



Building with conscience.

# Technical Hotline

Pre-Engineered StoVentec® Render  
No. 304-SVR  
February 2023

## **StoVentec® Render**

StoVentec Render is a drained and back-ventilated wall system from a single source that combines superior air and weather tightness with excellent thermal performance and fire protection. It incorporates noncombustible continuous exterior insulation and a continuous air and moisture barrier with StoVentro™ Sub-construction and Sto finish systems to produce an advanced high-performance wall assembly. The StoVentec carrier board is a unique panel that combines light weight and high compressive strength and allows for seamless walls and curved surfaces that cannot be achieved with other claddings.



## Pre-Engineered StoVentec Render

StoVentec® Render is a fully code-compliant rainscreen system complete with wind and fire rated whole-wall assemblies. This Tech Hotline serves to provide further detail regarding the wind rated assemblies included in the Miami-Dade Notice of Acceptance, Intertek Code Compliance Research Report (CCRR) 0454, and Florida Product Approval 41659. These third-party evaluations and approvals verify allowable wind design pressures for specific Render system assemblies, and, if followed exactly, can bypass the need for project-specific engineering of the Render system - outboard of the base wall. **The project engineer of record is responsible for the adequacy of the primary structure and shall ensure a deflection limit of L/360.** StoVentec Render's maximum allowable wind design pressure with the prescriptive assemblies described in this and the reference documents is +/- 55 psf. Projects with components and cladding wind design pressures exceeding 55 psf will require dedicated (project-specific) engineering to utilize Render.

The assemblies are prescriptive and fully described in this Tech Hotline as well as the Miami-Dade NoA and CCRR. Please also refer to the comprehensive [Render Application Guide](#), 3-part spec, and details available at [stocorp.com/sto\\_systems/stoventec-render/](http://stocorp.com/sto_systems/stoventec-render/) as this Tech Hotline is not a complete installation guide.

### Base Wall Assembly Requirements

Refer to the Description and General Notes sections of the Miami NoA and Table 2 of the Intertek CCRR for affirmation of the following structural wall criteria:

**Wall Deflection Limit L/360 per licensed professional structural design engineering and local code:**

#### Metal Framing

- Minimum 18 gauge, 6 inch studs with 6 inch, 18 gauge steel tracks
- 16" o.c. maximum stud spacing
- minimum 1-5/8" flange width
- minimum yield strength 50,000 psi
- complete interior sheathing or bridged framing
- Exterior Sheathing:
  - Min. 1/2" glass mat exterior gypsum, or
  - 5/8" plywood required in Miami-Dade and Broward Counties in Florida for impact resistance (HVHZ)

**CMU** - Hollow or concrete-filled - Refer to **Wall Anchors** and the NoA anchor schedules (sheet 5) for appropriate adjustments

**Water-Resistive Barriers** per Section 3.3.3 of the CCRR

### Certifications & Approval Links

[Miami-Dade NoA 22-1103.02](#)

[Intertek CCRR 0454](#)

[Florida Product Approval 41659](#)

[NFPA 285 and CAN/ULC S-134 Design Listings](#)

The licensed engineering professional of record is responsible for the design and adequacy of the structural wall and must ensure a wall deflection limit of L/360.

Render Allowable Wind Design Pressure:  
+/- 55psf

These prescriptive assemblies apply only to flat, vertical walls.

Soffits and curved walls require project-specific engineering.

Deviations from the prescriptive Render configurations will change the allowable wind design pressure and could result in product failure. Substantial changes to the prescriptions require project-specific engineering.



## StoVentro Sub-construction

Although StoVentro can be designed to project-specific criteria, the following prescriptive configurations enable the system allowable design pressure of 55 psf to be met without the need for additional engineering:

**Brackets:** Gliding Point (GP) - small and Fixed Point (FP) - large - aluminum or stainless steel

Horizontal Spacing: 16 inches max.

Vertical Spacing: 36 inches max., except with hollow CMU - reduce bracket vertical spacing to 30 inches

- Keep highest and lowest GP brackets no more than 12 inches from the ends of the T-Profiles
- Position FP brackets at center of T-Profiles - Min. one FP per T-Profile
- Always keep the alike bracket size along the same line/height across the elevation (moving left to right, FPs must be neighbors with only FPs and likewise with GPs)
- Refer to detail 2 on sheet 5 of the NoA

**T-Profiles:** Render always requires 16 inch max. spacing

**Ventro Screws:** Connect T-Profiles to brackets with two StoVentro screws per bracket. See NoA detail 3 on sheet 5. Fasten within the grooved portion of the T-Profiles and utilizing the oblong slots of the GP brackets and circular holes of the FP brackets

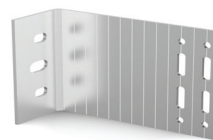
**Wall Anchors** - See Typical Anchors - NoA sheet 5

- **Metal 18 Gauge Studs** - SFS 1/4-14 Bi-Met 300™ screws with washer - hex head, self drilling minimum - one (1) inch embed length - two (2) fasteners per bracket
  - Sto offers this fastener only in two (2) inch length - Please source other lengths or equivalent screws from third parties
- **Concrete-filled CMU** - 3/8" Simpson Strong Tie Titan HD Anchor or similar of equal or greater capacity - minimum 2-3/4" embed length - two anchors per FP bracket (spaced 4"), one per GP bracket
- **Hollow CMU** - 3/8" Simpson Strong Tie Titan HD Anchor or similar of equal or greater capacity - minimum 1-1/4" embed length - two anchors per FP bracket (spaced 4"), one per GP bracket

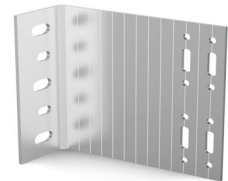
### StoVentro Configuration Requirements:

16" o.c.  
horizontal  
bracket and  
T-Profile spacing

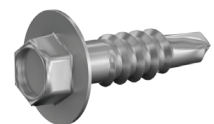
36" o.c.  
maximum vertical  
spacing of brackets  
(30" for hollow CMU applications)



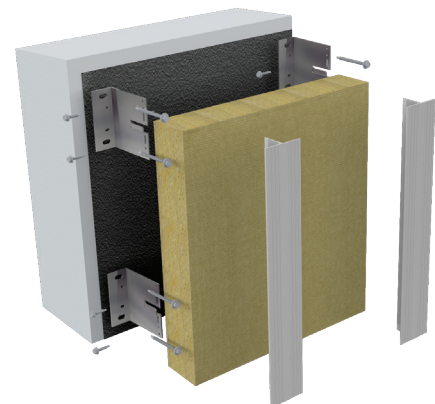
GP bracket



FP bracket



StoVentro Screw

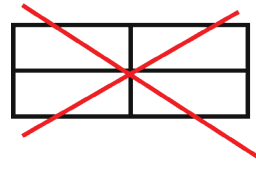




## Carrier Board A+ Layout and Fastening

Carrier boards must be installed in a staggered/running bond pattern (offset 16"). Refer to the elevation detail 1 on sheet 5 of the NoA. Do not leave gaps between boards. Do not create stress points in the carrier board where full-size panels need to transition to small ones - separate with vertical joints rather than creating narrow arms/appendages connected to larger panels. Otherwise, keep the boards the same height across each row (i.e. all 4' tall or all 3' tall in the same row - as examples).

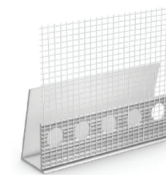
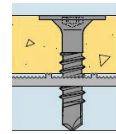
Using Render Facade Screws for aluminum substrates, fasten the Carrier Boards along each T-Profile. Vertical spacing of Render screws must be every six (6) inches maximum. In the field of the board, along each T-Profile, stagger the render screws into two vertical columns two (2) inches apart so that there are 12 inches between screws in each column. Keep screws two (2) inches from horizontal edges of the boards and one (1) inch from vertical edges. At vertical butt joints, the screws along each T-Profile must be aligned. Ensure fastener heads are flush with the Carrier Board face. Do not overdrive/countersink.



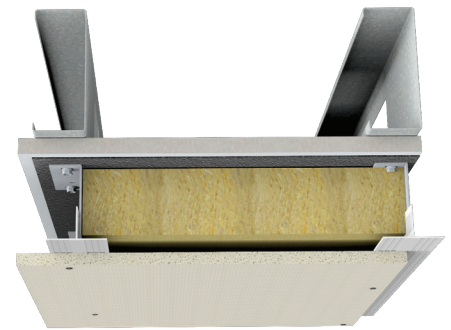
Render Facade Screw



Add vertical joints to avoid creating carrier board stress points.



Edge Protection Profile G



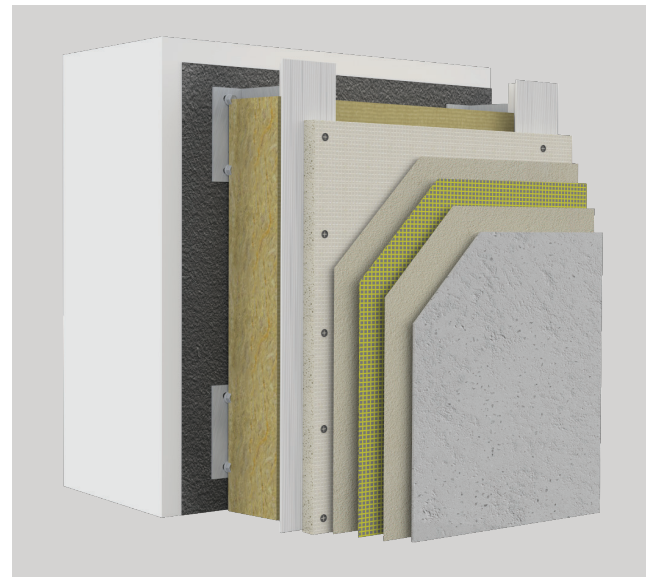
## Edge Protection Profiles, Basecoat, Mesh, and Finish

Utilize appropriate StoVentec Render edge protection profiles where needed. There are five different profiles available for detailing horizontal and vertical terminations. Refer to the [StoVentec System Accessories Product Bulletin](#) for more info on edge protectors and other available accessories such as ventilation profiles.

Apply [StoArmat Classic Plus](#) basecoat, [6 oz mesh](#) and [Stolit finish](#) per typical application guidelines.

## Details and Technical Solutions

Standard [Details](#) in the Sto Document Center. Please contact the StoVentec Technical Solutions team for assistance.



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For more information on this Tech Hotline, please contact Sto Technical Services.

Scan to learn more about StoVentec Render.

