Building with conscience.

StoVentec Fiber Cement

Wood Sub-construction Installation & Detail Booklet

Series 90.Fc.xx | April 2026

Facade

Ventilated rainscreen cladding systems

StoVentec® Fiber Cement Rainscreen® Systems combine timeless, designer aesthetics with advanced energy efficiency, creating a superior building envelope solution. The high-density, non-combustible fiber cement panels can be custom-fabricated into various shapes, offering unparalleled design versatility. Ideal for both modern and traditional architecture, StoVentec® ensures long-lasting performance, durability, and adaptability to any design vision.

Contents

System information

04 StoVentec® Fiber Cement
04 Overview of system credentials
05 General application and planning information
05 Wood Furring
06 Backup wall types
07 Air and Water-resistant barriers

08 Transport, Handling, and Storage - Pallets
09 Silica Dust Warning
09 Fabrication Tools and Equipment
10 Panel Directionality
10 Individual Panel Handling

Application of the system

12 EPDM Membrane Tape
12 SVFC Wood Screws
14 Panel Cutting and Drilling
16 Cut Edge Treatment
16 Cut Edge Recoating
16 Finish Touch-up
17 Minimum Fastener-Panel Edge Distances
17 Panels at Openings
18 Fixed Points and Sliding/Gliding Points
20 Prescriptive Wind Loads - Fastening Diagrams

Cleaning and Maintenance

22 Cleaning - Before and After Installation
22 Maintenance in the Vicinity
22 Annual Inspection

Installation Details

23 Details List - Visible Fixing on Wood Sub-construction
24 SVFC on Wood Furring Buildup - Panel Horizontal Joint - Section View
25 System Buildup - Section View
26 System Buildup - Plan View
27 Vertical Joint - Plan View
28 Horizontal Joint at Wood Furring Joint - Section View

29 Installation at Grade w/ Ventilation Profile

30 Window Head with metal flashing
31 Window Jamb - metal return
32 Window Sill

33 Termination Under Soffit or Ceiling - Other Finish
34 Vertical Wall to FC Soffit or Ceiling
35 FC Soffit Panel Joint
36 Connecting the soffit to a StoVentec FC facade leading upwards

37 Parapets

38 Wall Structural (expansion/movement) Joints

39 Inside Corners
40 Inside Corner at Alternative Facade
41 Outside Corners

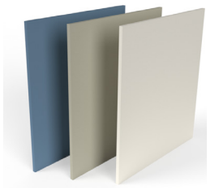
Technical Support
Phone: 800-221-2397
stocorp.com/rainscreen

StoVentec® Fiber Cement (SVFC) Rainscreen cladding facade

Overview of Product and System Credentials

ASTM C1186 Type A, Grade IV compliant

Intertek Listing Spec ID 79917



Noncombustible, in accordance with ASTM E136/2652

Intertek Listing Spec ID 79917

General U.S. Code Complance plus Florida, California, and Los Angeles Codes

Intertek Code Compliance Research Report CCRR-0600

Certification for physical properties, weather resistance, wind resistance, surface burning characteristics, noncombustibility, and fire propagation. Suitable for Construction Types I-V

General application and planning information

- The applicable system certifications or evaluations are the basis for the planning and execution of facade and/or ceiling cladding with **StoVentec® Fiber Cement**.
- For any project, always comply with local building code and/or registered design professional for structural adequacy requirements for exterior walls. With StoVentec Fiber Cement, ensure a wall deflection limit of L/240.
- The StoVentec fiber-cement panels can be dimensioned and fastened in accordance with prescriptive configurations provided in the Intertek CCRR 0600 to meet certain allowable system design pressures. Otherwise, project-specific wind criteria may be met with customized engineering (project-based structural analysis) of the sub-construction (wood furring spacing, anchoring, etc). With project-specific engineering of the system, follow the details provided in the engineered shop drawings.
- For retrofits over existing substrates such as masonry, field analysis and engineering is necessary to ensure the substrate can provide adequate dead load support and fastener withdrawal capacity for anchors securing StoVentec.
- Possible markings (i.e. thermal ghosting) on the vertical sub-construction resulting from building physics can occur with all ventilated claddings and are not product-specific. These markings do not constitute a fault.
- Increased exposure to splash water and long-term moisture penetration of the system can lead to efflorescences in the panels and should be prevented with structural and/or maintenance measures.
- Structural expansion/control/movement joints must be incorporated into the system.
- In the case of planned applications that are not included or described in the application guidelines, the technical feasibility for the specific project must be determined with Sto Corp. in advance. Please contact the rainscreen Technical Solutions department at Sto Corp.
- Before getting started, refer to the StoVentec® Rainscreen Systems Toolkit for a detailed listing of the necessary tools needed to install StoVentro and SVFC.
- Refer also to the primary Application Guidelines for Fiber Cement on StoVentro, as well as the Design Guide for additional information about StoVentec Fiber Cement.

Wood Furring

- Utilize exterior exposure grade pressure treated minimum 2x (1.5 inch (38mm) actual thickness) wood per U.S. code compliance for treated lumber ('24 IBC 2303.1.9)
    - Wood at panel vertical joints must be minimum 3.5 inch (90mm) width, or, where possible use two 2x2 pieces positioned to allow for panel-fastener edge distances (refer to page 17)
    - Intermediate furring can be 2x2 in. lumber
- SVFC Wood Screws are 300 series stainless steel and suitable for pressure-treated lumber. This should be taken into consideration with the furring-to-wall anchors to avoid possible contact between stainless and other fastener types
- Correct wall straightness and squareness as needed prior to installation of fiber-cement
    - Inspect surface plane for compliance with tolerance of not greater than 1/4 inch in 10 feet (6mm in 3.0m)
    - If necessary, add shims between the furring and wall surface
    - Do not shim between the fiber-cement and wood furring
- **Furring to wall anchors: engineering design is needed to select and space the appropriate fasteners** to secure wood furring to the wall substrate and accomodate project-specific wind load criteria for components and cladding
    - SVFC panel masses
        - 8mm thickness: 3.2 lb/ft² (15.7 kg/m²)
        - 10mm thickness: 4 lb/ft² (19.6 kg/m²)
- Furring anchor spacing and placement should be offset wherever possible from the SVFC Wood Screws to avoid incidental clashes

Backup wall types & sheathing

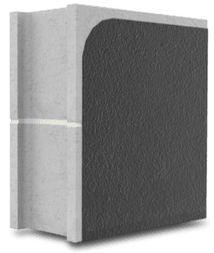
- StoVentec F.C. is suitable for wood or metal framed walls, CMU block, or precast/tiltup concrete
- New construction or retrofits
- For any project, always comply with local building code and/or registered design professional for structural adequacy requirements for exterior walls. With StoVentec Fiber Cement, ensure a wall deflection limit of L/240
- Framed walls must utilize stud spacing at a maximum of 24 inches (605 mm) o.c.
- Metal framing minimum 18 gauge, 33 ksi
- For studded walls, exterior sheathing is required as a substrate for StoGuard air and water-resistive barriers
  - exterior glass mat gypsum
  - plywood
  - OSB
  - cement board
- Interior sheathing and/or lateral stud bracing/bridging may be required to control base wall deflection
- Inspect surface plane for compliance with tolerance of not greater than 1/4 inch in 10 feet (6mm in 3.0m)

Note
Additional system and product bulletins as well as Technical Hotlines are available at www.stocorp.com/rainscreen-systems/.

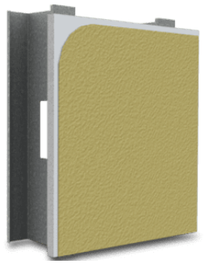
Air and water-resistive barriers

- StoVentec F.C. is a drained/back-ventilated rainscreen system
- For studded walls with sheathing, an air and water-resistive barrier layer is required
- For concrete and masonry walls, follow local code
- The StoGuard family of air and water-resistive barriers (AWRB) provides multiple options, however Sto AirSeal, possessing high elongation and UV durability properties, is well-suited for StoVentec rainscreen system applications due to its optimization for high build installations. The following StoGuard products are suitable:
  - **Sto Air Seal®**
  - Sto Gold Coat®
  - Sto Flexyl
  - Sto VaporSeal® (Class 1 vapor retarder)
  - Sto GoldSeal™ STPE
  - StoShield™ Self Adhered Membranes (Non-permeable (NP) or Vapor Permeable (VP))
- Refer to the respective StoGuard AWRB product bulletins and specifications for more details and application instructions/requirements.

Note
Additional information on StoGuard air and water-resistive barriers is available at www.stocorp.com/air-water-resistive-barriers/.



Sto AirSeal®



Sto Gold Coat®

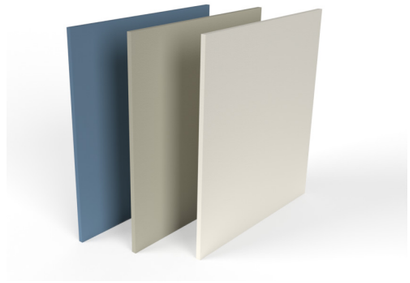
Sto VaporSeal®

Sto GoldSeal™ STPE

StoShield™ SA VP

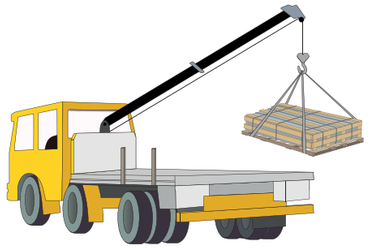
StoVentec® Fiber Cement (SVFC)

StoVentec® Fiber Cement **panels are completely pre-finished. As such they must be handled with care and kept clean in order to preserve the finish aesthetics. Use of professional CNC equipment for fiber-cement fabrication in a controlled indoor setting is highly recommended. Panel processing activities in the field at job sites should be kept to a minimum. StoVentec has a network of partners and can facilitate a full package of engineering and fabrication services.**



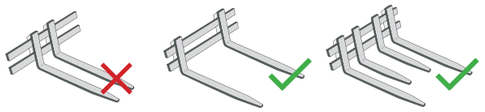
Fiber Cement Pallet Transport, Handling and Storage

Pallets of fiber-cement must be transported under cover, protected from the weather. Panels are packaged in crates on pallets with plastic overwrap and foam slip sheets between and surrounding the panels. The factory packaging is not sufficient to protect the materials from weather.

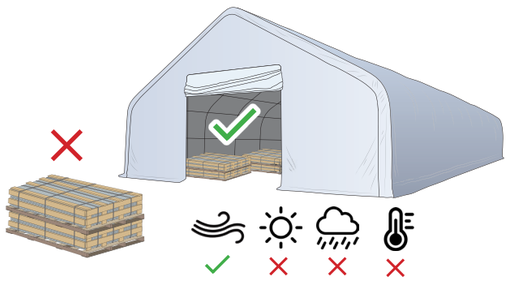


Unloading must be carried out with suitable machinery and tools. Belts, spacers, and forks of any forklifts must be suitably equipped to ensure weight is evenly distributed. Always handle or move pallets individually, one at a time.

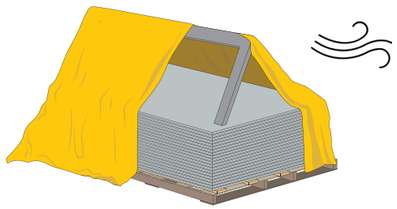
Move pallets with care to distribute weight evenly. Only move one pallet at a time.



Store on pallets in the original shipping crates, protected from weather and sunlight, in an **indoors/ dry location** on flat surfaces until ready for installation. During prolonged indoor storage, remove the pallet plastic overwrap to allow for ventilation. Pallets of like size may be stacked two (2) high.

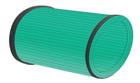


During the installation process at the job site, when pallets are not in use, cover with a vapor permeable cover. Always prevent the panels from coming in direct contact with the ground.



Silica Dust & OSHA Standard for Construction

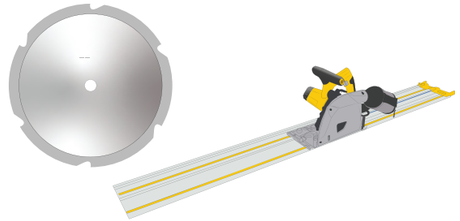
Fiber cement contains silica (sand) and, like with any construction material that does, caution must be taken to protect users and any individuals in the vicinity from exposure to respirable crystalline silica dust, which is a serious health hazard covered by extensive OSHA rules for the construction industry.



Dust mitigation measures, collection, and/or use of personal protective equipment (PPE) are necessary whenever fiber cement is cut, drilled, or sanded. Wherever possible, utilize vacuum dust collection with HEPA filtration while cutting, sanding, or drilling fiber cement. Utilize safety glasses and N95 dust masks whenever fabricating panels by hand.

Hand Tools and Professional CNC Equipment

If cutting fiber cement by hand, **panel saws** or **track saws** utilizing **fiber cement saw blades** are recommended so that no part of the saw but the cutting blade contacts the fiber cement as it is cut. Diamond tipped saw blades designed for cutting fiber cement have fewer teeth than typical blades, reducing the amount of silica dust generated. A **jigsaw** with **carbide grit blades** can be used to create circular cuts or arched/non-linear cuts.

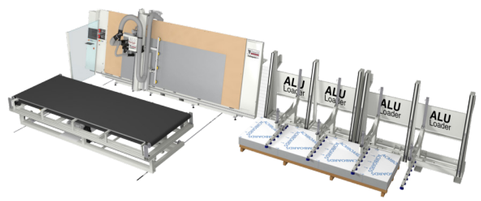


Concrete/masonry drill bits are needed to pre-drill fiber cement panels where fasteners will be located at installation. For applications using the SVFC Wood Screws:

- 7/32 inch (5.5mm) bits for fixed point locations
- 3/8 inch (9.5mm) bits for sliding point locations

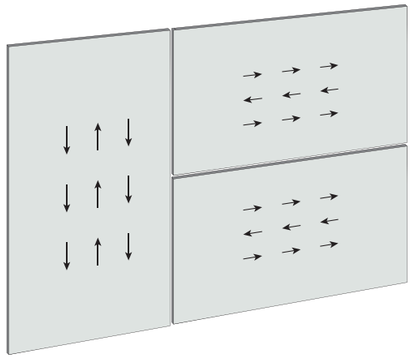
Sandpaper/Block: 60-100 grit

Professional CNC Equipment in a controlled indoor setting is the absolute best means of preparing pre-finished fiber cement for installation. Best practices and optimal tools for fabricating fiber cement vary according to the particular equipment with programing and guidance for various material types provided by the machine manufacturers. Such machines can move panels, cut them to final dimensions, drill fastener holes and/or perforations, and chamfer edges all while controlling dust and minimizing direct human interaction with the materials. **StoVentec can facilitate professional fabrication services for any project.**



Panel Directionality

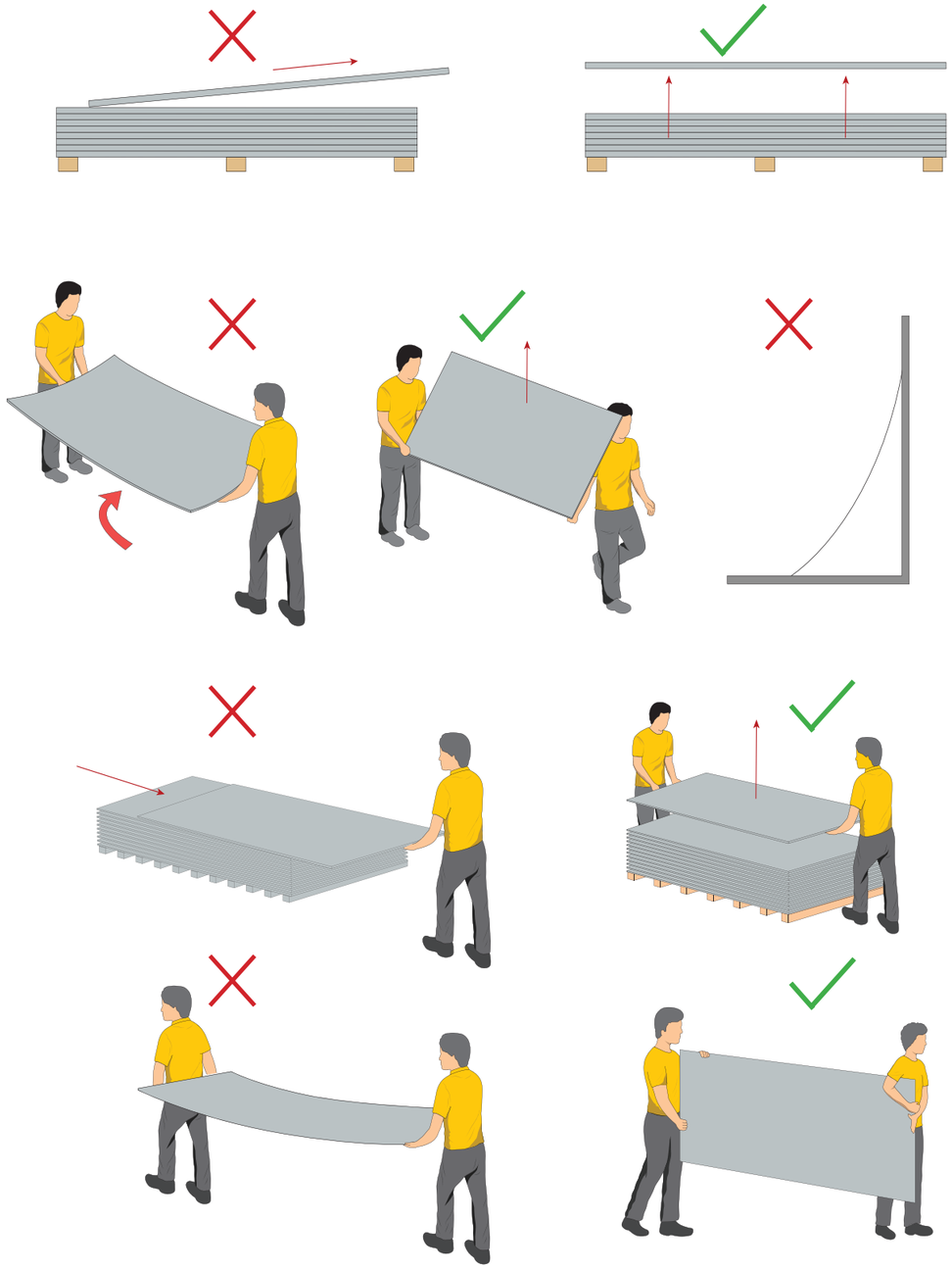
StoVentec Fiber Cement panels have a physical and an aesthetic directionality in their visible finish surfaces. During production, the fibers become oriented parallel to the long dimension. Further, panels can have a sanding texture or other surface feature such as score lines running in the long direction of the panels. Similarly, other finishes, although completely smooth, may have a subtle uniform linear effect in the finish paint. As such, it is important to plan for this physical and visual directionality in the panel layout and in cutting panels accordingly.



Individual Panel Handling

Panels are completely pre-finished. As such they must be handled with care and kept clean in order to preserve the finish aesthetics.

- Working in teams, lift panels directly up off their stack
- Dragging panels off the stack will cause finish damage
- Carry panels on edge by a minimum of two people
- Do not rest panels against a wall such that they can bow
- Do not mark, draw on, or chalk the finished surface of panels

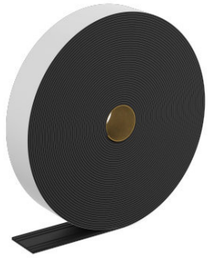


EPDM Cushioning

Self-adhered, UV-resistant EPDM rubber gaskets with fins, serving as a cushioned spacer between fiber cement panels and wood sub-construction profiles, are required for installations using SVFC Wood Screws.

The EPDM protects the wood from weather exposure and prevents moisture from becoming trapped between the flat surfaces of the wood and fiber cement panel. The mildly self-adhered 90mm (3-1/2") EPDM gaskets cover the whole face of 2x4 wood.

Adhere the EPDM to wood furring prior to panel installation. Additionally/alternatively, utilize staples as necessary to secure the EPDM until the panels are installed.



EPDM gasket tapes, available from Sto Corp, in 3mm (1/16") thickness by 90mm (3.5") width by 25m (82 feet) rolls, are used on wood furring applications.

SVFC Wood Screws

SVFC Wood Screws are 304 Stainless steel with a 4.8mm body and 38mm (3/16 x 1-1/2 inches) long. They have a 16mm (5/8 in.) diameter head with T-20 drive. The screws may be painted to match any SVFC collection or custom color. The screws are self-drilling into the wood and the LT Tool stabilizing drill bit is highly recommended to assist in correctly applying the screws.

Use of impact guns or hammer drills is not recommended in fixing these screws.

StoVentec Fiber Cement Wood Screw - 16mm diameter head x 4.8 x 38mm - T20W drive

LT Tool - stabilizing drill bit (T20 version for 38mm long screws)

StoVentec Fiber Cement - Mezzo Line on wood furring with EPDM

Cutting

Cutting panels face-down allows for the panel finish to remain clean/sharp at the cut edges. The worktop surfaces, which should include a sacrificial board, on which cutting and drilling occur must be flat, continuous (supporting the entire panel), and clean/soft/smooth so that panels are never subject to tension during cutting and finishes and edges/corners are not damaged. Foam slip sheets present between panels in their factory packaging may be used on the cutting table surface to help protect the panel finish.

Utilize lower saw blade rotation speed (2000-2500 rpm) with a feed speed of 10 feet per minute. The cutting angle should be perpendicular (90 degrees) to the panel surface.

Dust collection during the cutting process is necessary as fiber cement includes silica (sand), which is a health hazard with detailed OSHA rules. Wherever possible, utilize a vacuum with HEPA filtration while cutting, sanding, or drilling fiber cement.

Cut edges may be sanded (grit 60-100) to remove any burrs. Angle the sanding block away from the panel finished surface. Again, remediate/remove any dust generated.

Drilling

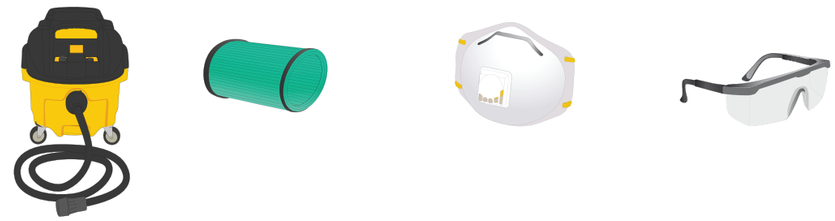
Before high-density fiber cement can be installed, it must be pre-drilled to match a prescribed or engineered fastening pattern suitable for the design wind pressures of the project. Whenever possible, take field measurements of the installed sub-construction/furring prior to cutting and pre-drilling panels.

Slow drilling speed is best as it will generate less fine dust. **Drill through the finish face of the panels**.

For installations on wood with Wood Screws, 3/8 inch (9.5mm) masonry bits are required for all panel holes except the fixed point locations which must be pre-drilled with a 7/32 inch (5.5mm) drill bit.

Minimum fastener/hole to panel edge distances must also be observed. Refer to page 17 for the edge distances.

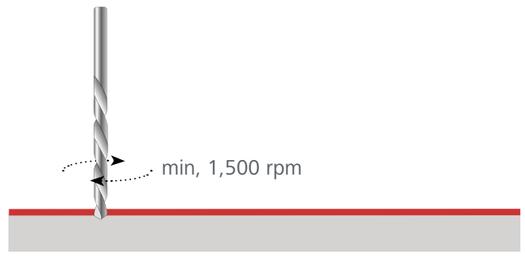
Always clean off any remnant materials on the rear surface of the holes as well as the drilled out material via vacuuming (w/ soft tip) and/or clean microfiber cloths.



Always utilize HEPA filtered dust collection and personal PPE when cutting, drilling, or sanding fiber cement.

For cutting panels in the field, a track saw or panel saw are appropriate.

Cut panels with the finish face DOWN.



Drill panels with the finish face UP.

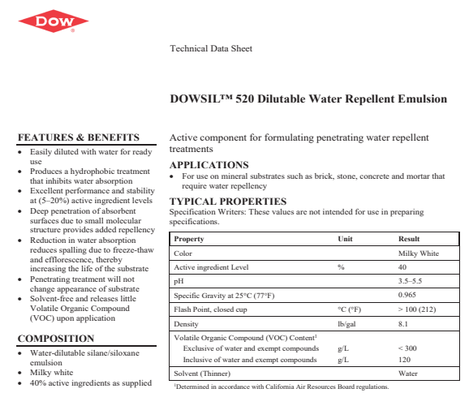
Cut Edge Treatment

With panel cutting, sanding, and drilling completed (and dust fully and carefully removed), it is required to treat cut edges (including drilled holes) with a silane solution.

Dowsil 520 water repellent emulsion (concentrated and milky white) is used to treat cut edges of fiber-cement panels in order to hydrophobate the newly exposed edge surfaces. This provides long-term resistance to weather exposure in the field, replacing similar factory coating lost to cutting/drilling.

Dowsil 520 comes in 40% active material concentration and should be diluted to 10-15% using distilled or demineralized water. The 10% level is achieved with a 3:1 ratio of water to repellent. Apply to panel cut edges with a small roller, sponge-tipped applicator, or foam brush so that the surface remains moist for 3-4 minutes. **Promptly wipe away any solution from the panel face. Utilize a cleanroom foam or cotton swab with small tip to treat pre-drilled holes in the panels.**

In terms of volume and usage of applied, diluted solution, the rate should be minimum 200g/m² (5.9 ounces/yd²) with a maximum of 400g/m² (11.8 oz/yd²). Refer to Dow's technical data sheet for more information.



Technical Data Sheet

DOWSIL™ 520 Dilutable Water Repellent Emulsion

FEATURES & BENEFITS

- Easily diluted with water for ready use
- Produces a hydrophobic treatment that inhibits water absorption
- Excellent performance and stability at (5–20%) active ingredient levels
- Deep penetration of absorbent surfaces due to small molecular structure provides added repellency
- Reduction in water absorption reduces spalling due to freeze-thaw and efflorescence, thereby increasing the life of the substrate
- Penetrating treatment will not change appearance of substrate
- Solvent-free and releases little Volatile Organic Compound (VOC) upon application

COMPOSITION

- Water-dilutable silane/siloxane emulsion
- Milky white
- 40% active ingredients as supplied

Active component for formulating penetrating water repellent treatments

APPLICATIONS

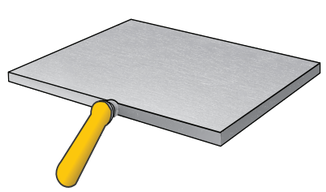
- For use on mineral substrates such as brick, stone, concrete and mortar that require water repellency

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
Color		Milky White
Active ingredient Level	%	40
pH		3.5–5.5
Specific Gravity at 25°C (77°F)		0.965
Flash Point, closed cup	°C (°F)	> 100 (212)
Density	lb/gal	8.1
Volatile Organic Compound (VOC) Content[1]		
Exclusive of water and exempt compounds	g/L	< 300
Inclusive of water and exempt compounds	g/L	120
Solvent (Thinner)		Water

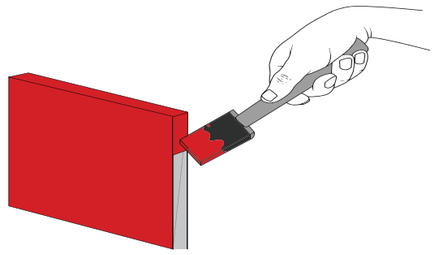
[1]Determined in accordance with California Air Resources Board regulations.



Dowsil 520 silane water repellant is the treatment for cut edges.

Cut Edge Re-coating

StoColor Acryl Plus Flat (80647), a high-performance, exterior grade, acrylic-based coating, color matched by Sto to the SVFC standard color collections or to custom colors, may be used for aesthetic re-coating of cut panel edges, particularly for products without integral (through-body) color. Apply Acryl Plus Flat in accordance with the Product Bulletin using a small roller or brush. Avoid getting the coating on the finish surface and remove any that does immediately with a clean cloth.

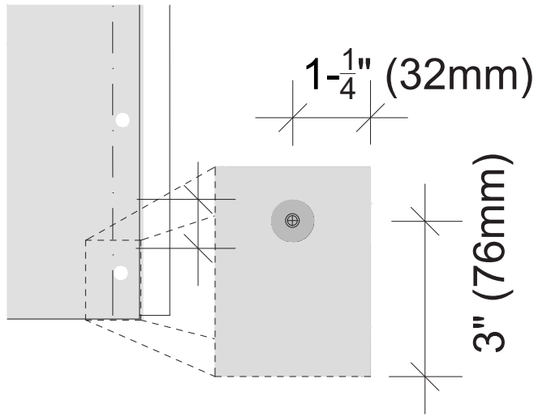


Finish Touch-up

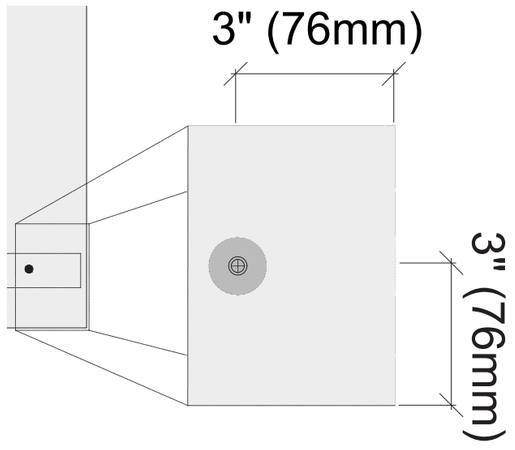
Small scratches or blemishes may be touched up using color-matched StoColor Acryl Plus. Isolate the scratch with low-adhesive painter's tape. Utilizing the minimum amount of Acryl Plus possible to coat the scratch, and with a small, fine point artist's brush or cotton swab, touch up the blemish. **Lightly dab to apply the color only to the blemish. Less is best: it is impossible to match the sheen of the factory finish with any touch up paint.**

Minimum Fastener-Edge Distances

F.C. (horizontal or vertical orientation) fastened directly to **vertical wood furring profiles**:
Keep fasteners a minimum of 1-1/4 in. (32mm) in from vertical edges of panels (edges parallel to the lumber) and 3 in. (76mm) up/down from horizontal edges (perpendicular to the wood profile).



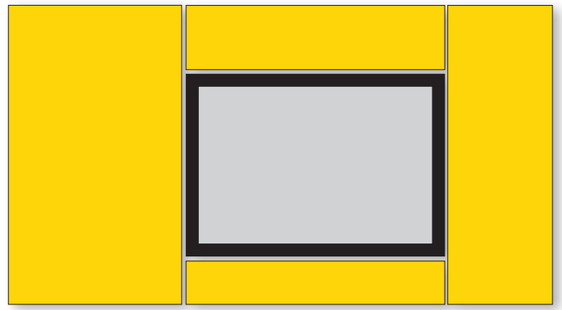
F.C. (vertically oriented) fastened directly to **horizontal wood furring profiles (2-layer system)**:
Keep fasteners a minimum of 3 in. (76mm) in from vertical edges of panels (edges parallel to the lumber) and 3 in. (76mm) up/down from horizontal edges (perpendicular to the wood profile).



In any case, the maximum fastener-edge distance: 4 inches (100mm).

Panels Around Openings

Align panel joints to opening jamb, head, and/or sill lines. Do not notch cut panels around openings.



Fixed Points and Sliding/Gliding Points

To protect the fiber cement against damage caused by long-term thermal cyclic movement of the sub-construction, most of the visible fastener bodies each require a perimeter buffer space around them. This is accomplished by pre-drilling the panels with oversized holes 3/8 in. (~10mm) in diameter in which the fasteners are centered.

However, each panel also requires two fixed point fasteners, located near the panel center with the fixed point fasteners on two seperate wood profiles. These support the panel weight. In the case of SVFC Wood Screws, the pilot holes for fixed points in the panels must be 7/32 in. (5.5mm). Never install more than one fixed point fastener on a single profile. Particularly with narrow vertical panels needing only two columns of fasteners, special sub-construction designs may be needed to satisfy fixed point fastening requirements. Please contact Sto's Technical Department.

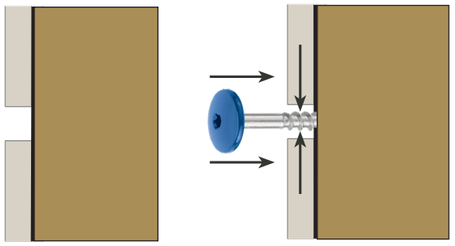
Always fasten the Fixed Point positions first and then work outward in a circular pattern from panel center to perimeter, carefully driving the Sliding Point screws centered in the panel holes.

The EPDM rubber added to the wood profiles (see p. 12) before panel fixing further seperates the panels from the expansion and contraction of the sub-construction profiles and provides long-term protection by covering the wood surfaces.

Pre-Drilled Panel Fastening Holes for SVFC Wood Screws:

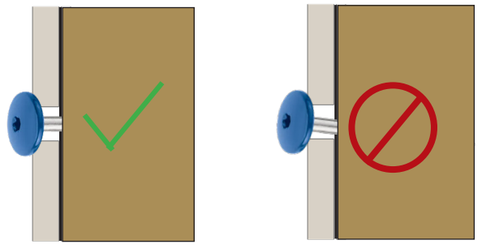
Sliding Points: 9.5mm (3/8 in.)

Fixed Points: 5.5mm (7/32 in.)



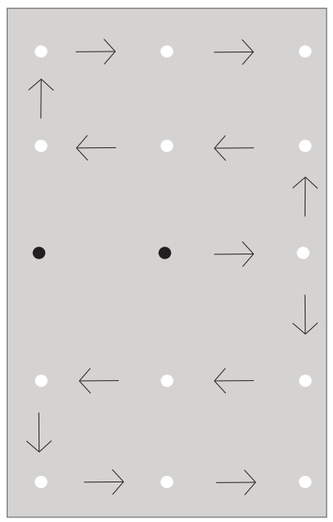
SVFC Wood Screw Centering at Sliding Points

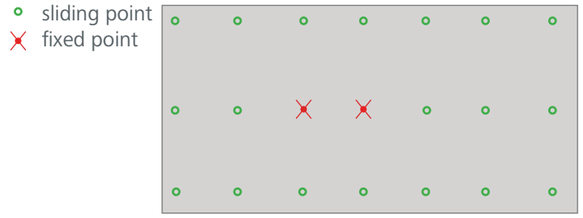
It is important that the screws be perfectly aligned in the middle of the predrilled panel holes and driven straight so that the screw head sits evenly on the panel surface.



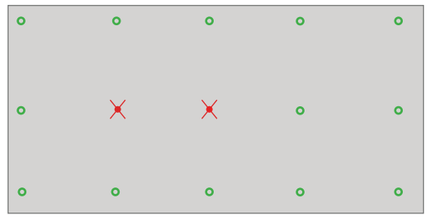
Fastening Sequence

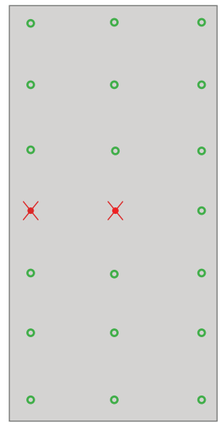
Fasten panels first at the Fixed Point positions and work concentrically from the middle out to the panel perimeter.

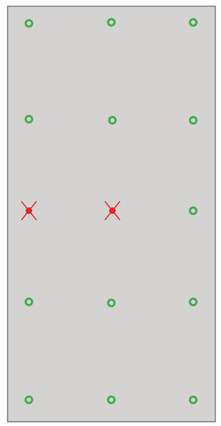


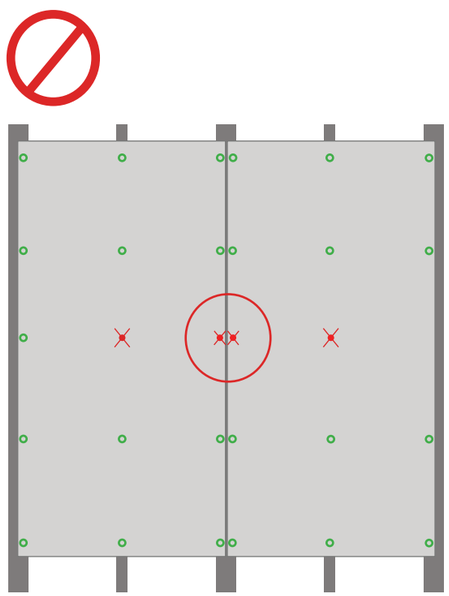


Example fixed and sliding point fastener patterns. Fixed points must occur on different wood profiles as close to the panel center as possible. (Illustrations assume vertical sub-construction.)

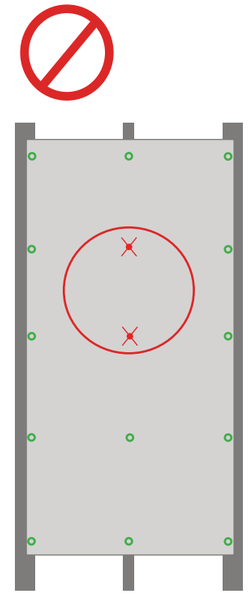








Do NOT position fixed points for two panels on the same Profile.



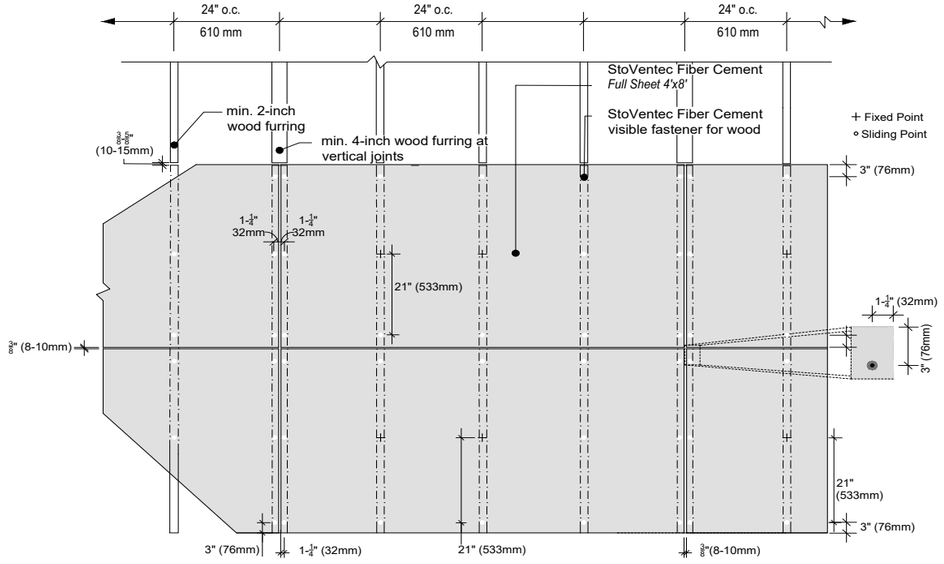
Do NOT position the two fixed points for one panel on the same Profile.

Prescriptive Fastening Diagrams

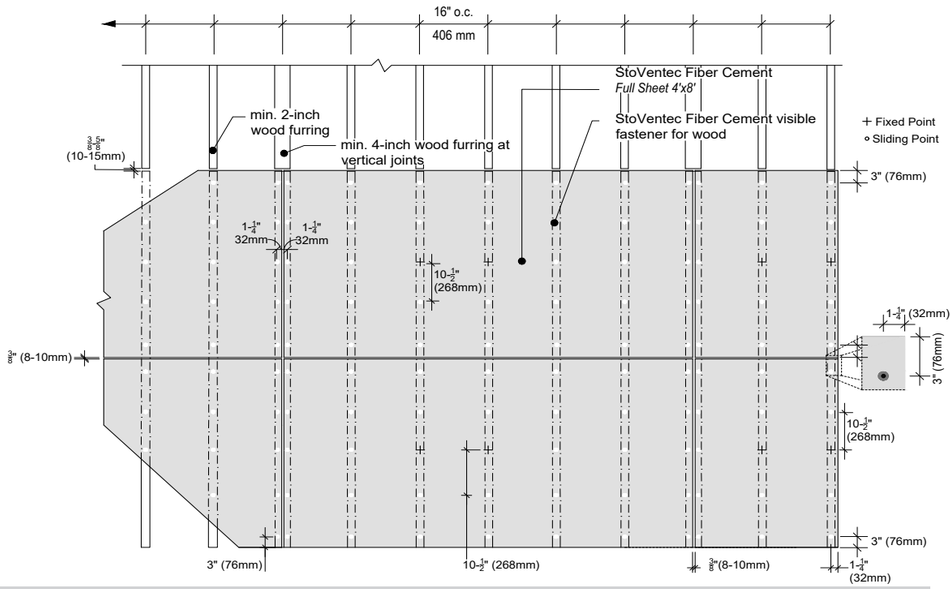
The fastening diagrams on page 21 detail prescriptive wood lumber sub-construction and SVFC fastening schedules that meet certain allowable wind design pressures. The key factor in these prescriptive designs are the **maximum** fastener spacings. With the same sub-construction configuration, any panel fastener spacings less than the tested spacings also meet the same allowable wind pressures. This is important because it provides for design flexibility with panel sizes. The exact fastener spacings depend on the panel dimensions, orientation, and the minimum fastener-edge distances.

In addition to the prescriptive options, **SVFC may be fully custom engineered to specific projects**. Sto's extensive wind load and fastener pull-through testing for fiber-cement and engineering load tables for StoVentro can be used to tailor optimized assemblies for any project.

StoVentec F.C. fastening diagram 90.Fc.018: 21 in. max. fastener spacing on 24 in. o.c. wood furring - 8mm panels, allowable wind loads up to 65 lb/ft²*



StoVentec F.C. fastening diagram 90.Fc.017: 10-1/2 in. max. fastener spacing on 16 in. o.c. wood furring – 8mm panels, allowable wind loads up to 130 lb/ft²*



Notes

1. Refer to the SVFC Design Guide and online details in the Sto Corp website Document Center for Sto details 90.Fc.017-018.
2. For staggered/running-bond layouts, utilize minimum 2x4's (2x6 best option) as necessary to ensure all vertical panel joints meet on wider wood furring members.
3. Horizontal joints between vertical wood profiles require a 10-15mm gap (3/8 - 5/8 in.). Do NOT span the gap with fiber cement as panels may never be fastened on both sides of such profile joints. Refer to detail 90.Fc.36.
4. Joints between panels are spaced 8-10mm (~3/8 in.).
5. Two (2) Fixed Point fasteners must occur on seperate wood profiles near the panel centers. Always fasten the Fixed Points first and work in a circular pattern outwards from the middle.

* Wind loads stated refer to the allowable design pressure of the building components and cladding per ASCE 7. A safety factor of 2.0 is included. Testing conducted with pressure-treated Southern Yellow Pine wood furring.

Cleaning and Maintenance

Cleaning - Before and After Installation

It is critical to keep pre-finished fiber-cement clean during and after the fabrication processes as well as immediately following installation. Fiber-cement dust binds to finished surfaces and cannot be removed easily once exposed to weather. Remove dust after any cutting, drilling or sanding using vacuuming and a clean microfiber cloth but do not scrub.

After installation, wash the facade using low-pressure water spray. If needed, add mild household cleaners (solvent-free) to the water spray. Test the solution in a small inconspicuous area to verify unintended damage or adverse effects are not produced before using it at scale. Do not allow the panels to dry with cleanser solutions applied and always thoroughly rinse the washed areas with clean water, from high to low, so as not to leave any residue.

Periodically wash the installed cladding as above to remove dirt, dust, pollen, and other natural deposits.

High-pressure cleaning may cause panel damage and is not recommended for fiber-cement facades.

Efflorescence, Algae and Mildew Removal

Refer to Sto Specification No. RC100 - Guideline Specifications for Cleaning Wall Surfaces.

Maintenance in the Vicinity

Regular maintenance in the immediate vicinity of installed fiber-cement is important to the cladding's long-term performance and appearance. Keep plants and vegetation clear from contact with the facade with clearance of one foot or more. Maintain ground clearance of 6 inches for panels at grade by preventing the buildup of landscaping materials such as mulch and stone. Align water sprinklers for landscaping not to spray directly on the facade. Keep gutters, downspouts, scuppers, etc clear to prevent overflow of water onto or behind the facade. Ensure proper drainage around the building base to prevent water pooling at the wall.

Annual Inspection

Annual inspections of the building facade are recommended to identify any potential issues such as missing or loose cladding fasteners, damage to panels and visual defects. Surface finishes are important to the long-term durability of fiber-cement. Natural forces of weathering, particularly UV from sunlight on south and west-facing elevations eventually wear down finish coatings. Fiber-cement may be recoated to refresh the original aesthetics or change things up as desired by building owners or occupants.

Refer to the StoVentec Fiber Cement Fabrication and Maintenance Guide for more information.

Wood Sub-construction (w/ Visible Fixing) Detail List

Structure/Sub-Framing/Wind Loads	
Fiber Cement Attachment - 16" o.c. Wood Furring, -260 psf Ultimate Wind Load Capacity	90.Fc.017
Fiber Cement Attachment - 24" o.c. Wood Furring, -130 psf Ultimate Wind Load Capacity	90.Fc.018
Buildups, Sub-Construction and Panel Joints	
Wood Furring Buildup with Fiber Cement - Section View	90.Fc.021
Fiber Cement Panel Installation - System Buildup - Section View	90.Fc.023
Fiber Cement Panel Installation - System Buildup - Plan View	90.Fc.030
Fiber Cement Panel Installation - Vertical Joint - Plan View	90.Fc.033
Fiber Cement Panel Installation - Horizontal Joint at Wood Furring Joint - Section View	90.Fc.036
Installation at Grade	
Installation at Grade - Exposed Substrate with Sto Ventilation Profile	90.Fc.056
Installation at Windows	
Installation at Window Head with Metal Flashing	90.Fc.081
Window Jamb - Metal Return	90.Fc.087
Window Sill	90.Fc.091
Installation at Soffit and Ceiling	
Termination under Soffit or Ceilling - Other Finish - Not Insulated (Unconditioned)	90.Fc.163
Vertical wall to Soffit or Ceiling Fiber Cement Panel Installation	90.Fc.164
Fiber Cement Soffit or Ceiling Installation - Panel Joint	90.Fc.166
Fiber Cement Soffit or Ceiling transition to Vertical Wall Installation w/ Sto Ventilation Profile	90.Fc.171
Installation at Parapet	
Parapet with 10mm Ventilation	90.Fc.181
Installation at Movement Joints	
Wall Structural Joint	90.Fc.391
Installation at Corners	
Inside Corner	90.Fc.401
Inside Corner at Alternative Facade	90.Fc.408
Outside Corners	90.Fc.411

Building with conscience.

StoVentec® Fiber Cement

Horizontal Panel Example Layout

StoVentec F.C. (4 x 8 feet) Attachment (10-1/2 inch max. fastener spacing) to Wood Furring*, spaced at 16" o.c.(406mm), Field and Edge fastening of StoVentec F.C.

Elevation View

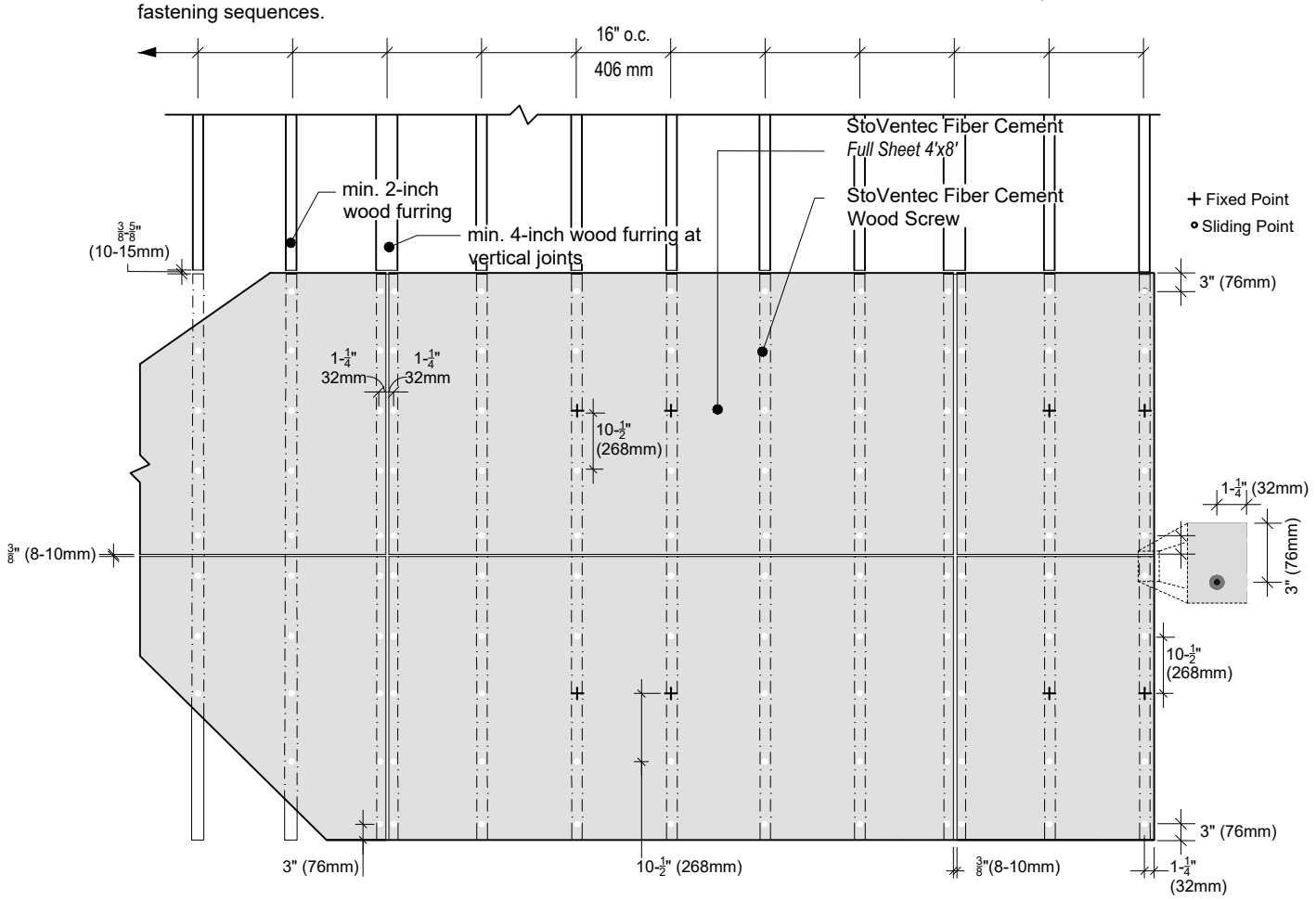
Date: April 2026

Detail No.: 90.Fc.017

Ultimate Wind Load Capacity, based on ASTM E330 wind load testing: -260 psf (12.45 kN/m^2)

Layout Notes:

1. For Staggered/running-bond layouts, exchange min. 2-inch wide furring for min. 4-inch furring as necessary to ensure all vertical panel joints meet on min. 4-inch wide furring.
2. Horizontal joints between vertical furring members - leave 10-15mm gap between wood ends, and do NOT span the gap with fiber cement (horizontal joints for panels must also occur at/near furring member joints - see Detail 90.Fc.36).
3. Joints between panels are spaced 8-10mm (~$\frac{3}{8}$").
4. Panel Fixed Point fasteners must occur on separate furring members near the panel centers. Refer to the *StoVentec Fiber Cement Wood Sub-construction Install and Detail Guide* for more information on fixed points and fastening sequences.



Testing conducted with pressure-treated Southern Yellow Pine wood 2x furring.

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Horizontal Panel Example Layout

StoVentec F.C. (4 x 8 feet) Attachment (21 inch (533mm) max. fastener spacing) to Wood Furring, spaced at 24" o.c. (610mm), Field and Edge fastening of StoVentec F.C.

Elevation View

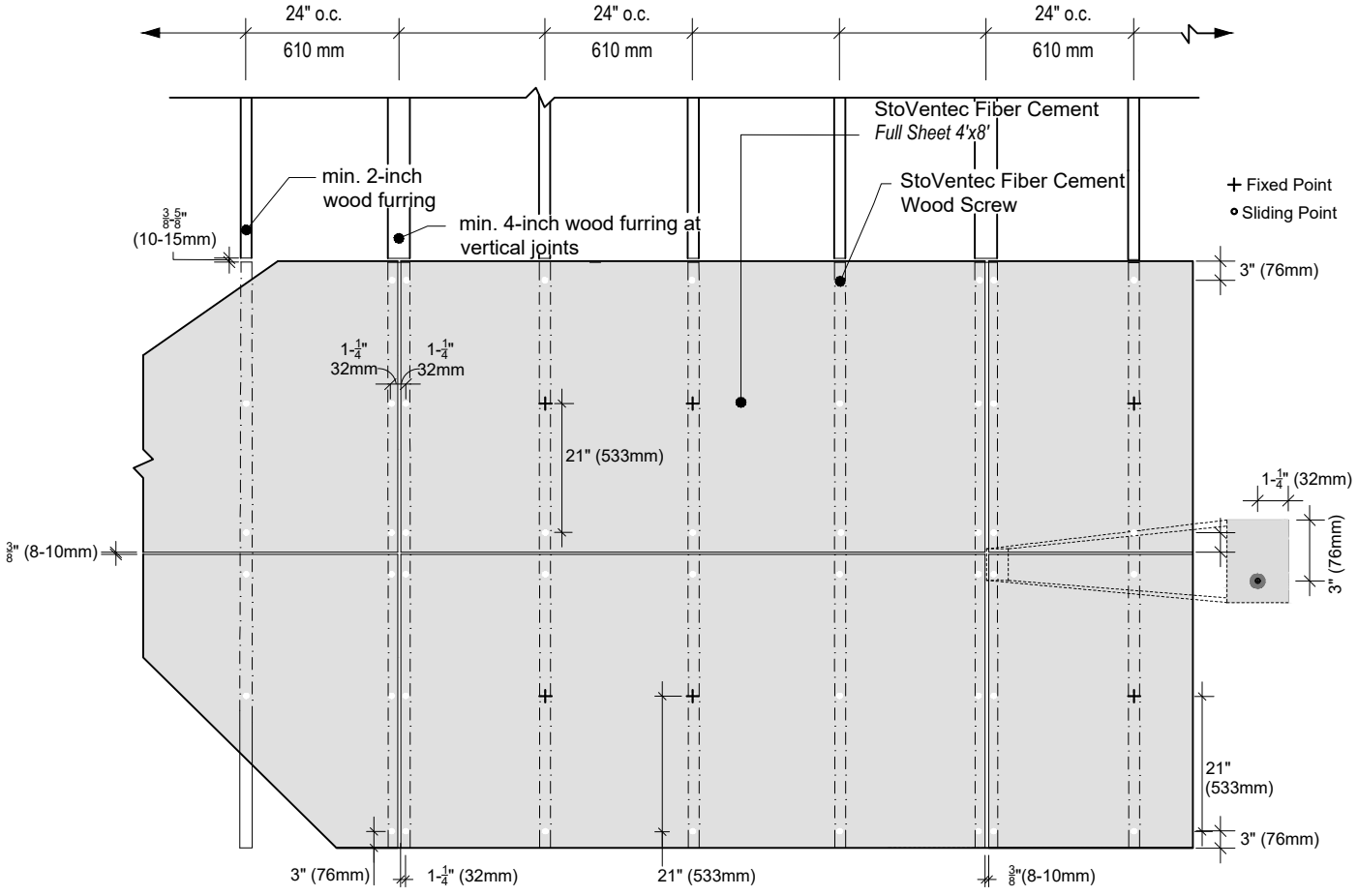
Date: April 2026

Detail No.: 90.Fc.018

Ultimate Wind Load Capacity, based on ASTM E330 wind load testing: -130 psf (7.18 kN/m^2)

Layout Notes:

1. For Staggered/running-bond layouts, exchange 2-inch furring for min. 4-inch furring as necessary to ensure all vertical panel joints meet on min. 4-inch furring.
2. Horizontal joints between vertical furring members - leave 10-15mm gap between wood ends, and do NOT span the gap with fiber cement (horizontal joints for panels must also occur at/near furring member joints - see Detail 90.Fc.36).
3. Joints between panels are spaced 8-10mm (~$\frac{3}{8}$").
4. Panel Fixed Point fasteners must occur on separate furring members near the panel centers. Refer to the *SVFC Wood Sub-construction Install and Detail Guide* for more information on fixed points and fastening sequences.



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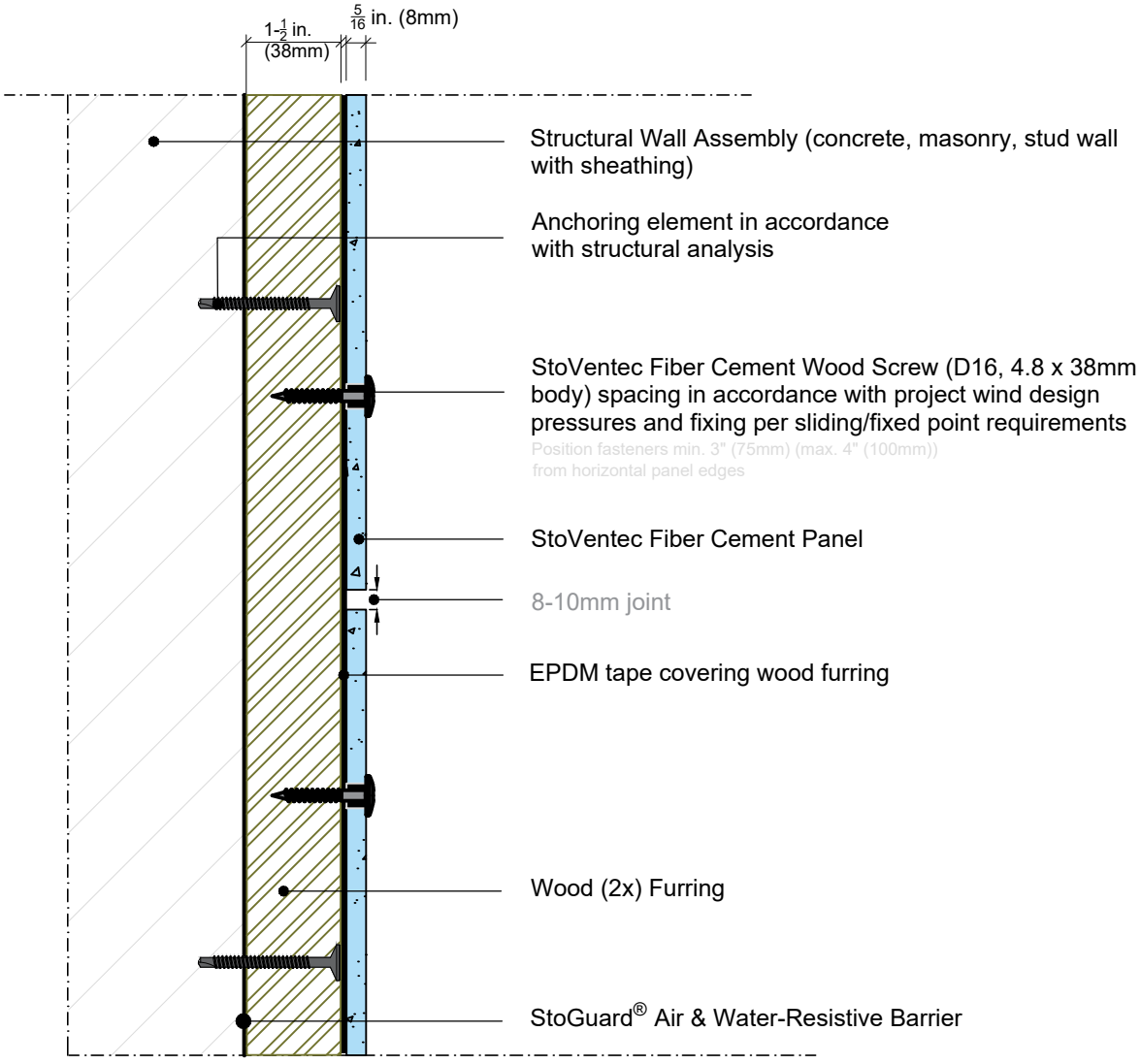
System buildup with Wood Furring at panel horizontal joint

Section View

Date: April 2026

Detail No.: 90.Fc.21



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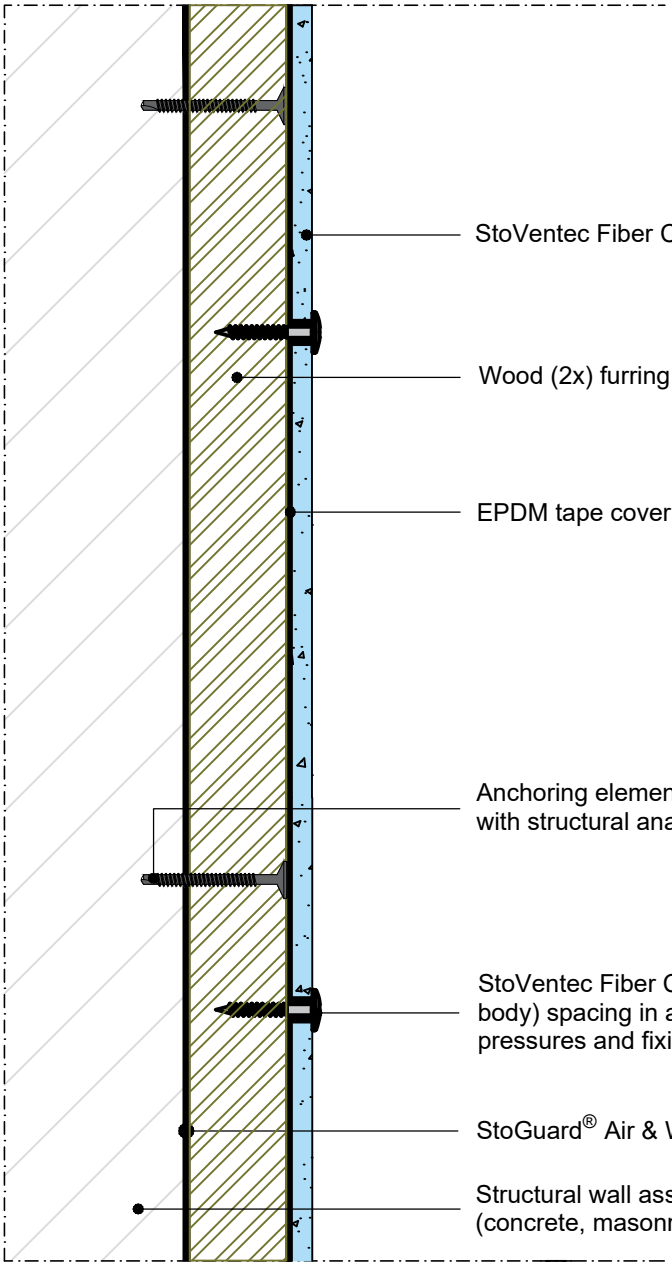
StoVentec Fiber Cement panel installation

Wood Sub-Construction build up - visible F.C. fixing

Date: April 2026

Section View

Detail No.: 90.Fc.023



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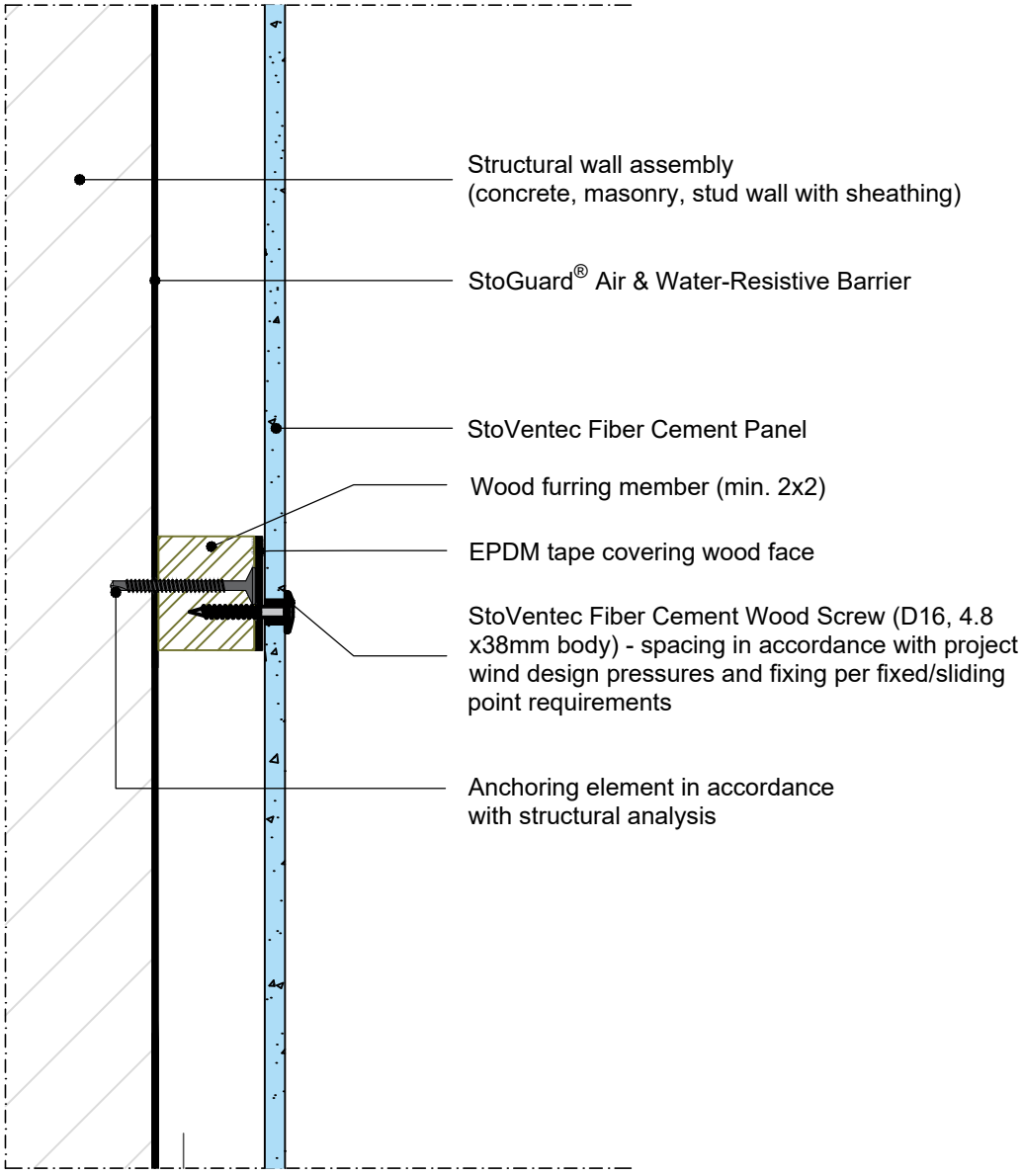
StoVentec Fiber Cement Panel Installation

Wood Sub-Construction in Panel Field

Plan View

Date: April 2026

Detail No.: 90.Fc.030



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StoVentec Fiber Cement Panel Installation

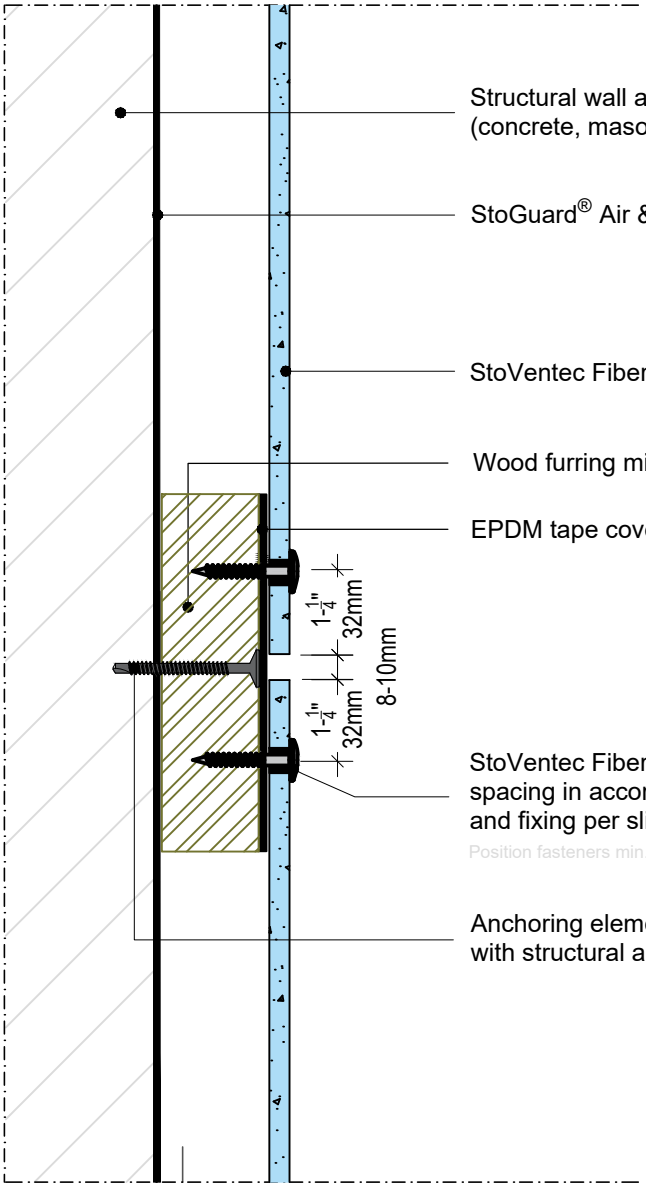
Vertical joint at min. 3.5 in (90mm) wood furring member

Wood Sub-Construction

Plan View

Date: April 2026

Detail No.: 90.Fc.033



Structural wall assembly
(concrete, masonry, stud wall with sheathing)

StoGuard® Air & Water-Resistive Barrier

StoVentec Fiber Cement Panel

Wood furring minimum 3.5 in. (90m) width (nom. 2x6 depicted)

EPDM tape covering wood furring

StoVentec Fiber Cement Wood Screw (D16, 4.8 x 38mm)
spacing in accordance with project wind design pressures
and fixing per sliding/fixed point requirements

Position fasteners min. 1-1/2" (32mm) (max. 4" (100mm)) from panel vertical edges

Anchoring element in accordance
with structural analysis

StoVentec™ Fiber Cement

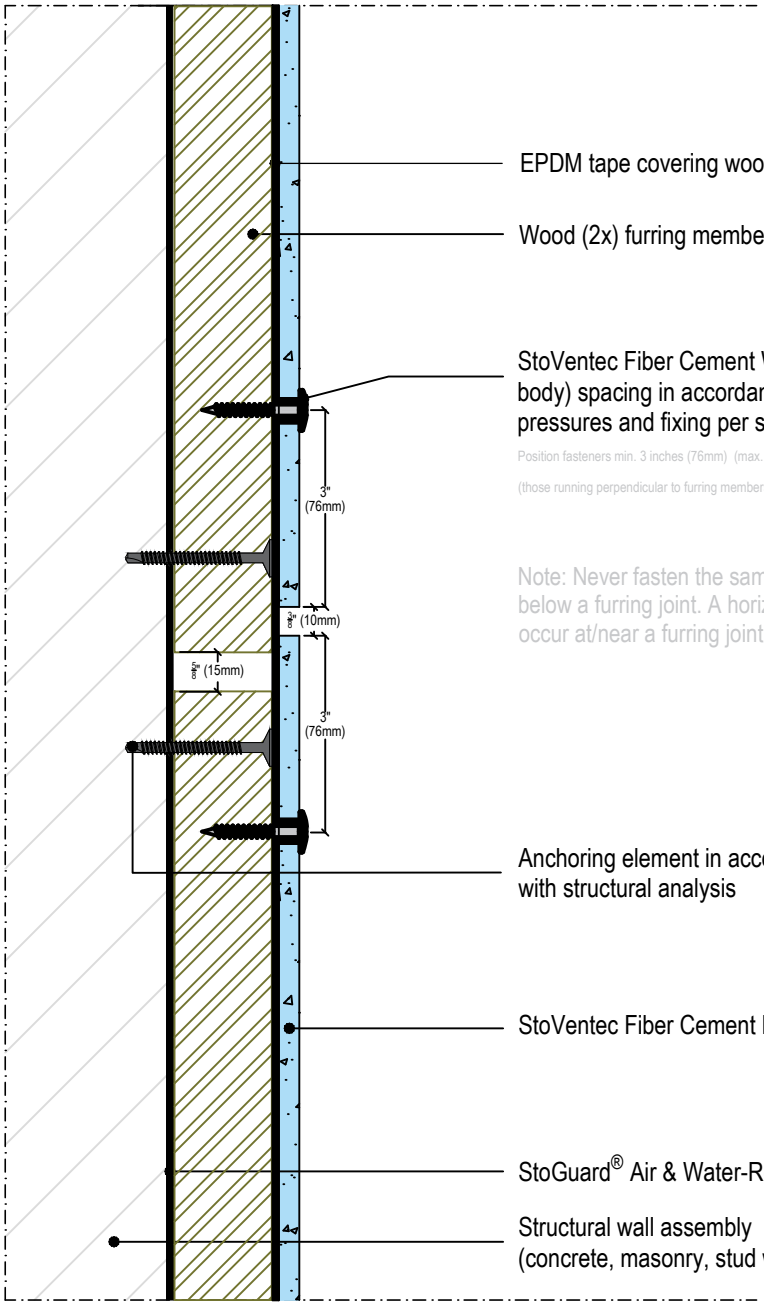
Wood Sub-construction

Horizontal Panel Joint at Furring Joint

Date: April 2026

Detail No.: 90.Fc.036

Section View



EPDM tape covering wood

Wood (2x) furring member

StoVentec Fiber Cement Wood Screw (D16, 4.8 x 38mm body) spacing in accordance with project wind design pressures and fixing per sliding/fixed joint requirements.

Position fasteners min. 3 inches (76mm) (max. 4 inches (100mm)) away from panel horizontal edges (those running perpendicular to furring members).

Note: Never fasten the same panel above and below a furring joint. A horizontal panel joint must occur at/near a furring joint.

Anchoring element in accordance with structural analysis

StoVentec Fiber Cement Panel

StoGuard® Air & Water-Resistive Barrier

Structural wall assembly (concrete, masonry, stud wall with sheathing)

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StoVentec Fiber Cement panel installation

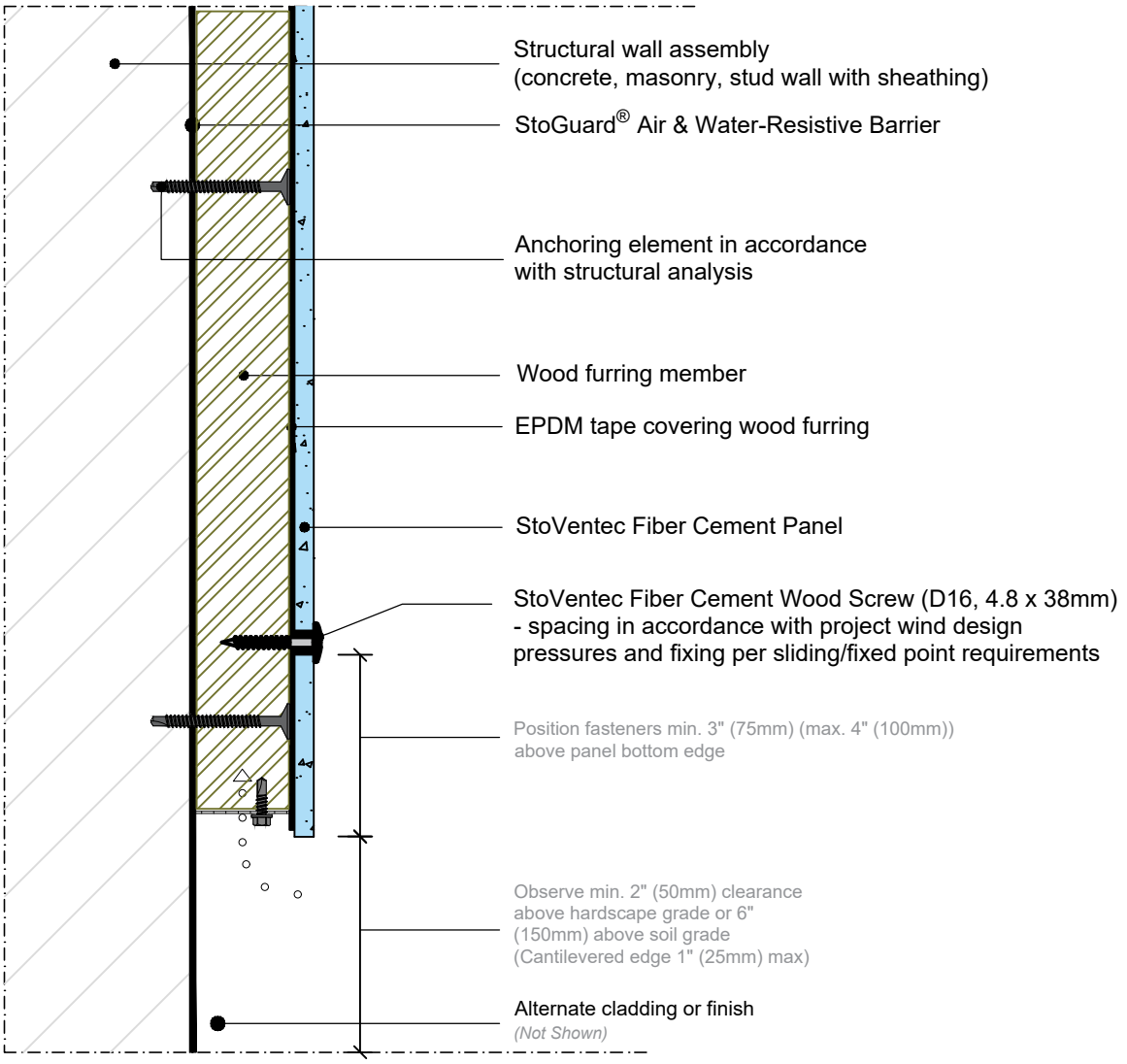
Wood Sub-Construction

Installation at grade - Sto Ventilation Profile and visible f.c. fixing

Section View

Date: April 2026

Detail No.: 90.Fc.056



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StoVentec Fiber Cement

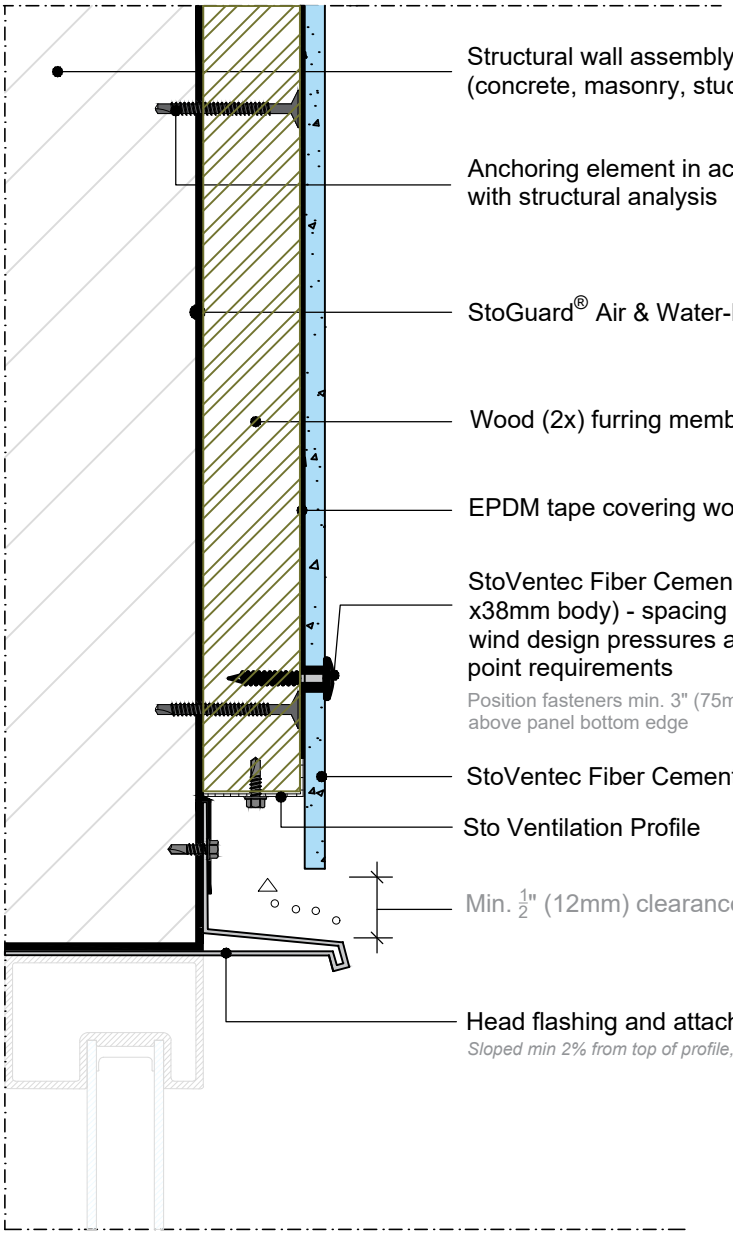
Wood Sub-Construction

Installation at Window Head with head flashing and Ventilation Profile

Section View

Date: April 2026

Detail No.: 90.Fc.081



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StoVentec® Fiber Cement

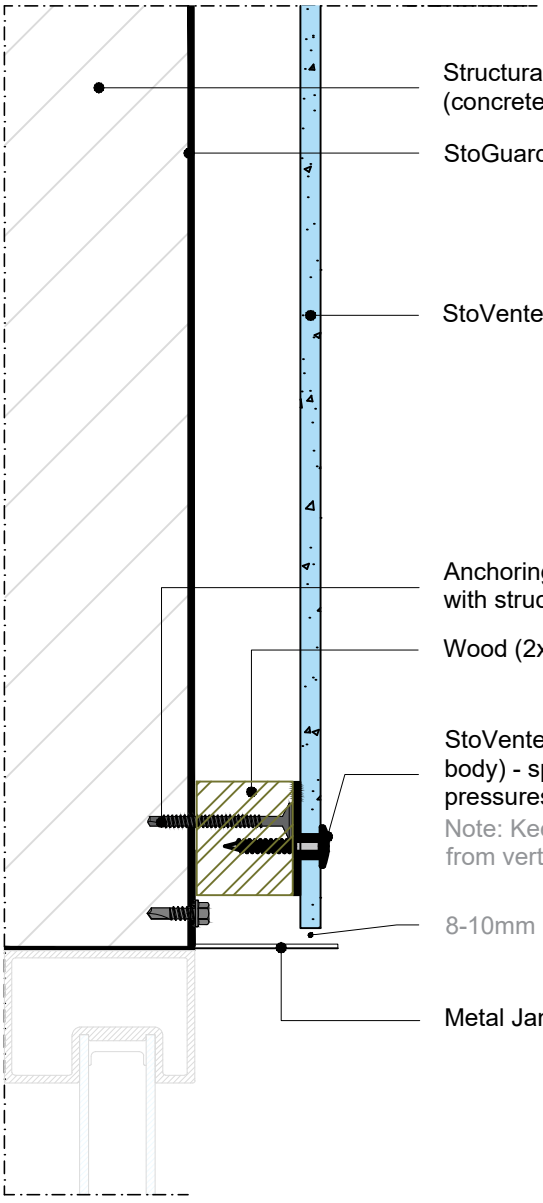
Wood Sub-construction

Window Jamb - Metal Return

Plan View

Date: April 2026

Detail No.: 90.Fc.087



Structural wall assembly
(concrete, masonry, stud wall with sheathing)

StoGuard® Air & Water-Resistive Barrier

StoVentec Fiber Cement

Anchoring element in accordance
with structural analysis

Wood (2x) furring member with EPDM

StoVentec Fiber Cement Wood Screw (D16, 4.8 x 38mm body) - spacing in accordance with project wind design pressures and fixing per sliding/fixed point requirements

Note: Keep fasteners min. 32mm (1-1/4") (max. 4" (100mm)) in from vertical edge of panel.

8-10mm ($\frac{3}{8}$")

Metal Jamb Flashing (by others)

Building with conscience.

StoVentec® Fiber Cement

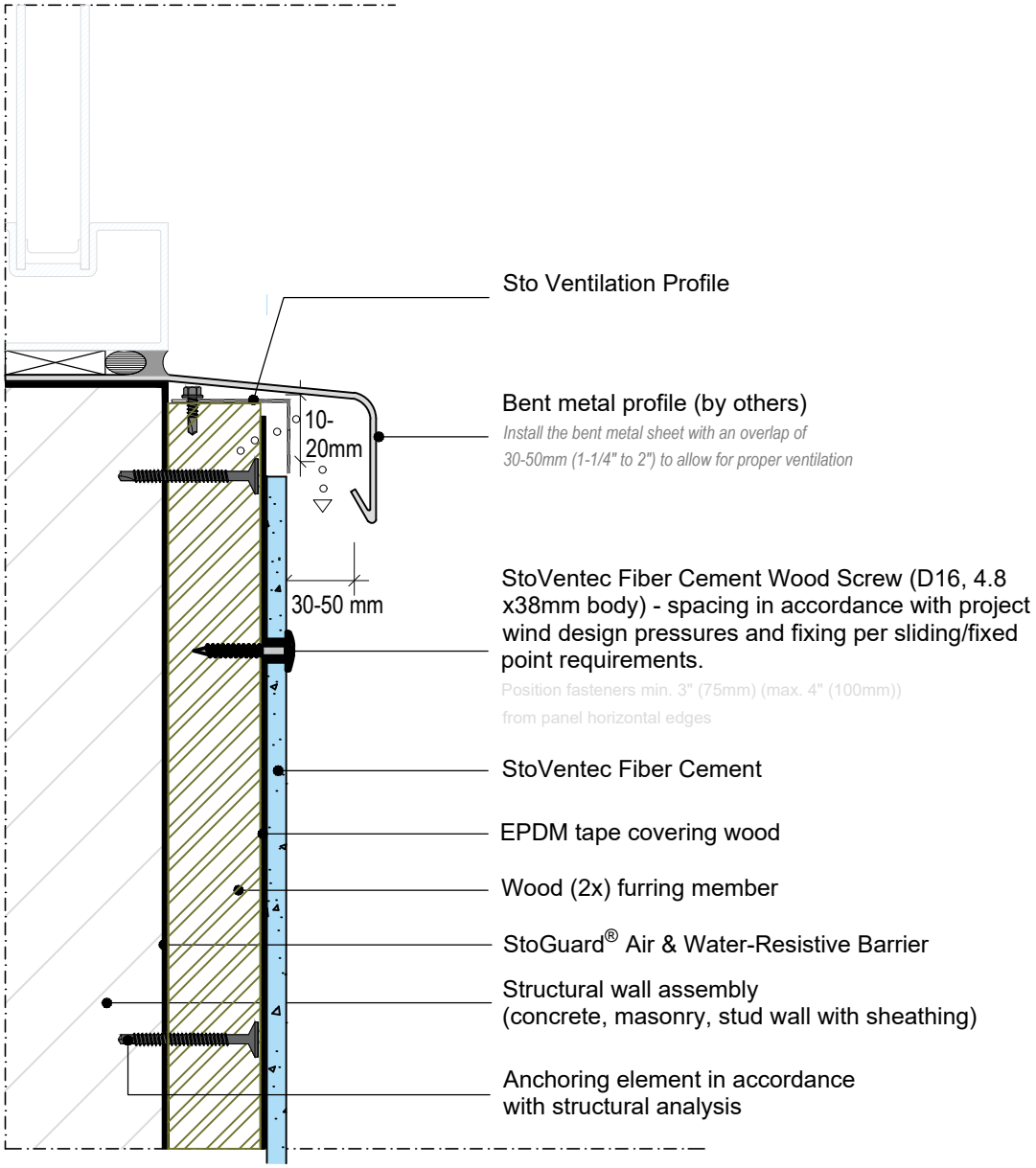
Wood Sub-construction

Window Sill with Sto Ventilation Profile

Section View

Date: April 2026

Detail No.: 90.Fc.091



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StoVentec Fiber Cement

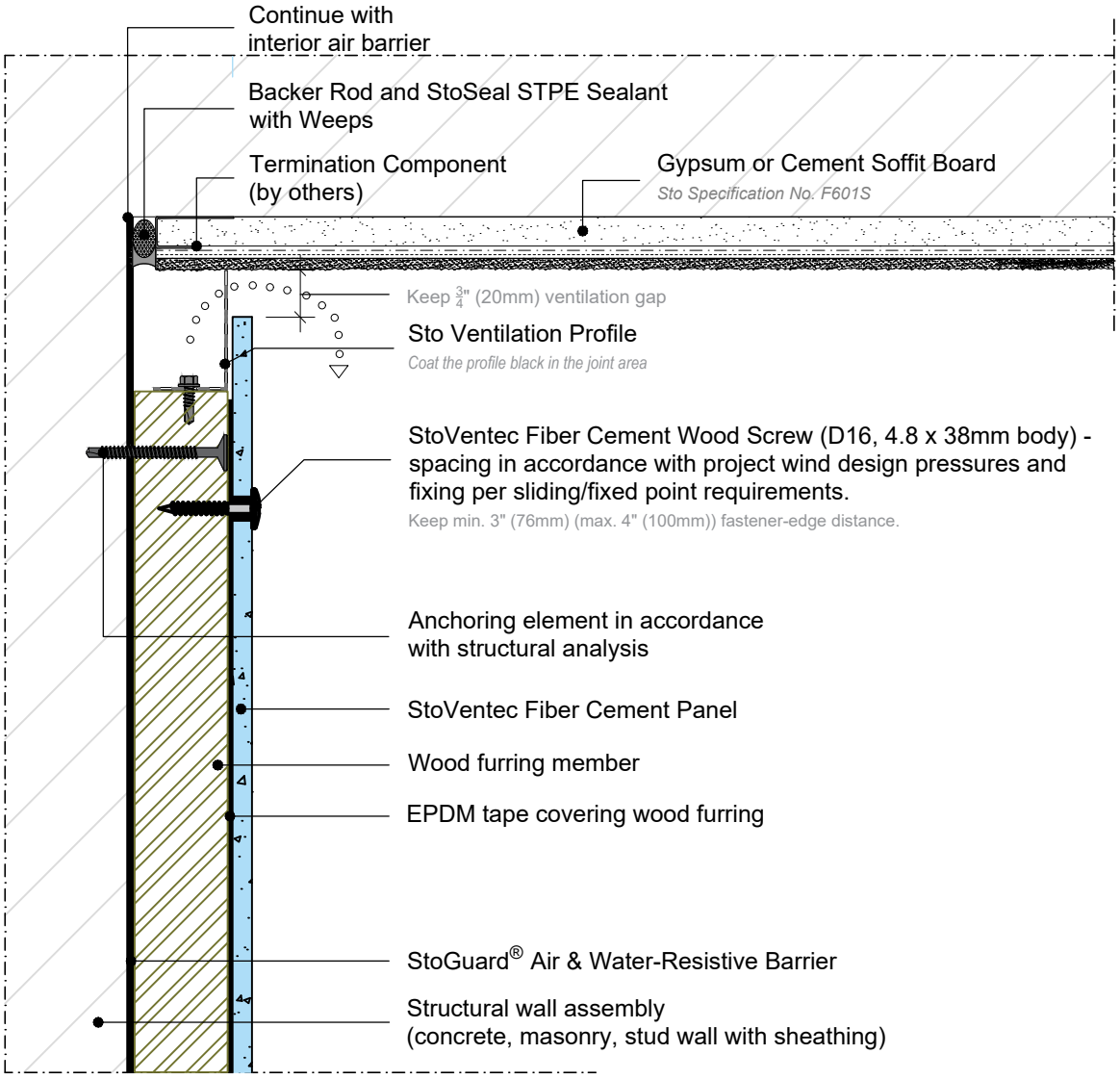
Termination under Soffit or Ceiling Installation - Not Insulated (Unconditioned) Wood Sub-construction

Section View

Date: April 2026

Detail No.: 90.Fc.163

Note: Direct-applied Exterior Finish System (DEFS) for use on weather protected walls and vented uninsulated exterior soffit and ceiling applications.



Building with conscience.

StoVentec® Fiber Cement

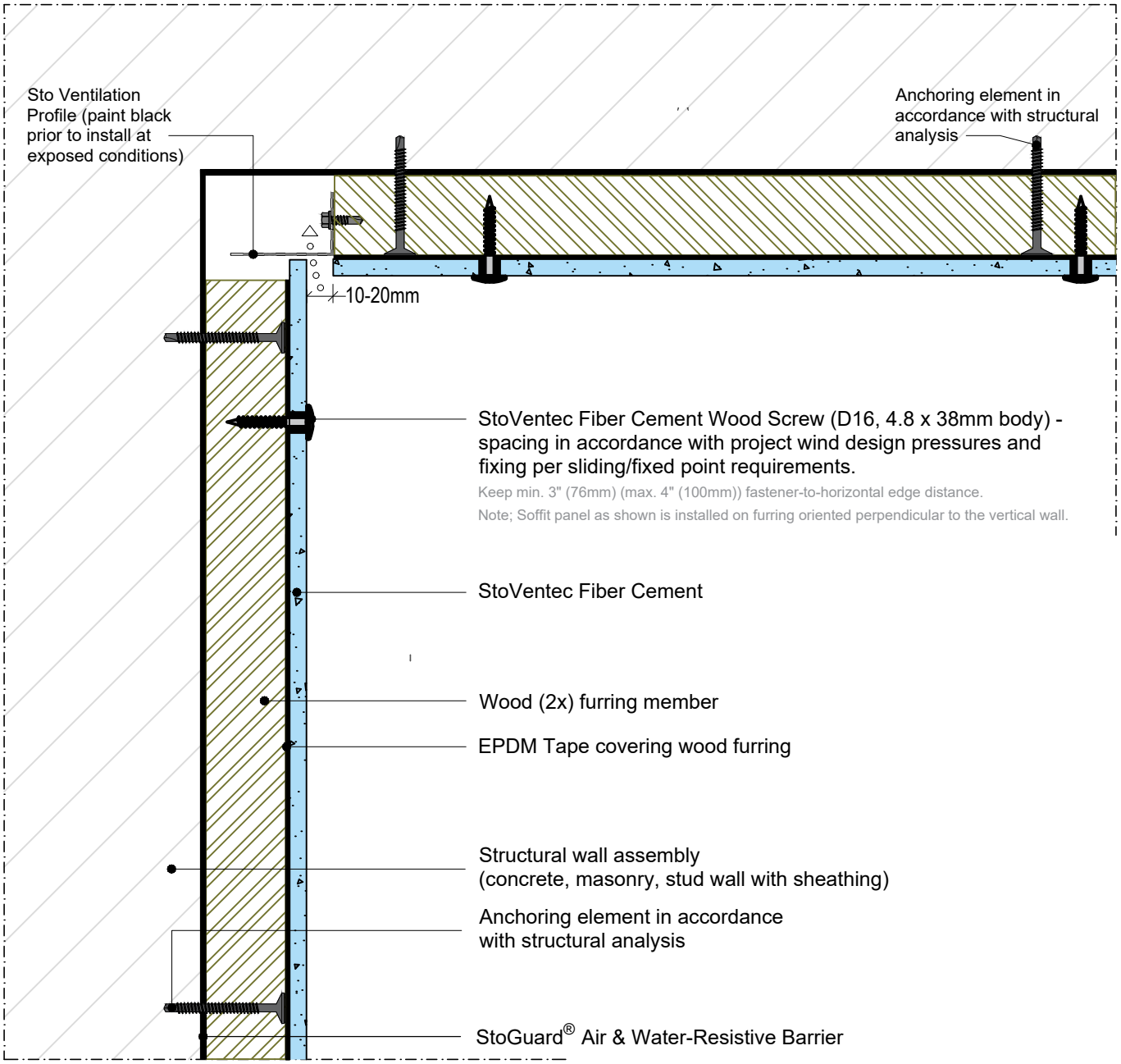
Wood Sub-Construction with Sto Ventilation Profile

Vertical wall to Soffit or Ceiling Installation

Section View

Date: April 2026

Detail No.: 90.Fc.164



StoVentec™ Fiber Cement

Wood Sub-construction

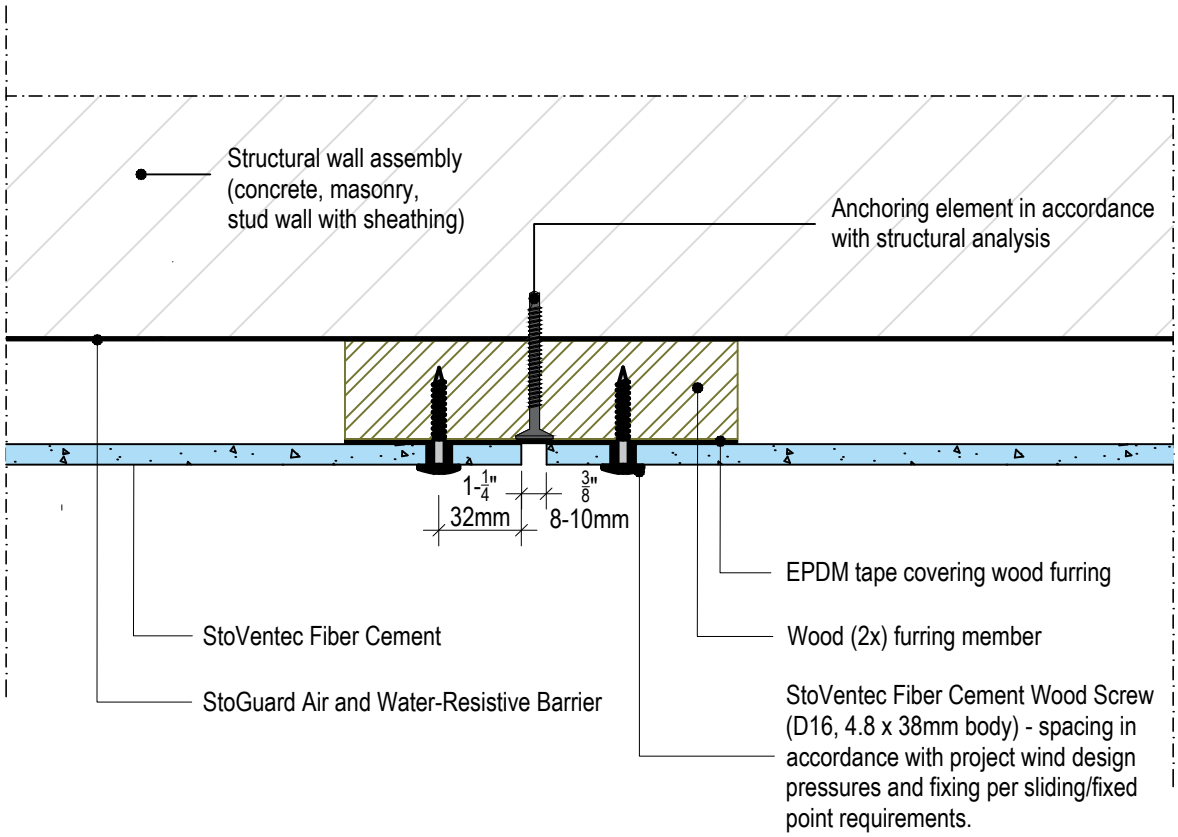
Soffit or Ceiling Installation - Panel Joint

Plan View

Date: April 2026

Detail No.: 90.Fc.166

Note: This detail assumes the soffit wood furring runs perpendicular to the vertical wall. Keep typical minimum fastener-panel edge distances. Refer to the Fiber Cement Design Guide or Installation Guide.



Building with conscience.

StoVentec® Fiber Cement

Wood Sub-construction

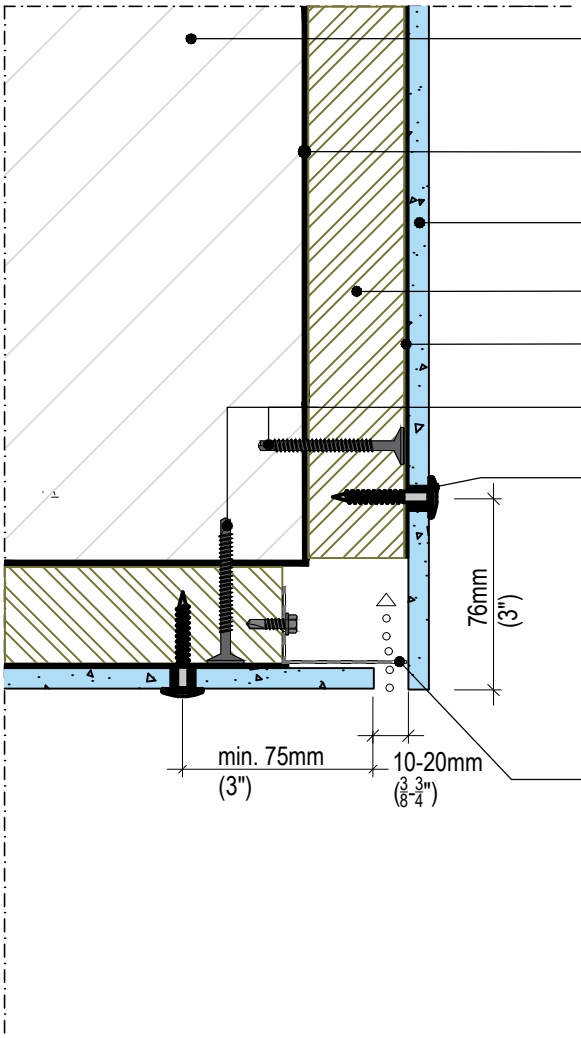
Soffit or Ceiling transition to Vertical Wall Installation w/ Sto Ventilation Profile

Section View

Date: April 2026

Detail No.: 90.Fc.171

Note: This detail assumes the soffit support furring runs perpendicular to the vertical (fascia) wall. Keep typical minimum fastener-panel edge distances. Refer to the Fiber Cement Design Guide or Installation Guide.



- Structural wall assembly (concrete, masonry, stud wall with sheathing)
- StoGuard® Air & Water-Resistive Barrier
- StoVentec Fiber Cement
- Wood (2x) furring member
- EPDM Tape covering wood
- Anchoring element in accordance with structural analysis
- StoVentec Fiber Cement Wood Screw (D16, 4.8 x 38mm body) - spacing in accordance with project wind design pressures and fixing per sliding/fixed point requirements.
  Note: Keep fastener minimum edge distance requirements. Refer to Design and Installation Guides.
- Sto Ventilation Profile
  (Note: prior to installation, add black spray paint to profile in visible area)

Building with conscience.

StoVentec Fiber Cement

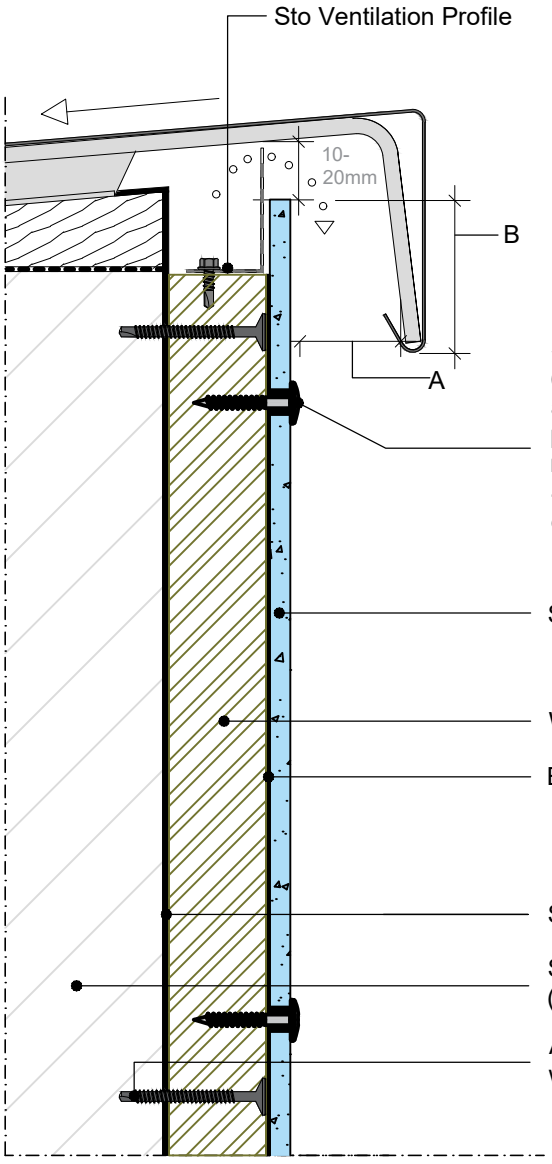
Wood Sub-Construction

Installation under Parapet w/ Sto Ventilation Profile

Section View

Date: April 2026

Detail No.: 90.Fc.181



Building height	A	B
≤ 8 m (26 ft)	≥ 20 mm	≥ 50 mm (2 in.)
8-20 m (66 ft)	≥ 30 mm	≥ 80 mm (3 in.)
≥ 20 m (66 ft +)	≥ 40 mm	≥ 100 mm (4 in.)

in accordance with regulations for metalwork in the roofing trade

StoVentec Fiber Cement Wood Screw (D16, 4.8 x 38mm body) - spacing in accordance with project wind design pressures and fixing per sliding/fixed point requirements. Keep min. 3" (76mm) (max. 4" (100mm) fastener-edge distance for edges perpendicular to furring.

StoVentec Fiber Cement Panel

Wood (2x) furring member

EPDM tape covering wood furring

StoGuard® Air & Water-Resistive Barrier

Structural wall assembly
(concrete, masonry, stud wall with sheathing)

Anchoring element in accordance with structural analysis

Building with conscience.

StoVentec Fiber Cement

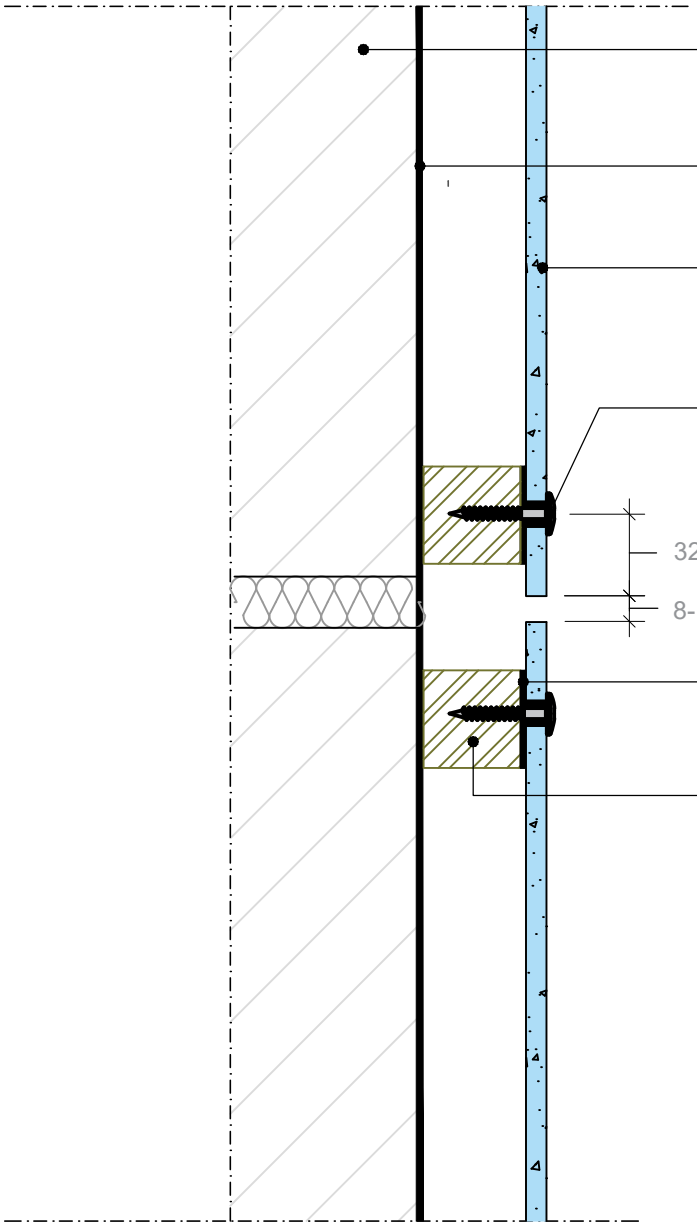
Wood Sub-Construction

Back-up wall (Vertical) Structural Joint with Fiber Cement Joint

Plan View

Date: April 2026

Detail No.: 90.Fc.391



Structural wall assembly
(concrete, masonry, stud wall with sheathing)

StoGuard® Air & Water-Resistive Barrier

StoVentec Fiber Cement Panel

StoVentec Fiber Cement Wood Screw (D16, 4.8 x 38mm body) - spacing in accordance with project wind design pressures and fixing per sliding/fixed point requirements

32mm (1-$\frac{1}{4}$") min.

8-10mm ($\frac{3}{8}$")

EPDM tape covering wood furring

Wood (2x) furring member

Note: Not Shown (omitted for clarity) - Anchoring element for wood furring to structure - in accordance with structural analysis.

Notes: Do not span over the structural joint with a panel fastened on both sides of it. A vertical joint between panels must occur at structural movement joints. Panels may be fastened 32-100mm (1-$\frac{1}{4}$ - 4 inches) from the vertical edge, allowing for some cantilever.

Building with conscience.

StoVentec Fiber Cement

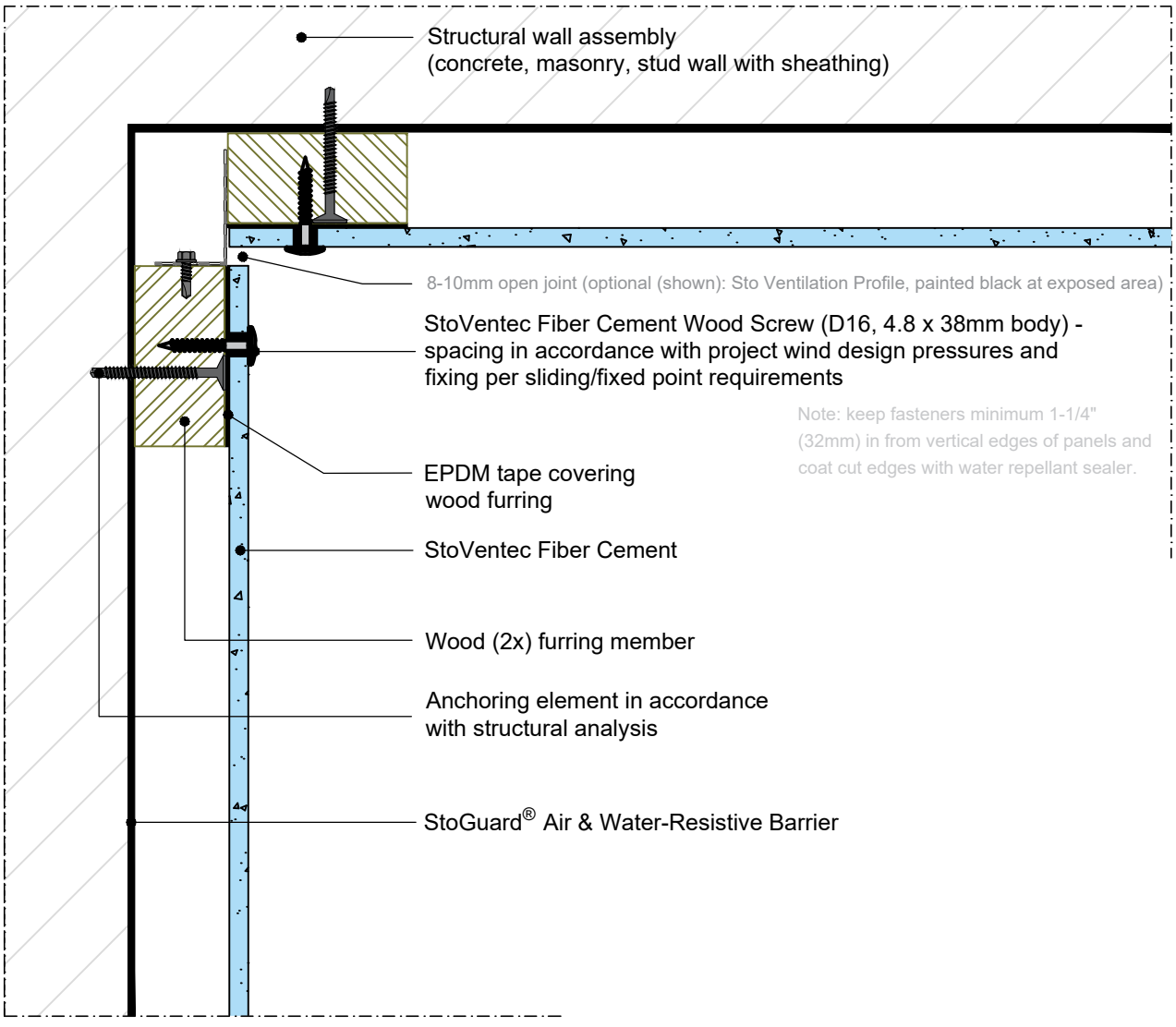
Wood Sub-Construction

Inside Corner - Open Joint - with Sto Ventilation Profile

Plan View

Date: April 2026

Detail No.: 90.Fc.401



Building with conscience.

StoVentec Fiber Cement

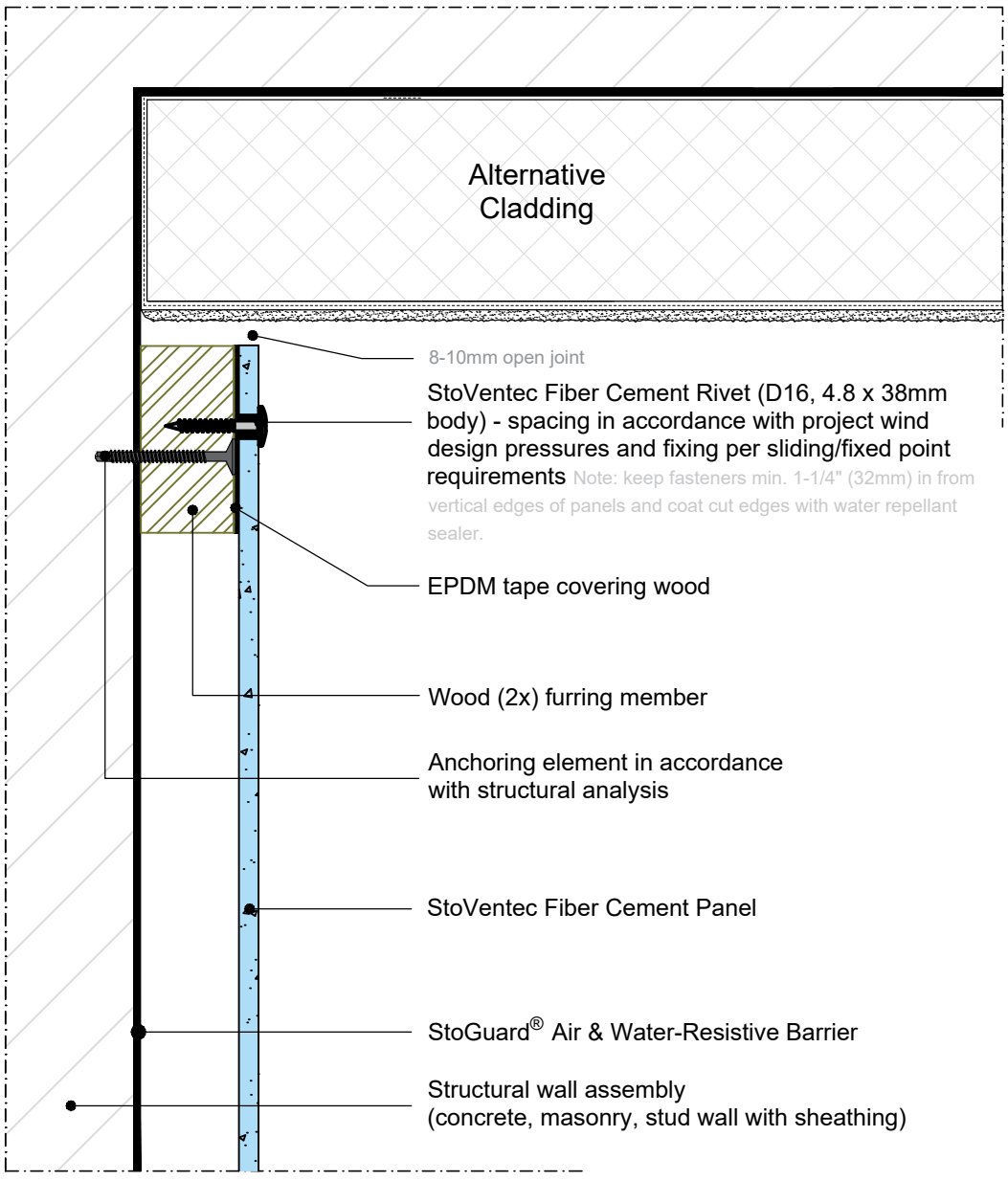
Wood Sub-Construction

Installation at Inside Corner to alternative facade

Plan View

Date: April 2026

Detail No.: 90.Fc.408



Building with conscience.

StoVentec Fiber Cement

Wood Sub-Construction

Outside Corner

Plan View

Date: April 2026

Detail No.: 90.Fc.411