

# ICC-ES Evaluation Report

**ESR-1593**

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**DIVISION: 04 00 00—MASONRY**  
**Section: 04 73 00—Manufactured Stone Masonry**

**REPORT HOLDER:**

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**EVALUATION SUBJECT:**
**HARRISTONE PRECAST STONE VENEER**
**1.0 EVALUATION SCOPE**
**Compliance with the following codes:**

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)

**Property evaluated:**

Veneer strength and durability

**2.0 USES**

Harrystone Precast Stone Veneer is used as an adhered wall veneer.

**3.0 DESCRIPTION**

Harrystone Precast Stone Veneer (HPSV) is a precast concrete product made to resemble stone in color and in texture. The concrete is composed of portland cement, fine and coarse expanded shale aggregates, pigments, concrete admixtures, and water as required for casting. Units of HPSV are approximately  $\frac{5}{8}$  to  $2\frac{5}{8}$  inches thick (16 to 67 mm) and have a maximum area of 720 square inches (0.464 m<sup>2</sup>) with a maximum dimension of 36 inches (914 mm). The maximum veneer weight is 15 pounds per square foot (73.2 kg/m<sup>2</sup>).

Recognized veneer types and patterns are as follows:

- Guillotine
- Chief Joseph
- Uintah Drystack LedgeStone
- Limestone
- Sandstone
- Granite

- LedgeStone
- Ridgestone
- Rolled River Rock
- Cobble
- Thin Brick
- Mason's Choice
- Fieldstone

**4.0 INSTALLATION**
**4.1 General:**

Installation of HPSV must comply with this report, the manufacturer's published installation instructions, and the applicable code. The manufacturer's published installation instructions must be available at the jobsite at all times during installation. If there are conflicts between this report and the manufacturer's published installation instructions, this report shall govern.

Harrystone Precast Stone Veneer must be applied to new or existing wood-frame or light gage steel framed walls and to masonry walls. The HPSV must be adhered to the supporting walls with a Type S mortar setting bed. The Type S mortar must comply with IBC Table 2103.8(1), IRC Table R607.1, or UBC Table 21-A. The ambient temperature must be 40°F (4°C) or higher at the time of veneer application.

**4.2 Application to Stud Construction:**

HPSV units must be applied to open studs spaced a maximum of 16 inches on center (406 mm) or over existing wall surfaces of exterior plaster (stucco), wood siding, or wood sheathing backed by studs spaced a maximum of 16 inches (406 mm) on center.

Open studs must be covered with wire backing and a water-resistive barrier in accordance with IBC Section 1404.2 or IRC Section R703.2, or a weather-resistive barrier in accordance with UBC Section 1402.1. For installations over wood siding or wood sheathing, a water-resistive barrier must be installed over the wood siding or sheathing in accordance with IBC Section 2510.6 or IRC Section R703.6.3. Installations over exterior plaster walls require a water-resistive or weather-resistive barrier, in accordance with the applicable code, behind the plaster.

Weep screeds must be installed at the bottom of the wall and at all horizontal terminations of the HPSV. The weep screed must comply with, and be installed in accordance with, IBC Section 2512.1.2., IRC Section R703.6.2.1 or

UBC Section 2506.5, as applicable. In addition, the weep screeds must have holes with a minimum diameter of  $\frac{3}{16}$  inch (4.8 mm) spaced at a maximum of 16 inches (406 mm) on center.

A 3.4-pound-per-square-yard (1.84 kg/m<sup>2</sup>), self-furring, metal lath or No. 17 gage [0.0539 inch (1.37 mm)], 1 $\frac{1}{2}$ -inch (38 mm) hexagonal woven-wire mesh must be installed over the water-resistive or weather-resistive barrier. The lath or mesh must be fastened to each of the wall studs at 6 inches (152 mm) on center vertically. For wood studs, fasteners must be galvanized nails, with diameter and penetration as shown in Table 1 of this report, or minimum No. 16 gage [0.063 inch (1.6 mm)] galvanized staples of sufficient length to penetrate the studs a minimum of 1 $\frac{3}{8}$  inches (35 mm). For steel studs, fasteners must be No. 8 wafer head screws of sufficient length to penetrate the studs a minimum of  $\frac{3}{8}$  inch (9.5 mm). Wood studs must have a minimum specific gravity of 0.42. Steel studs must be 20 gage [0.033 inch (0.84 mm) bare-metal thickness], minimum.

A  $\frac{1}{2}$ -inch-thick (12.7 mm) scratch coat of Type S mortar must be applied over the lath or mesh and allowed to cure for at least 48 hours before the mortar setting bed is applied. The scratch coat must be moistened and a  $\frac{3}{4}$ -inch-thick (19.1 mm) Type S mortar setting bed must be applied in areas of approximately 10 square feet (0.929 m<sup>2</sup>). The HPSV units must be lightly but firmly tapped into the mortar setting bed to ensure bond while the mortar is soft and pliable. Alternatively, the setting bed must be applied to the back of each veneer unit and the unit pressed into place. In either case, the mortar setting bed thickness and consistency must allow the mortar to be squeezed out around all edges of the veneer unit to assure full bond. All joints must be tooled.

**4.3 Application to Masonry:**

The HPSV units must be applied directly to a masonry backing without the use of lath or mesh, provided the surface is clean. Painted, waterproofed, or dirty masonry surfaces must be cleaned by sandblasting to provide a good bond surface. A minimum  $\frac{1}{2}$ -inch-thick (12.7 mm) Type S mortar setting bed must be applied to the masonry backing in areas of approximately 10 square feet (0.929 m<sup>2</sup>). The HPSV units must be lightly but firmly tapped into the mortar setting bed to ensure bond while the mortar is soft and pliable. Alternatively, the setting bed must be applied to the back of each veneer unit and the unit

pressed into place. In either case, the mortar setting bed thickness and consistency must allow mortar to be squeezed out around all edges of the veneer unit to assure full bond. All joints must be tooled.

**5.0 CONDITIONS OF USE**

The Harrystone Precast Stone Veneer described in this report complies with, or is a suitable alternative 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 there is a conflict between the manufacturer’s published installation instructions and this report, this report shall govern.
- 5.2 The HPSV units must be limited to installation on wood-frame, light-gage-steel framed, or masonry walls only.
- 5.3 Expansion or control joints used to limit the effect of differential movement of supports must be specified by the architect, designer or veneer manufacturer, in that order. Consideration must also be given to movement caused by temperature change, shrinkage, creep and deflection.
- 5.4 In jurisdictions adopting the UBC, the height of HPSV attached to wood-frame construction must be limited by UBC Section 1403.1.2.
- 5.5 In jurisdictions adopting the IRC, the wood-frame or masonry wall backing, including headers and lintels, must be as required to support the weight of the HPSV and the mortar.
- 5.6 In jurisdictions adopting the IRC, the veneer installation must comply with the seismic provisions of IRC Section R301.2.2.

**6.0 EVIDENCE SUBMITTED**

Data in accordance with the ICC-ES Acceptance Criteria for Precast Stone Veneer (AC51), dated February 2008.

**7.0 IDENTIFICATION**

All pallets of HPSV units must be labeled or stamped with the manufacturer’s name (G. S. Harris Co., Inc.), product name and evaluation report number (ESR-1593).

**TABLE 1—REQUIRED NAIL PENETRATION (inches)**

STUD SPECIFIC GRAVITY	NAIL DIAMETER (inch)		
	0.120	0.128	0.131
0.42	1 $\frac{3}{8}$	1 $\frac{5}{16}$	1 $\frac{1}{4}$
0.43	1 $\frac{5}{16}$	1 $\frac{1}{4}$	1 $\frac{3}{16}$
0.46	1 $\frac{1}{8}$	1	1
0.50	1	1	1

For SI: 1 inch = 25.4 mm.