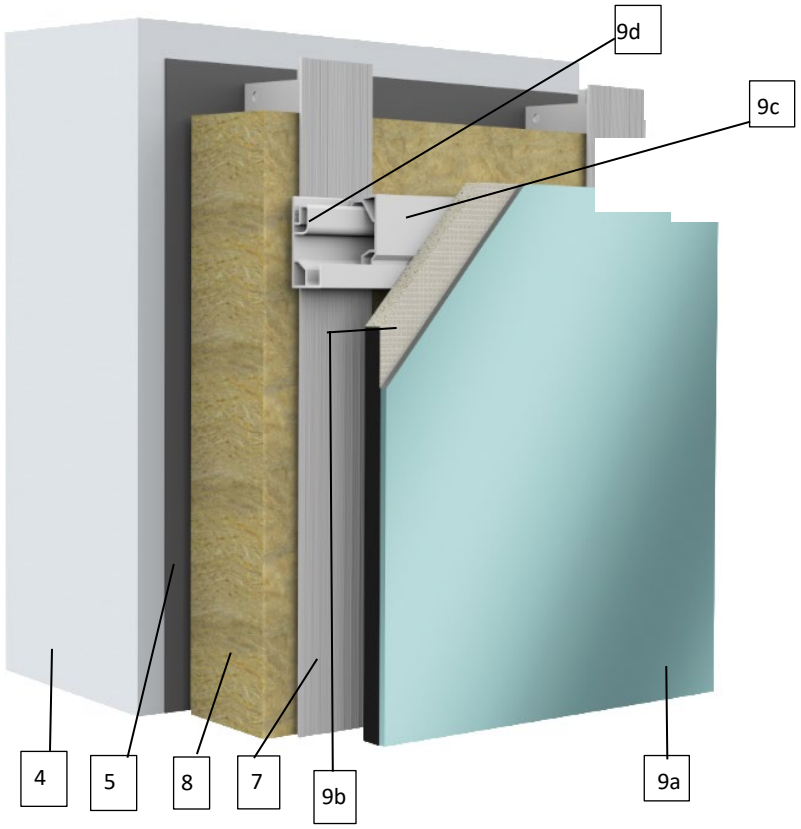
Sto Corp.
Design No. STO/CWP 30-02
Exterior Wall Systems
StoVentec Glass
NFPA 285
Rating: Meets Requirements



1. **EXTERIOR WALL ASSEMBLY:** Incorporate construction features in the exterior wall assembly as described in Items 2 through 13.

2. **INTERIOR GYPSUM:** (Not Shown) For steel stud wall framing as described in Item 3, apply one layer of 5/8 in. thick, Type X gypsum board meeting the requirements of ASTM C1369. Fasten gypsum board to the steel framing (Item 3) with the long dimension parallel to the steel studs. Secure using #6, 1-1/4 in. long, self-tapping bugle-head screws spaced nominally 8 in. on center (oc) around the perimeter and 12 in. oc in the field.

   A. JOINT TAPE AND COMPOUND – (Not Shown) Joints to receive Level 2 finish as per ASTM C840.

3. **WALL FRAMING:** (Not Shown) Use cast-in-place concrete, masonry unit, or steel framing providing max. allowable deflection of L/360 with min. 18 GA steel studs spaced nominally 16 in. oc. Attach steel studs to 20 GA top and bottom steel tracks using nominal 1/2 in. pan-head framing screws, attached to the front and back of each steel stud.

OPTIONAL – Fill or partially fill steel stud wall cavity with noncombustible insulation, mineral fiber, or fiberglass insulation, meeting FSI 25 and SDI 450 when tested in accordance with ASTM E84.

4. **EXTERIOR SHEATHING / CONSTRUCTION:** Where steel framing is used, install min. 1/2 in. thick glass mat exterior sheathing, meeting the requirements of ASTM C1177 or C1658, to the exterior side of the steel framing (Item 3) using #6, 1-1/4 in. long, self-tapping bugle-head screws spaced nominally 8 in. oc around the perimeter and 12 in. oc in the field. The exterior wall construction may also be concrete or masonry of sufficient structural capacity to support the StoVentec Glass rainscreen cladding.

5. **CERTIFIED MANUFACTURER:** Sto Corp.

   CERTIFIED PRODUCT: Weather Resistive Barrier

   CERTIFIED MODEL: Apply one of the following membrane systems, according to manufacturer's instructions, to the exterior side of the substrate assembly (Item2).

   Roller- or spray-apply Sto AirSeal® vapor permeable air barrier over gypsum board joints and all edges at a nominal thickness of 20 wet mils and embed StoGuard Fabric in the wet material. Spray-apply Sto AirSeal® vapor permeable air barrier over the entire wall area (including joints where present) and edges at a nominal thickness of 50 to 70 wet mils. The following alternate weather barriers may also be used: Sto Flexyl, StoGuard VaporSeal R, Sto Gold Coat (81636 or 80265).

   A. STO FLEXYL – A cementitious air and moisture barrier trowel applied at a wet film thickness of 1/16" (1.6 mm).
   B. STOGUARD VAPORSEAL R – A fluid-applied polymeric air, vapor, and moisture barrier, spray- or roller-applied in a two-coat process at a wet film thickness of 15 mils (0.38 mm) per coat. Where applied over sheathing, joints are to be first treated with Sto Gold Fill and mesh reinforcement, or StoGuard RapidFill, or Sto RapidGuard, or StoGuard Conformable Membrane in accordance with Sto application instructions. Joints may also be treated with application of StoGuard VaporSeal R in conjunction with StoGuard Fabric.
   C. STO GOLD COAT – A fluid-applied polymeric air and moisture barrier applied at a wet film thickness of 10 -20 mils (0.25 – 0.5 mm). Where applied over sheathing, joints are to be first treated with Sto Gold Fill and mesh reinforcement, or StoGuard RapidFill, or Sto RapidGuard, or StoGuard Conformable Membrane in accordance with Sto application instructions. Joints may also be treated with application of Sto Gold Coat in conjunction with StoGuard Fabric.
   D. STO AIRSEAL – A fluid-applied polymeric air and moisture barrier applied at a wet film thickness of min. 50 – 70 mils (1.3 – 1.8 mm). Where applied over sheathing, joints are to be first treated with Sto Gold Fill and mesh reinforcement, or StoGuard RapidFill, or Sto RapidGuard, or StoGuard Conformable Membrane in accordance with Sto application instruction. Joints may also be treated with application of Sto AirSeal in conjunction with StoGuard Fabric.

6. **WALL BRACKETS:** (Not Shown) Install 2 mm stainless steel or min. 3 mm aluminum x 70 mm – 320 mm sliding point brackets, and 2.5 mm stainless steel or min. 3 mm aluminum x 70 mm – 320 mm fixed point brackets. Brackets to be spaced and connected to supporting structure as required per Sto installation instructions.

7. **VERTICAL PROFILES:** STO T-Profiles made of aluminum alloy EN AW 6063 Temper 6 or EN AW 6005A Temper 5, with 2.7 mm x 90 mm plate and 2.4 mm x 52.7 mm leg, in lengths to 3 m, are attached to the wall brackets (Item 6) using 5.5 x 19 mm stainless steel screws. Wall brackets (Item 6) to be positioned max. 280 mm from ends of STO T-Profiles. Spacing of T-Profiles typically 12 – 40 in. (300 - 1000 mm) as required by structural analysis.

8. **EXTERIOR INSULATION:** Install 24 in. wide x 48 in. long x required thickness of mineral wool insulation onto wall using adhesively attached 16 GA impaling steel pins at min. five locations per 24 in. x 48 in. insulation section. Pins must be 0.5 – 1 in. longer than thickness of insulation being installed. One steel pin installed at each corner of the insulation section and one steel pin installed at the approximate center. Alternately, pins are at steel stud locations and secured to the studs using one #10 x 1-3/8 in. self-tapping bugle-head screw per pin base. Screws are 3/8 in. longer than the combined sheathing and stud thickness.

   Owens-Corning® Thermafiber Rain Barrier 45 or mineral wool insulation complying with ASTM C612 and ASTM E136 with density range from 3.5 lb/ft^3 to 4.5 lb/ft^3. Thickness shall be no less than 2 in. (50 mm). Thickness shall be based on depth of wall brackets with insulation being max. 20 mm less than wall bracket depth. Cavity when measured from the face of the insulation to the inward facing side of the Ventec panel is between 10 and 90 mm (max.).

   INSULATION AT INTUMESCENT LOCATIONS ABOVE OPENINGS AND FIRE STOPPING – Based on depth of cavity (substrate to inward facing side of the Ventec Panel), cut 4 in. thick, 24 in. x 48 in., 6 lb./ft^3 density mineral fiber insulation so as to produce a lamella strip which extends from the substrate to within 1 in. (25 mm), but no closer than 9/16 in. (15 mm) from the inward facing side of the panel. Install as continuous strip along floor-lines and above windows, extending 4 in. either side of the window using #12 self-tapping sheet metal screws (length as required), spaced nominally between 32 in. and 48 in. oc, using two screws per location. On the face of the lamella, install the Roku Intumescent Strip (strip is 4 in. tall and 1/12 in. (2 mm) thick and is supplied in rolls, 75 to 150 ft. in length). Intumescent strip to be fastened back to the underlying support structure at every stud.

   Alternatively, install min. 0.38 mm thick metal (28 GA) fire breaks. Metal fire break shall span the cavity. Metal break may be supported by underlying structure or T-Profiles in combination with ancillary wall brackets and shall either penetrate the wall insulation by 50 mm, or be used in conjunction with continuous safeing insulation installed between the wall insulation and the metal fire break. Where used in combination with safeing insulation, a continuous 50 mm tall intumescent strip is installed on the outward facing side of the metal fire break.

9. **CERTIFIED MANUFACTURER:** Sto Corp.

   CERTIFIED PRODUCT: Rainscreen Cladding

   CERTIFIED MODEL: StoVentec Glass

   StoVentec Glass cladding panels consist of 6 mm or 8 mm tempered safety glass (Item 9a). The back of the panels are adhered to 20 mm StoVentec Carrier Board A+ (Item 9b) using structural silicone. Panels can be standard or custom sizes, determined by glass thickness and Sto designs. Panels have color and decorative finishes incorporated in the glass. A 1 in. (25 mm) max. glass extension from boundary of the carrier board to the edge of glass may be incorporated as per Sto accommodations.

Panel Agraffe aluminum profile 62.5 mm x 28.8 mm (Item 9c), made of aluminum alloy EN AW 6063 Temper 6 or EN AW 6005A Temper 5, is factory attached to the carrier board using 5.5 x 32 mm stainless steel screws fastened through the face of the carrier board and into the Panel Agraffe profile at max. 255 mm spacing or as dictated by structural requirements. The Panel Agraffe profiles of each panel are mechanically mated with Wall Agraffe profiles 65 mm x 30.6 mm (Item 9d), made of aluminum alloy EN AW 6063 Temper 6 or EN AW 6005A Temper 5. Agraffe profiles are secured to the vertical profiles (Item 7) with 5.5 x 19 mm stainless steel screws. The Agraffe rail distance from the horizontal panel edge shall be based on Sto installation procedures with max. allowable distance from panel edge to center of profile being 11-7/8 in. (300 mm).

10. **JOINT SYSTEM:** (Not Shown) All joints, vertical and horizontal, between panels to be 5mm to 12 mm. Joints can be open (dry) or sealed.

11. **OPENING HEAD AND SILL FLASHING:** Min. 26 GA steel head flashing adhered with silicone or mechanically fixed to top of opening treated with weather barrier (Item 10). Min. 26 GA steel sill flashing adhered with silicone to bottom of opening with supplemental fasteners. Where desired, ASTM C1177 compliant gypsum sheathing may be used to line opening prior to application of the weather resistive barrier.

    Window header may incorporate ventilated or unventilated head profile and the top of the wall may include the ventilation 2-profile at the parapet.

12. **OPENING JAMB DETAIL:** (Not Shown) Min. 26 GA steel jamb profile bridging the gap between the opening and the edge of the panel. Alternatively, a Ventec Glass Panel, no less than 100 mm wide, may be used to create the return bridging the space/gap between the opening and the outward facing panel.

13. **FLOORLINE FIRESTOPPING:** (Not Shown) Provide floor-line fire stopping as required by Code.

Consult the listing report on the Directory of Building Products (https://bpdirectory.intertek.com) for the edition of the standard(s) evaluated.

Compliance of the assembly described in this Design Listing with the referenced standard relies on verification that the assembly constructed in the field is consistent with that described herein. Intertek certified products may be verified by the approved Intertek label; other products must be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.