

# **ICC-ES Evaluation Report**

## **ESR-2536**

Reissued August 2024 This report also contains:

- CBC Supplement

Subject to renewal August 2025 - FBC Supplement

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DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION

Section: 07 24 23— Direct-Applied Finish

**Systems** 

REPORT HOLDER:

STO CORP.

**EVALUATION SUBJECT:** 

STOQUIK™ SILVER I, STOQUIK™ SILVER II AND STOQUIK™ SILVER NEXT CEMENT BOARD STUCCO SYSTEMS



# 1.0 EVALUATION SCOPE

# Compliance with the following codes:

- 2021, 2018, 2015 and 2012 *International Building Code*® (IBC)
- 2021, 2018, 2015 and 2012 International Residential Code® (IRC)

## **Properties evaluated:**

- Noncombustible construction
- Surface-burning characteristics
- Structural—transverse wind load resistance
- Weather resistance
- Fire-resistance-rated construction
- Physical properties

# **2.0 USES**

The StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver NExT Cement Board Stucco Systems are used as exterior and interior wall finishes on wood or steel framed walls of buildings of any construction type.

# 3.0 DESCRIPTION

# 3.1 StoQuik™ Silver I Cement Board Stucco System:

**3.1.1 General:** The StoQuik™ Silver I Cement Board Stucco System is a direct-applied exterior finish system (DEFS). Vertical wood or steel framing is first covered with a water-resistive barrier, as described in Section 3.1.2.2, then a cement board substrate, as described in Section 3.1.2.1. The coating system, which consists of a base coat, reinforcing mesh, a polymeric finish coat, and other accessory components as described in Section 3.1.2, is then applied over the cement board substrate.

## 3.1.2 Material:

- **3.1.2.1 Cement Board Substrate:** PermaBase<sup>™</sup> Cement Board manufactured by National Gypsum Co., composed of portland cement, polystyrene beads, aggregate and glass fiber mesh with thicknesses of  $^{1}/_{2}$  and  $^{5}/_{8}$  inch (12.7 and 15.9 mm).
- **3.1.2.2 Water-resistive Barrier:** A minimum of one layer of the materials prescribed in 2021 and 2018 IBC Section 1403.2 (2015 and 2012 IBC Section 1404.2) or IRC Section R703.2, as applicable.

- **3.1.2.3 Base Coats:** There are two base coats used with the system.
- **3.1.2.3.1 Sto Primer/Adhesive B Base Coat:** A dry mix of acrylic polymer, graded sand, Type I portland cement complying with ASTM C150 and proprietary chemicals packaged in 50-pound (22.6 kg) bags. The product has a shelf life of 12 months when unopened and stored at temperatures between 40°F (4.4°C) and 90°F (32.2°C).
- **3.1.2.3.2 Sto BTS Xtra (high-build base coat):** A dry mix of acrylic polymer, graded sand, Type I Portland cement complying with ASTM C150 and proprietary chemicals packaged in 50-pound (22.6 kg) bags. The product has a shelf life of 12 months when unopened and stored at temperatures between 40°F (4.4°C) and 90°F (32.2°C).
- **3.1.2.4 Reinforcing Mesh:** There are two mesh types used with the system.
- **3.1.2.4.1 StoGuard Mesh:** A 4.25-inch-wide (108 mm), nominally 5.0 oz/yd² (169.5 g/m²), self-adhesive, glass fiber mesh. Sto Guard® Mesh has an alkali-resistant coating to provide compatibility with Sto cementitious products. StoGuard® Mesh is a LENO weave with minimum tensile strengths of 150 lb/inch and 165 lb/inch (23.6 N/mm and 35.0 N/mm) in the warp and weft directions, respectively. Sto Guard® Mesh is available in 150-foot (30.5 m) rolls. It is installed as reinforcement for coatings applied over cement board joints, and at terminations.
- **3.1.2.4.2 Sto Mesh:** Sto Mesh is a nominally 4.5 oz/yd² (145.8 g/m²) glass fiber reinforcing mesh. Sto Mesh has an alkali-resistant coating to provide compatibility with Sto cementitious products. Sto Mesh is a LENO weave with minimum tensile strengths of 150 lb/inch and 165 lb/inch (26.3 N/mm and 28.9 N/mm) in the warp and weft directions, respectively. Sto Mesh is available in 150-foot (30.5 m) rolls that are either 38 inches (965 mm) or 48 inches (1219 mm) wide. It is installed as a wall reinforcing mesh for the coating system in the field of the wall.
- **3.1.2.5** Finish Coat: Sto Essence DPR is a ready-mixed, acrylic-based exterior or interior textured finish, packaged in 5-gallon (19 L) pails. Shelf life of the product is one year when unopened and stored at temperatures between 40°F (4.4°C) and 90°F (32.2°C).
- **3.1.2.6** Accessories: Starter tracks, 'L' beads, 'J' beads, angled termination beads, casing beads, corner beads, expansion joints and weep screeds must be manufactured from polyvinyl chloride and comply with ASTM D1784 or C1063.
- **3.1.2.7 Sealants:** Evidence must be submitted to the code official showing that the DEFS manufacturer–recommended sealant complies with ASTM C920 as a Type S or M, minimum Grade NS, minimum Class 25 and Use O sealant and that it is compatible with the DEFS components. Under the Use O classification, the sealant must be qualified for each material to which the sealant is applied by the adhesion and cohesion under cyclic movement test and adhesion-in-peel tests of Sections 8.8 and 8.9 of ASTM C920.
- 3.2 StoQuik™ Silver II Cement Board Stucco System:
- **3.2.1 General:** The StoQuik™ Silver II Cement Board Stucco System is a direct-applied exterior finish system (DEFS). Vertical wood- or steel-framed exterior walls are first covered with one of the sheathing materials described in Section 3.2.2.1. A water-resistive barrier, as described in Section 3.2.2.3, is applied over the sheathing followed by a cement board substrate, as described in Section 3.2.2.2. The coating system, which consists of a base coat, reinforcing mesh, a polymeric finish coat, and other accessory components as described in Section 3.2.2, is then applied over the cement board substrate.

The coating system can also be applied directly to concrete or concrete masonry as described in Section 3.2.2.9.

# 3.2.2 Material:

## 3.2.2.1 Sheathing:

- **3.2.2.1.1 Gypsum Sheathing:** Minimum <sup>1</sup>/<sub>2</sub>-inch-thick (12.7 mm) (unless noted otherwise in this report), water-resistant core sheathing complying with ASTM C79 or ASTM C1396.
- **3.2.2.1.2 Dens-Glass Gold® Gypsum Sheathing:** Either <sup>1</sup>/<sub>2</sub>- or <sup>5</sup>/<sub>8</sub>-inch-thick (12.7 or 15.9 mm), resinous-coated, glass-fiber-mat faced, water-resistant core sheathing, manufactured by G-P Gypsum Corporation.
- **3.2.2.1.3 Wood Structural Panel Sheathing:** Exterior or Exposure 1 plywood complying with U.S. DOC PS-1 or PS-2; or Exposure 1 oriented strand board (OSB) complying with U.S. DOC PS-2; and with a minimum thickness of <sup>7</sup>/<sub>16</sub> inch (11.1 mm).

- 3.2.2.2 Cement Board Substrate: As described in Section 3.1.2.1.
- 3.2.2.3 Water-resistive Barrier: As described in Section 3.1.2.2.
- 3.2.2.4 Base Coat: As described in Section 3.1.2.3.
- 3.2.2.5 Reinforcing Mesh: As described in Section 3.1.2.4.
- 3.2.2.6 Finish Coat: As described in Section 3.1.2.5.
- 3.2.2.7 Accessories: As described in Section 3.1.2.6.
- 3.2.2.8 Sealants: As described in Section 3.1.2.7.
- **3.2.2.9 Concrete and Concrete Masonry: Concre**te and concrete masonry must comply with the applicable code.

#### 3.3 StoQuik™ Silver NExT Cement Board Stucco:

The StoQuik™ Silver NExT Cement Board Stucco System uses the same components and is constructed similarly to the StoQuik™ Silver II Cement Board Stucco System described in Section 3.2 except for the water-resistive barrier, which is StoGuard (ESR-1233).

# 4.0 DESIGN AND INSTALLATION

#### 4.1 General:

Installation of StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver NExT Cement Board Stucco Systems must comply with this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available on the jobsite at all times during installation.

All substrate surfaces must be structurally sound, clean, dry, and smooth, with no dust or other deleterious material that may reduce bonding of the base coat. Surface irregularities are limited to a maximum of  $^{1}/_{4}$  inch (6.4 mm) for every 10 feet (3048 mm) of surface. The ambient air and substrate surface temperatures must be  $^{40}$ °F ( $^{4}$ °C) or higher during, and for a 24-hour period after, application and until the coating is dry. Protection of the coatings from moisture must be provided for at least 24 hours after application.

The cement board joints and terminations must be treated by the following method:

Sto Guard Mesh (4.25 inches) must be centered over all cement board joints and terminations and firmly pressed in place while unrolling. The mesh must be continuous and void of wrinkles and must extend a minimum of  $2^{1}/_{2}$  inches (64 mm) at overlaps. The mixed base coat must be applied to the entire surface of the mesh by troweling from the center to the edges.

After the joint reinforcing mesh and coating are dry and hard, the base coat is applied to the entire exterior surface of the cement board to a uniform thickness of approximately  $^{1}/_{16}$  inch (1.6 mm). The wall reinforcing mesh described in Section 3.1.2.4.2 is embedded into the wet base coat by troweling from the center toward the edges until the mesh is completely embedded in the coating. The mesh must be continuous around corners and overlapped a minimum of  $2^{1}/_{2}$  inches (64 mm) at all mesh edges. The installed wall reinforcing mesh must be void of wrinkles and embedded in the base coat so that no mesh color is visible.

After a minimum of eight hours drying time, the finish coat is applied after being mixed to a uniform consistency using a drill and paddle. The finish coat is applied over the reinforced base coat with a stainless steel trowel, with the placement and leveling done concurrently. The finish coat thickness must not be less than the diameter of the largest aggregate, approximately  $\frac{1}{16}$  inch (1.6 mm).

Only joint sealant materials complying with Section 3.1.2.7 are permitted to be used in joints. Expansion joints are required at system terminations, building expansion joints, floor lines of wood-framed construction, changes in building shape or roof line, and substrate changes. Expansion and sealant joints must be installed as specified by the architect, designer, builder or exterior coating manufacturer, in that order. The details of sealant installation, including the width and depth of the sealant and joint, are to be designed by the registered design professional, designer, contractor, sealant manufacturer or Sto Corp., in that order, to the satisfaction of the code official. An installation card completed by the sealant installer (in the format shown in Figure 5) and the DEFS contractor declaration (refer to Figure 6), must be submitted to the code official at the completion of each project. The sealant declaration states that the sealant installation conforms to this evaluation report and the sealant manufacturer's installation methods and procedures.

# 4.2 StoQuik™ Silver I Cement Board Stucco System:

**4.2.1 General:** The wall framing and cement board substrate must be installed as set forth in Section 4.2.2 or 4.2.3, as applicable.

A starter track/weep screed is attached to the wall framing at the base of the wall with galvanized nails for wood framing with minimum <sup>3</sup>/<sub>4</sub> inch (76 mm) penetration, or Type S-12 corrosion-resistant screw fasteners with minimum <sup>3</sup>/<sub>8</sub> inch (9.5 mm) penetration for metal framing, spaced a maximum of 16 inches (406 mm) on center.

A minimum of one layer of water-resistive barrier, as described in Section 3.1.2.2, is attached to the framing, along with flashing at penetrations and terminations, in such a manner as to provide a continuous water-resistive barrier behind the cement board sheathing. Flashing must comply with the requirements of the applicable code.

The cement board is attached vertically or horizontally over the water-resistive barrier and flashing and held off the starter track to allow for drainage. The framing and attachment are as set forth in Sections 4.2.2 and 4.2.3.

The balance of the system is installed as described in Section 4.1. Typical system details are shown in Figures 1 through 4.

- **4.2.2 Steel Framing:** Steel framing members are minimum No. 18 gage [0.048 inch (1.2 mm) base-metal thickness] or No. 16 gage [0.060 inch (1.5 mm), spaced at a maximum of 16 inches (406 mm) on center (see <u>Table 1</u>). Cement board is attached using self-tapping, corrosion-resistant steel screws, Type S-12, minimum 1<sup>1</sup>/<sub>4</sub>-inch-long (32 mm), 0.395-inch-head-diameter (10 mm), wafer head or #8-18 self-drilling point. The screws are spaced in the field and along all board edges at 8 inches (203 mm) on center when using No. 18 gage [0.048 inch (1.2 mm)] steel framing or 6 inches (152 mm) on center when using No. 16 gage [0.060 inch (1.5 mm)] steel framing.
- **4.2.3 Wood Framing:** Wood framing members are minimum nominally 2-by-4 studs spaced a maximum of 16 inches (406 mm) on center. Cement board is attached using corrosion-resistant, minimum 1<sup>1</sup>/<sub>4</sub>-inch-long (32 mm), 0.395-inch-head-diameter (10 mm) and #9-15 self-drilling point, spaced at 8 inches (203 mm) on center in the field and along all board edges.
- **4.2.4 One-hour-rated, Nonload-bearing, Fire-resistance-rated Assembly**: The StoQuik™ Silver I Cement Board Stucco System may be used as part of a one-hour fire-resistance-rated assembly, provided the construction is as follows:
- **4.2.4.1** Interior Finish: One layer of minimum <sup>5</sup>/<sub>8</sub>-inch-thick (15.9 mm), Gold Bond<sup>®</sup> Fire-Shield<sup>®</sup>, Type X gypsum wallboard (manufactured by National Gypsum Company) is applied vertically to minimum No. 20 gage [0.036 inch(0.9 mm) base-metal thickness] 3<sup>5</sup>/<sub>8</sub>-inch (92 mm) steel studs spaced a maximum of 16 inches (406 mm) on center. The gypsum wallboard is fastened to the studs with Type S, minimum 1<sup>1</sup>/<sub>8</sub>-inch-long (28.6 mm), self-tapping drywall screws spaced 8 inches (203 mm) on center at board perimeters and 12 inches (305 mm) on center in the field. Horizontal joints are unblocked. All wallboard joints are taped with joint tape and compound and screw heads are covered with joint compound in accordance with ASTM C 840 or GA 216. At floor levels, stud cavities are blocked with insulation with a nominal density of 4 lb/ft³ (64 kg/m³), in accordance with the applicable code. The insulation pieces measure 4 inches (102 mm) thick by the stud depth by the stud spacing.
- **4.2.4.2 Exterior Finish:** As described in Section 4.2.1.
- 4.3 StoQuik™ Silver II Cement Board Stucco System:
- **4.3.1 General:** The wall framing and cement board substrate must be installed as set forth in Section 4.3.2 or 4.3.3, as applicable.

A starter track/weep screed is attached to the wall framing at the base of the wall with galvanized nails for wood framing with minimum <sup>3</sup>/<sub>4</sub> inch (19 mm) penetration, or Type S-12 corrosion-resistant screw fasteners with minimum <sup>3</sup>/<sub>8</sub> inch (9.5 mm) penetration for metal framing, spaced a maximum of 16 inches (406 mm) on center.

A minimum of one layer of water-resistive barrier, as described in Section 3.1.2.2, is applied over the wall sheathing, along with flashing at penetrations and terminations, in such a manner as to provide a continuous water-resistive barrier behind the cement board sheathing. Flashing must comply with the requirements of the applicable code.

The cement board substrate is attached vertically or horizontally over the water-resistive barrier covered sheathing and flashing and approximately  $^{1}/_{8}$  to  $^{1}/_{4}$  inch (3.2 to 6.4 mm) above the starter track to allow moisture to move under and forward to the drain holes in the exterior portion of the starter track. The framing and attachment are as set forth in Sections 4.3.2 and 4.3.3.

The balance of the system is installed as described in Section 4.1. Typical system details are shown in Figures 1 through 4.

- **4.3.2 Steel Framing:** Steel framing members are minimum No. 18 gage [(0.048 inch (1.2 mm)) or No. 16 gage [0.060 inch (1.5 mm)) base-metal thickness], spaced at a maximum of 16 inches (406 mm) on center (see <u>Table 1</u>). Cement board is attached using self-tapping, corrosion-resistant steel screws, Type S-12, minimum 1<sup>1</sup>/<sub>4</sub>-inch-long (32 mm), 0.395-inch-head-diameter (10 mm), wafer head and #8-18 self-drilling point. The screws are spaced in the field and along all board edges at 8 inches (203 mm) on center when using No. 18 gage [0.048 inch (1.2 mm)] steel framing or 6 inches (152 mm) on center when using No. 16 gage [0.060 inch (1.5 mm)] steel framing. Screws must be offset from the sheathing fasteners.
- **4.3.3 Wood Framing:** Wood framing members are minimum nominal 2-by-4 studs spaced a maximum of 16 inches (406 mm) on center. Cement board is attached using corrosion-resistant, Type S screws, minimum 1<sup>1</sup>/<sub>4</sub>-inch-long (32 mm), 0.395-inch-head-diameter (10 mm) head and #9-15 self-drilling point spaced at 8 inches (203 mm) on center in the field and along all board edges. Screws must be offset from the sheathing fasteners.
- **4.3.4 Two-hour-rated, Nonload-bearing, Fire-resistance-rated Assembly:** The StoQuik™ Silver II Cement Board Stucco System may be used as part of a two-hour fire-resistance-rated assembly, provided the construction is as follows:
- **4.3.4.1 Interior Finish:** A base layer of minimum \$^{1}\_{2}\$-inch-thick (12.7 mm) Gold Bond® Fire-Shield® gypsum wallboard (designated as Type FSW-G and manufactured by National Gypsum Company) is applied vertically to minimum No. 20 gage [0.036 inch (0.9 mm) base-metal thickness] steel studs spaced a maximum of 16 inches (406 mm) on center. The base layer of gypsum wallboard is fastened to the studs with Type S, minimum 1-inch-long (25 mm), self-tapping drywall screws spaced 24 inches (610 mm) on center at board perimeters and in the field of the board. A face layer of minimum \$^{1}\_{2}\$-inch-thick (12.7 mm) Gold Bond® Fire-Shield® gypsum wallboard is applied vertically to minimum No. 20 gage, [0.036 inch (0.9 mm) base-metal thickness] steel studs spaced a maximum of 16 inches (406 mm) on center. The gypsum wallboard is fastened to the studs with Type S, minimum \$^{5}\_{8}\$-inch-long (41 mm), self-tapping drywall screws spaced 12 inches (305 mm) on center at board perimeters and in the field of the board. All wallboard joints are taped with joint tape and compound and screw heads are covered with joint compound in accordance with ASTM C 840 or GA 216. At floor levels, stud cavities are blocked with insulation with a nominal density of 2.47 lb/ft³ (39.6 kg/m³), in accordance with the applicable code. The insulation pieces measure 3 inches (76 mm) thick by the stud depth by the stud spacing. Vertical and horizontal joints between base and face layers and between opposite faces must be staggered a minimum of 16 inches (406 mm).
- **4.3.4.2** Exterior Finish: A base layer of minimum <sup>1</sup>/<sub>2</sub>-inch-thick (12.7 mm) Gold Bond<sup>®</sup> Fire-Shield<sup>®</sup> gypsum wallboard is applied vertically to minimum No. 20 gage [0.036 inch (0.9 mm) base-metal thickness] steel studs spaced a maximum of 16 inches (406 mm) on center. The joints must be staggered from the layer on the other face of the studs. The gypsum wallboard is fastened to the studs with Type S, minimum 1-inch-long (25 mm), self-tapping drywall screws spaced 24 inches (610 mm) on center at board perimeters and in the field of the board. The face layer of PermaBase™ panels is applied vertically using 1<sup>5</sup>/<sub>8</sub>-inch-long (41 mm), Type S drywall screws spaced 8 inches (203 mm) on center. Joints in the PermaBase™ panels must be treated as described in Section 4.1. Vertical and horizontal joints between base and face layers and between opposite faces must be staggered a minimum of 16 inches (406 mm).
- **4.3.5 One-hour-rated, Nonload-bearing, Fire-resistance-rated Assembly:** The StoQuik™ Silver II Cement Board Stucco System may be used as part of a one-hour fire-resistance-rated assembly when used without the sheathings as described in Section 3.2.2.1 and provided the construction is as follows:
- **4.3.5.1** Interior Finish: As described in Section 4.2.4.1.
- **4.3.5.2 Exterior Finish:** As described in Section 4.2.4.2.
- 4.4 StoQuik™ Silver NExT Cement Board Stucco System:

StoQuik™ Silver NExT Cement Board Stucco System is constructed identically to StoQuik™ Silver II as described in Section 4.3, except that StoGuard® (<u>ESR-1233</u>) is used as the water-resistive barrier in place of the code-prescribed water-resistive barrier. Installation of StoGuard® is in accordance with ICC-ES <u>ESR-1233</u>.

# 4.5 Type I, II, III and IV (Noncombustible) Construction:

The StoQuik™ Silver II and StoQuik™ Silver NexT Cement Board Stucco systems may be applied where Type I. II, III and IV construction is required provided the construction is as follows:

- **4.5.1 Interior Finish:** One layer of minimum ½-inch-thick (12.7 mm) gypsum wallboard, complying with ASTM C1396, is applied horizontally or vertically to minimum No.18 gage [0.048 inch (1.2 mm) base metal thickness], 3<sup>5</sup>/<sub>8</sub> inch deep (92 mm) C-shaped steel framing spaced at a maximum of 16 inches (406 mm) on center. The gypsum wallboard is fastened to the framing with No. 6, Type S, minimum 1<sup>1</sup>/<sub>4</sub>-inch-long (32 mm), self-drilling bugle head steel screws spaced 8 inches (203 mm) on center at board perimeters and 12 inches (305 mm) on center at intermediate framing. All wallboard joints are taped with joint tape and compound and screw heads are covered with joint compound.
- **4.5.2 Exterior Finish:** One layer of minimum ½-inch-thick (12.7 mm), water-resistant treated core gypsum sheathing, complying with ASTM C1396, is applied horizontally or vertically. The sheathing is fastened to the framing with No. 6, Type S, minimum 1¹/₄-inch-long (32 mm), self-drilling bugle head steel screws spaced 8 inches (203 mm) on center at board perimeters and 12 inches (305 mm) on center at intermediate framing. The balance of construction is a set forth in Section 4.3 or 4.4 for assemblies with steel framing. The cement board vertical joints must be staggered a minimum of one stud space.

### 4.6 Wind Resistance:

Wall framing members must be designed to resist all positive and negative transverse loads, and must comply with, and be designed in accordance with, the applicable code, with a deflection limitation of ¹/₃₀₀ of the span. The StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver NExT Cement Board Stucco Systems, when applied in accordance with this report, can resist the allowable design wind pressures listed in Table 1.

## 4.7 Special Inspection:

In jurisdictions enforcing the IBC or IRC, special inspection in accordance with 2021 IBC Sections 1704.2 and 1705.17 and 2018 and 2015 IBC Sections 1704.2 and 1705.16 (2012 IBC Sections 1704.2 and 1705.15) is required for the StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver NExT Cement Board Stucco Systems. Duties of the special inspector include verifying field preparation of materials, expiration dates, installation of components, curing of components and installation of joints and sealants.

# 5.0 CONDITIONS OF USE:

The StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver NExT Cement Board Stucco Systems described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- **5.1** Installation must comply with this report, the manufacturer's published installation instructions and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.
- **5.2** Installation must be by applicators approved by Sto Corp.
- **5.3** The design wind load pressures must not exceed the capacities indicated in <u>Table 1</u> for the applicable system.
- **5.4** Use of cement board stucco systems described in this report as part of a lateral force resisting element is outside the scope of this report. Wall bracing must be provided in accordance with the applicable code.
- 5.5 The systems are limited to application on walls permitted by the IBC to contain combustible materials. The StoQuick™ Silver II and StoQuick™ Silver Next systems may be applied to Types I, II, III and IV (noncombustible) construction in accordance with Section 4.5.
- 5.6 The systems are limited to nonfire-resistance-rated construction, one-hour fire-resistance-rated construction in accordance with Section 4.2.4 or 4.3.5 or two-hour fire-resistance-rated construction in accordance with Section 4.3.4.
- **5.7** All construction documents must be accompanied by drawings, consistent with the illustrations in this report, that include the following:
  - Installation at wall openings, corners and panel terminations.
  - b. Location and configuration of control joints (when required).
  - c. Typical cross section, showing all components of the wall.
  - d. Typical wall penetrations.

- **5.8** All construction documents must be accompanied by specifications for the system components and their installation, consistent with this report.
- **5.9** In jurisdictions enforcing the IBC or IRC, all installations are subject to special inspections as set forth in Section 4.7 of this report, except where installation is over concrete and masonry substrates.
- **5.10** Installation cards similar to those shown in <u>Figures 5</u> and <u>6</u> must be completed by the applicators and presented to the code official at the completion of each project.

## **6.0 EVIDENCE SUBMITTED**

- **6.1** Data in accordance with the ICC-ES Acceptance Criteria for Direct-applied Exterior Finish Systems (DEFS) (AC59), dated June 2010 (editorially revised August 2022).
- **6.2** Reports of testing in accordance with ASTM E119, ASTM E84 and NFPA 285.

## 7.0 IDENTIFICATION

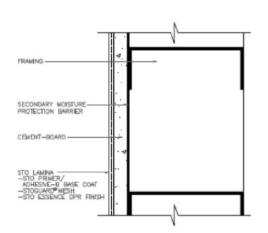
- 7.1 Each container or package of material and components used as part of the StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver NExT Cement Board Stucco Systems must be labeled with the manufacturer's name (Sto Corp.); identification of the system component by product name; the production date, lot or batch number; quantity of material in packaged mix; expiration date, as applicable; and the evaluation report number (ESR-2536).
- 7.2 The report holder's contact information is the following:

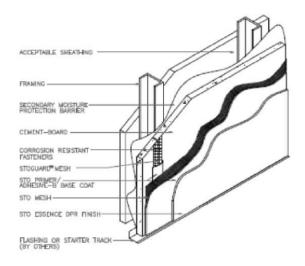
STO CORP.
3800 CAMP CREEK PARKWAY
BUILDING 1400, SUITE 120
ATLANTA, GEORGIA 30331
(800) 221-2397
www.stocorp.com

#### **TABLE 1—ALLOWABLE DESIGN WIND PRESSURES**

SYSTEM	FRAMING		ALLOWABLE DESIGN PRESSURE (psf)	
	Type <sup>1</sup>	Maximum Spacing (in.)	Positive	Negative
StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver NexT Cement Board Stucco Systems	Wood <sup>2</sup>	16	33	37
	Steel <sup>3</sup>	16	53	27
	Steel <sup>4</sup>	16	55	31

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 ksi = 6.894757 x  $10^6$  Pa.





TYPICAL STOQUIK SILVER I CEMENT-BOARD STUCCO SYSTEM DESIGN APPLICATION (PLAN VIEW)

TYPICAL STOQUIK SILVER I CEMENT-BOARD STUCCO SYSTEM

FIGURE 1—STOQUIK™ SILVER I CEMENT-BOARD STUCCO SYSTEM

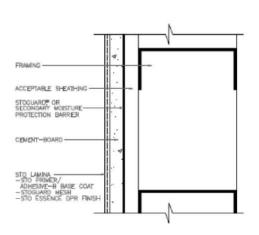
<sup>1</sup> Framing members must be designed to comply with strength and stiffness requirements of the applicable code Refer to Section 4.6.

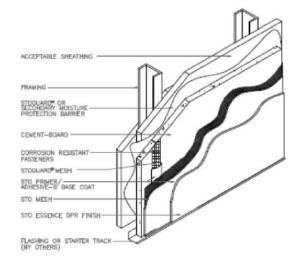
<sup>&</sup>lt;sup>2</sup>Wood framing must have a minimum specific gravity of 0.50.

<sup>&</sup>lt;sup>3</sup>No. 18 gage steel studs must be C-shaped studs having minimum yield strength of 33 ksi and minimum tensile strength of 45 ksi. The studs must have a minimum 3<sup>5</sup>/<sub>8</sub>-inch-deep web and 1<sup>5</sup>/<sub>8</sub>-inch-wide flange.

<sup>&</sup>lt;sup>3</sup>No. 16 gage steel studs must be C-shaped studs having minimum yield strength of 50 ksi and minimum tensile strength of 65 ksi. The studs must have a minimum 55/8-inch-deep web and 15/8-inch-wide flange.



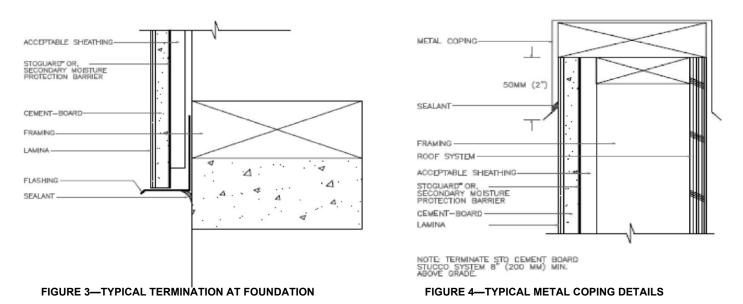




TYPICAL STOQUIK SILVER II CEMENT-BOARD STUCCO SYSTEM DESIGN APPLICATION (PLAN VIEW) TYPICAL STOQUIK SILVER II CEMENT-BOARD STUCCO SYSTEM

FIGURE 2—STOQUIK™ SILVER II CEMENT-BOARD STUCCO SYSTEM

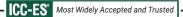




# (SEALANT INSTALLER NAME)

Completion Date:	
THE SEALANT INSTALLED IN CONJUNCTION WITH STRUCTURE LOCATED AT THE ADDRESS BELOW	H AN DIRECT-APPLIED EXTERIOR FINISH SYSTEM (DEFS) INSTALLED ON THE
CONFORMS	
TO [Sto Corp.] and [SEALANT MANUFACTURER'S N SECTION(S)OF ICC-ES, INC., EV.	IAME] RECOMMENDED INSTALLATION PRACTICES AND ALUATION REPORT ESR-XXXX.
Address of Structure:	Product Component Names: Primer (s) Sealers Bond Breakers Sealant Materials
INSTALLATION A. Designer's requirements, details and instructions: B. Sealant manufacturer's details and requirements: C. Exterior insulation manufacturer's requirements: D. The information entered above is offered in testimon methods and procedures, and the DEFS manufacturer	CONFORMS   ny that the sealant installation conforms with the sealant manufacturer's installation 's evaluation report.
Sealant Installer Company Name and Address:	
Signature of Responsible Officer:	
Cc: Original: Building Official (Mu Copies: DEFS Manufacturer DEFS Contractor	ust be submitted with DEFS contractor declaration)

Sealant Manufacturer



[DEFS CONTRACTOR NAME]			
Completion Date:			
THE DIRECT-APPLIED EXTERIOR FINISH SYSTEM (DEF	FS) INSTALLED ON THE STRUCTURE LOCATED AT THE ADDRESS BELOW:		
CONFORMS			
TO [Sto Corp.] and [SEALANT MANUFACTURER'S NAME SECTION(S) OF ICC-ES, INC., EVALUA			
Address of Structure:	Product Component Names:		
	1. Water resistive barrier 2. Wall sheathing 3. Cement core board 4. Fasteners 5. Joint reinforcing mesh 6. Wall reinforcing mesh 7. Base coat 8. Finish coat		
INSTALLATION CONFORMS A. Substrate Type and Tolerance B. Water resistive Barrier C. DEFS  1. Water resistive barrier 2. Wall sheathing 3. Cement core board 4. Fasteners 5. Joint reinforcing mesh 6. Wall reinforcing mesh 7. Base coat 8. Finish coat			
D. The information entered above is offered in testimony that and procedures, and the DEFS manufacturer's ES report.	t the DEFS installation conforms with the DEFS manufacturer's installation methods		
report and sealant manufacturer's installation methods and DEFS Contractor Company Name and Address:	<u> </u>		
Signature of Responsible Officer:  Typed Name and Title of Officer:  Telephone Number: ()  Cc: Original: Building Department Copies: DEFS Manufacturer (Must be	e submitted with Sealant Installer declaration)		

FIGURE 6—DEFS CONTRACTOR DECLARATION



# **ICC-ES Evaluation Report**

# **ESR-2536 CBC and CRC Supplement**

Reissued August 2024

This report is subject to renewal August 2025.

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A Subsidiary of the International Code Council®

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION** 

Section: 07 24 23—Direct-Applied Finish Systems

**REPORT HOLDER:** 

STO CORP.

#### **EVALUATION SUBJECT:**

STOQUIK™ SILVER I, STOQUIK™ SILVER II AND STOQUIK™ SILVER NEXT CEMENT BOARD STUCCO SYSTEMS

#### 1.0 REPORT PURPOSE AND SCOPE

#### Purpose:

The purpose of this evaluation report supplement is to indicate that StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver INEXT Cement Board Stucco Systems, described in ICC-ES evaluation report ESR-2536, have also been evaluated for compliance with the codes noted below.

## Applicable code editions:

■ 2022 and 2019 California Building Code (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

■ 2022 and 2019 California Residential Code (CRC)

## 2.0 CONCLUSIONS

## 2.1 CBC:

The StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver NExT Cement Board Stucco Systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-2536, comply with CBC Chapter 14 provided the design and installation are in accordance with the 2021 or 2018 *International Building Code*® (IBC) provisions, as applicable, noted in the evaluation report and the additional requirements of CBC Chapter 14, 16 and 17, as applicable.

- 2.1.1 OSHPD: The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.
- 2.1.2 DSA: The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

### 2.2 CRC:

The StoQuik™ Silver I, StoQuik™ Silver II and StoQuik™ Silver NExT Cement Board Stucco Systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-2536, comply with CRC Chapter 7, provided the design and installation are in accordance with the 2021 or 2018 *International Residential Code*® (IRC) provisions, as applicable, noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued August 2024.





# **ICC-ES Evaluation Report**

# **ESR-2536 FBC and FRC Supplement**

Reissued August 2024

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A Subsidiary of the International Code Council®

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION** 

Section: 07 24 23—Direct-Applied Finish Systems

**REPORT HOLDER:** 

STO CORP.

#### **EVALUATION SUBJECT:**

STOQUIK™ SILVER I, STOQUIK™ SILVER II AND STOQUIK™ SILVER NEXT CEMENT BOARD STUCCO SYSTEMS

#### 1.0 REPORT PURPOSE AND SCOPE

#### Purpose:

The purpose of this evaluation report supplement is to indicate that STOQUIK™ SILVER I, STOQUIK™ SILVER II AND STOQUIK™ SILVER NEXT CEMENT BOARD STUCCO SYSTEMS, described in ICC-ES evaluation report ESR-2536, have also been evaluated for compliance with the codes noted below.

## Applicable code editions:

- 2020 Florida Building Code—Building
- 2020 Florida Building Code—Residential

## 2.0 CONCLUSIONS

The STOQUIK™ SILVER I, STOQUIK™ SILVER II AND STOQUIK™ SILVER NEXT CEMENT BOARD STUCCO SYSTEMS, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-2536, comply with the *Florida Building Code—Building* and *Florida Building Code—Residential*. The design requirements shall be determined is in accordance with the *Florida Building Code—Building Code—Building Code—Residential* as applicable. The installation requirements noted in the ICC-ES evaluation report ESR-2536 for the 2018 *International Building Code®* meet the requirements of the *Florida Building Code—Building* and the *Florida Building Code—Residential*, as applicable, with the following conditions:

- 1. Installation must meet the requirements of Section 1403.8 of the *Florida Building Code—Building* or Section R318.7 of the *Florida Building Code—Residential*, as applicable.
- Flashing must be in accordance with Section 1405.4 of the Florida Building Code—Building or Section R703.4 of the Florida Building Code—Residential, as applicable.

Use of the STOQUIK™ SILVER I, STOQUIK™ SILVER II AND STOQUIK™ SILVER NEXT CEMENT BOARD STUCCO SYSTEMS for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential* has not been evaluated, and is outside the scope of this evaluation report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality-assurance program is audited by a quality-assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued August 2024.

