

# ICC-ES Evaluation Report

**ESR-1500**

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

**REPORT HOLDER:**

**STONE PANELS, INC.**  
 100 SOUTH ROYAL LANE  
 COPPELL, TEXAS 75019  
 (469) 635-5000  
[www.stonepanels.com](http://www.stonepanels.com)

**EVALUATION SUBJECT:**
**STONE VENEER WALL PANELS**
**1.0 EVALUATION SCOPE**
**Compliance with the following code:**

 2009 and 2006 *International Building Code*® (IBC)

**Properties evaluated:**

- Structural
- Durability
- Surface-burning characteristics
- Types I, II, III and IV (noncombustible) construction

**2.0 USES**

The Stone Veneer Wall Panels are used as a nonload-bearing, interior finish and exterior wall cladding, in combustible and noncombustible construction.

**3.0 DESCRIPTION**
**3.1 General:**

The panels consist of a minimum  $\frac{3}{16}$ -inch-thick (4.8 mm) veneer of natural stone factory-laminated to a prepreg faced aluminum honeycomb core. Galvanized steel plates are factory-installed in the panels to allow for jobsite attachment of the panels to aluminum channels, which are used to hang the panels from the supporting structure. The panels are nominally  $\frac{15}{16}$  inch or 1 inch thick, depending on the type of stone veneer, and are available in sizes up to 5 feet by 10 feet (1525 by 3050 mm). The panels weigh up to 4.0 psf (19.5 kg/m<sup>2</sup>). Three combinations of prepreg facings and aluminum honeycomb are available as models SP-1-6-3, SP-1-10-3 and SP-1-10-7. The SP-1-6-3 model panels have an aluminum honeycomb core with a cell size of  $\frac{1}{4}$  inch (6.4 mm) while the SP-1-10-3 and the SP-1-10-7 models have an aluminum honeycomb core with a cell size

of  $\frac{3}{8}$  inch (9.5 mm). For interior use, the stone veneer wall panels have a Class A finish in accordance with ASTM E84.

**3.2 Materials:**

**3.2.1 Prepreg Facings:** The prepreg facings are fiberglass fabrics which have been impregnated with an epoxy resin. These are factory-installed on both sides of the aluminum honeycomb.

**3.2.2 Aluminum Honeycomb:** The aluminum honeycomb cores are expanded from aluminum alloy 3003-H19. The honeycombs with  $\frac{1}{4}$ -inch (6.4 mm) cells and  $\frac{3}{8}$ -inch (9.5 mm) cells have densities of 5.2 pcf and 3.6 pcf (83 and 58 kg/m<sup>3</sup>), respectively.

**3.2.3 Attachment Plates:** The attachment plates are stamped from steel complying with ASTM A653 CS Type B, having a G90 galvanized coating and a minimum base-metal thickness of 0.0705 inch (1.8 mm).

**3.2.4 Stone:** Available stone includes marble, granite, limestone, sandstone and dolomite. The marble and granite veneer is nominally  $\frac{3}{16}$  inch thick. The limestone, sandstone and dolomite veneer is nominally  $\frac{1}{4}$  inch thick.

**3.2.5 Aluminum Channels:** The aluminum channels used to support the panels are provided by Stone Panels Inc. The adequacy of the channels and their connections to the panel and the supporting structure must be verified for each installation by a registered design professional, and are outside the scope of this report.

**4.0 DESIGN AND INSTALLATION**
**4.1 General:**

The panels must be installed in accordance with the manufacturer's published installation instructions and the approved plans. The panels may be installed vertically or horizontally, as shown in the approved plans. Spacing of the panel attachments to the supporting channels must comply with Table 1. The joints between panels must be sealed in accordance with the manufacturer's installation instructions. A water-resistive barrier, flashing and a means of drainage must be provided behind the stone veneer panels and comply with and be installed in accordance with the IBC. The allowable positive and negative transverse loads on the panels are shown in Table 1. For installations in Seismic Design Categories other than A and B, the design of the connections of the panels to the channels and the channels to the supporting structure must comply with Section 13.5.3 of ASCE 7.

**4.2 Noncombustible Wall Assembly:**

When installed as described in this section, the Stone Veneer Wall Panels may be used on the exterior face of exterior walls of buildings required to be of Type I, II, III or IV construction.

The supporting wall must consist of steel studs having a minimum base-metal thickness of 0.0598 inch (1.5 mm) spaced at a maximum of 16 inches (406 mm) on center, covered with one layer of 1/2-inch-thick (12.7 mm) gypsum board fastened with screws at 24 inches (610 mm) on center, with rockwool insulation between the studs. The gypsum board must be covered by a water-resistive barrier having a Class A finish rating.

**5.0 CONDITIONS OF USE**

The Stone Veneer Wall Panels 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 complies with this report, the manufacturer’s published installation instructions and the applicable code. If there is a conflict between the installation instructions and this report, the most restrictive governs.
- 5.2 Recognition of the aluminum attachment channels is outside the scope of this report. The design, fabrication and attachment of these channels to the panels and to the supporting structure must be justified to the satisfaction of the code official.
- 5.3 Drawings, design details, calculations and test data verifying compliance with this report and the

adequacy of the connections and supporting framing must be submitted to the building official for approval. The drawings and calculations must be prepared by a registered design professional when required by the statutes of the jurisdiction in which the project is to be constructed.

- 5.4 The out-of-plane deflection of the supporting wall framing must be limited to L/240.
- 5.5 Where exterior walls covered with the Stone Veneer Panels are required to have a fire-resistance rating, the rating must be justified to the code official.
- 5.6 The stone veneer wall panels are manufactured in Coppell, Texas, under a quality control program with inspections by ICC-ES.

**6.0 EVIDENCE SUBMITTED**

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Sandwich Panels (AC04), dated February 2012 (editorially revised August 2013).
- 6.2 Reports of testing of attachment plate capacity.
- 6.3 Report of testing in accordance with ASTM E84.
- 6.4 Letter report addressing installation in Type I, II, III and IV construction, with supporting test data.

**7.0 IDENTIFICATION**

Each panel is identified by labels bearing the manufacturer’s name (Stone Panels, Inc.) and address, the product name, the model number, and the evaluation report number (ESR-1500).

**TABLE 1—ALLOWABLE POSITIVE AND NEGATIVE TRANSVERSE LOADS<sup>1</sup> (psf)**

MODEL	HORIZONTAL SPACING OF PANEL ATTACHMENTS (inches)		
	32	24	16
SP-1-6-3	49	64	96
SP-1-10-3	52	68	102
SP-1-10-7	23	31	47

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.99 Pa.

<sup>1</sup>Maximum vertical spacing of panel attachments to the supporting channels is 24 inches.