass batt insulation (faced or unfaced) 4. Mineral wool insulation (faced or unfaced)
Exterior Sheathing – Use either 1 or 2	1. Min. 1/2-in.-thick, exterior type gypsum sheathing complying with the applicable Code 2. Min. 1/2-in. FRT plywood sheathing with 5/8-in. Type X gypsum sheathing over the plywood
Water-Resistive Barrier (WRB) Material – Use either 1 or 2	1. Any water-resistive barrier complying with IBC Section 1403.2 or IRC Section 703.2 and shown to have both of the following: (a) a peak heat release rate of less than 150 W/m^2, a total heat release of less than 20 MJ/m^2, and an effective heat of combustion of less than 18 MJ/kg when tested on specimens at the thickness intended for use, in accordance with ASTM E1354, in the horizontal orientation, and at an incident radiant heat flux of 50 kW/m^2 (b) a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 or UL 723, with test specimen preparation in accordance with ASTM E2404 2. Any code-complying water-resistive barrier may be used when covered with min. 2-in. mineral wool exterior insulation
Exterior Insulation -- Use either 1 or 2	1. None 2. Mineral wool insulation, 1-in. to 7-in. thick, min. 4 pcf, exterior grade
Exterior Veneer System – Use either 1, 2 or 3	1. 8mm or 10mm Max Exterior F Quality panels, exposed fastening system (1-in. max. airspace) 2. 10mm Max Exterior F Quality panels, concealed fastening system (1.5-in. max. airspace) 3. 8mm Max Exterior F Quality panels, Modulo ME05 fastening system (1-5/16-in. max. airspace, which is the 1-in. extrusion and the supplied Modulo clip at 5/16 in.)
Opening Header, Sill, Jamb Protection	Openings must be framed with 18-ga. steel framing. Minimum 18-gauge steel flashing covering the full width of the opening
Flashing of window, door and other exterior wall penetrations	As an option, flash around window, door, and other exterior penetrations may be treated with limited amounts of maximum 12-inch-wide flashing tape (acrylic, asphalt or butyl-based) or liquid-applied membrane material with or without fiber mesh reinforcement.

Note 1: Building Code section references may change in different editions of the IBC.

Note 2: Fireblocking per Section 718 of the 2021 IBC and thermal barrier materials requirements must be met for Base Wall Systems 1 and 2, as required by specific wall construction details when combustible concealed space is created on the interior side of the wall assembly.

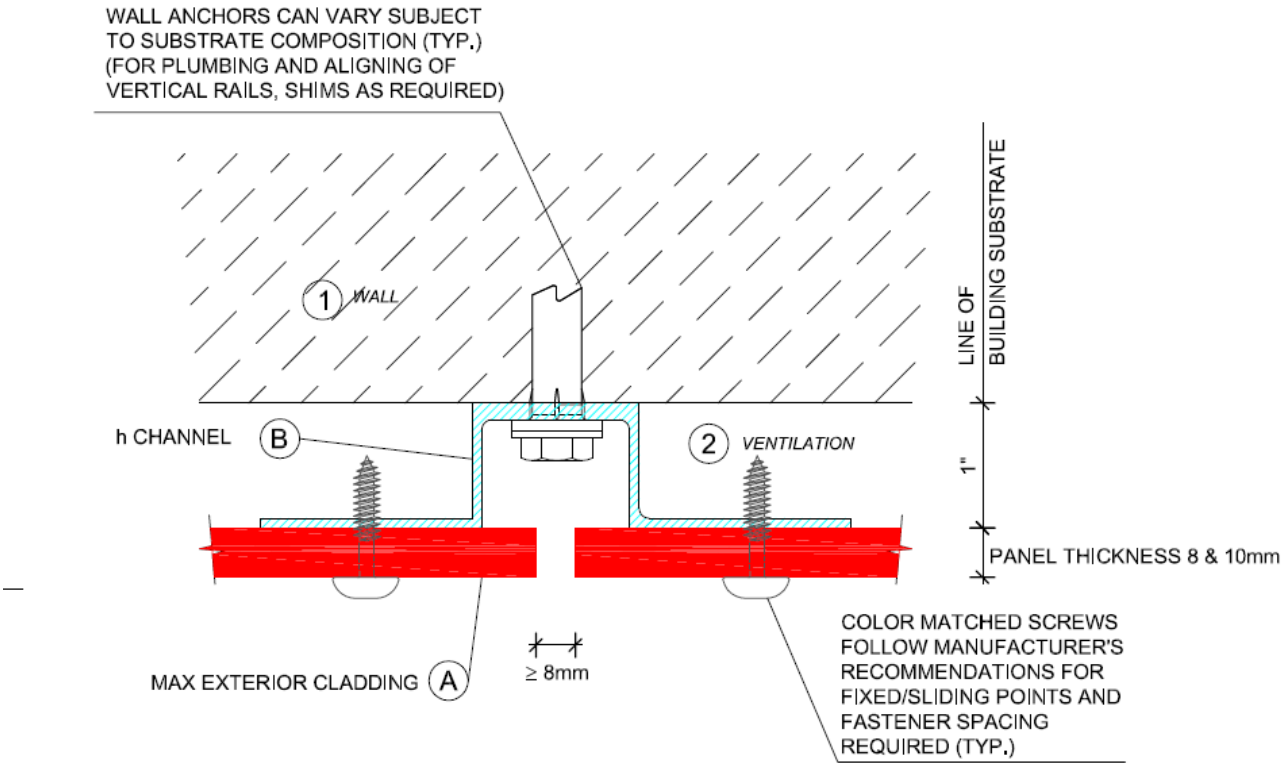

FIGURE 1 – TYPICAL DETAIL – EXPOSED FASTENER SYSTEM

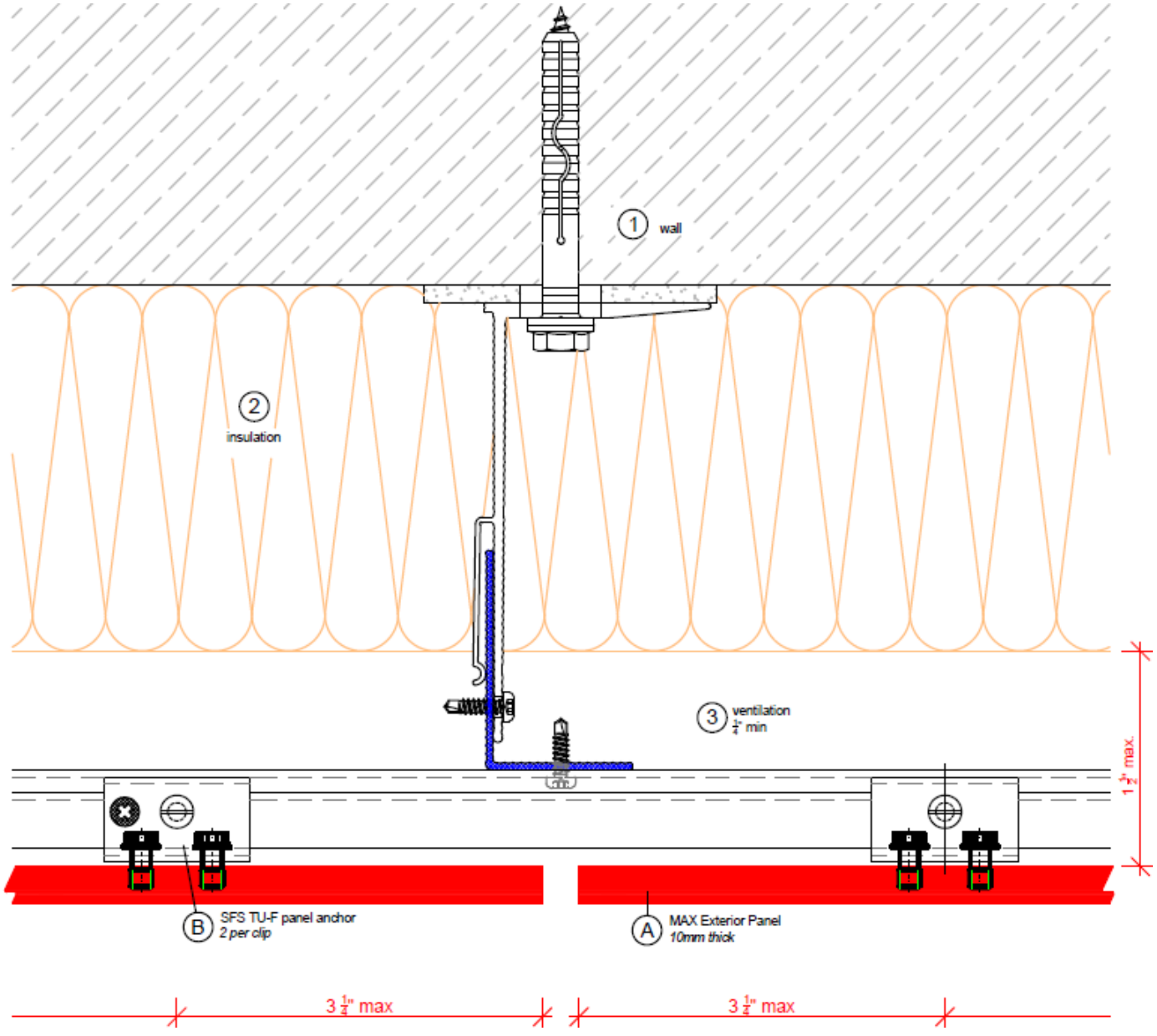

FIGURE 2 – TYPICAL DETAIL – CONCEALED FASTENER SYSTEM

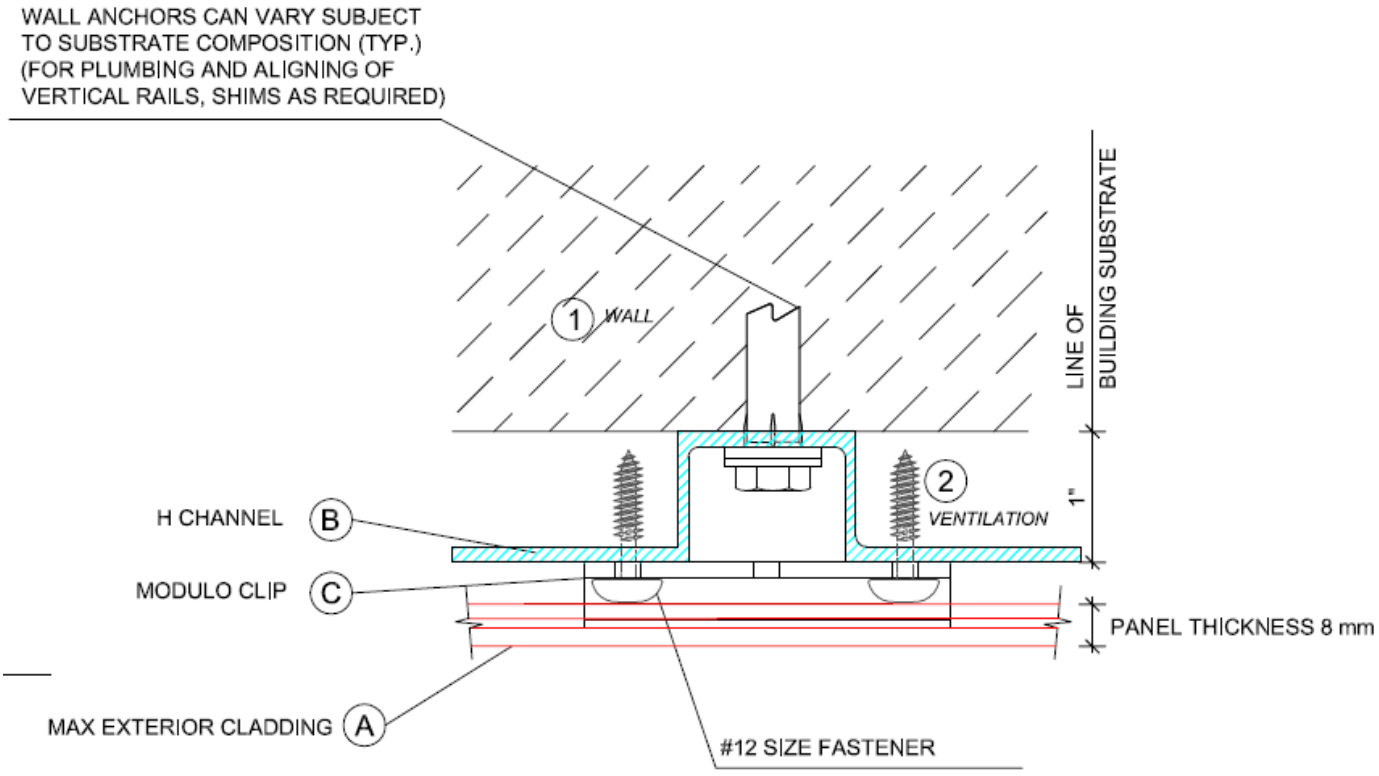

FIGURE 3 – TYPICAL DETAIL – MODULO SYSTEM – HORIZONTAL PANEL JOINT