ICC EVALUATION SERVICE®

ICC-ES Evaluation Report

ESR-4741

Issued December 2020

This report is subject to renewal December 2021.

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DIVISION: 31 00 00—EARTHWORK
Section: 31 60 00—Special Foundations and Load-Bearing Elements

REPORT HOLDER:

COMPOSITE PANEL SYSTEMS, LLC

EVALUATION SUBJECT:

COMPOSITE FOOTING PANELS. 2 INCHES THICK, 18 INCHES WIDE, AND UP TO 56 FEET LONG

1.0 EVALUATION SCOPE

Compliance with the following codes:

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

Properties evaluated:

- Structural
- Durability

2.0 USES

2.1 General:

Composite Footing Panels are placed over a prepared soil foundation having a compressive strength of 2000 psf (95.8 kPa) and 4000 psf (191.6 kPa), and are intended for use as panels supporting and distributing gravity loads from the walls above. Use of the panels to resist uplift and lateral loads is outside of the scope of this evaluation report.

2.2 Construction Types:

Composite Footing Panels shall be considered combustible building elements when determining the construction type in accordance with IBC Chapter 6.

2.3 Below Grade Use:

Composite Footing Panels may only be used below grade.

2.4 Frost Protection:

Except where otherwise protected from frost, Composite Footing Panels shall be protected from frost in accordance with IBC Section 1809.5. The footing panels shall not bear on frozen soil unless such frozen conditions are of a permanent character in accordance with IBC Section 1809.5.

3.0 DESCRIPTION

3.1 General:

Composite Footing Panels are factory-manufactured by laminating a proprietary formed-in-place fiberglass system to a preformed (honeycomb) polypropylene core, under factory-controlled conditions. The panels are available in a nominal size of 2 inches (50.8 mm) thickness by 18 inches (457.2 mm) wide with a length up to 56 feet (17.07 m).

3.2 Materials:

3.1.1 Facing: The facing consists of a proprietary formed-in-place fiberglass system. The top and bottom facings are laminated directly on the honeycomb material. Facing materials are adhered to the core during the facing formation process. The facing formation process is completed in accordance with the in-plant quality system documentation.

3.1.2 Core: The core material is polypropylene in a honeycomb pattern.

3.1.3 Material Source: The facing and core used in the construction of Composite Footing Panels are from approved sources as identified in the in-plant quality system documentation. Materials used for Composite Footing Panels shall contain no cellulosic material.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 General: The scope of this report is limited to the evaluation of the Composite Footing Panel.

4.1.2 Design and Allowable Loads: Composite Footing Panels are designed to support and distribute the gravity load of the foundation wall to the supporting soil. Allowable loads are controlled by the type of supporting soil. Composite Footing Panels design loads must not exceed the allowable gravity loads shown in Table 1.

4.1.3 Eccentric Loads: Gravity loads shall be applied concentrically (centered on the panel) to the top of the product. Loads shall not be applied with eccentricity of more than 0.5 inch (12.7 mm).

4.1.4 Load Application Area: Composite Footing Panels are designed to support and distribute the gravity load along the length of the panel to the supporting soil. The area in which the axial compressive loads were designed to be applied correlates directly with the CPS Wall Panel (ESR-4667) layout as shown in Figure 2. Standard conventional walls constructed with minimum of 2 by 6 framing members are also permitted.

4.1.5 Allowable Soil Bearing Capacity: The allowable soil load-bearing value must be determined by a site-specific geotechnical investigation or evaluation in accordance with IBC Section 1803 or IRC Section R401.4, as applicable.

4.2 Installation:

Composite Footing Panels shall be installed on undisturbed soil, compacted fill material or controlled low-strength

material (CLSM) in accordance with IBC Section 1809. Compacted fill material shall be placed in accordance with IBC Section 1804.6. CLSM shall be placed in accordance with IBC Section 1804.7.

5.0 CONDITIONS OF USE

The Composite Footing Panels 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 Composite Footing Panels shall be manufactured, identified and installed in accordance 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 shall govern.

5.2 The panels are manufactured in Washington Court House, Ohio, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Reports of flexural strength tests in accordance with ASTM D790 before and after acid and alkaline exposure.

6.2 Report of testing for determining allowable vertical loads.

6.3 Report of test in accordance with ASTM D2990.

7.0 IDENTIFICATION

7.1 Each panel must be identified by a stamp or label on the panel that includes the name and address of the report holder (Composite Panel Systems, LLC), in-plant quality assurance stamp, identifier for production facility, batch number and the evaluation report number (ESR-4741).

7.2 The report holder's contact information is the following:

COMPOSITE PANEL SYSTEMS, LLC
141 SOUTH WILLOW STREET
EAGLE RIVER, WISCONSIN 54521
(715) 479-0007
www.compositepanelsystems.com

TABLE 1—CHARACTERISTIC VALUES OF BEARING CAPACITY (POUNDS PER LINEAR FOOT)[1]

PRODUCT	2000 psf SOIL CAPACITY	4000 psf SOIL CAPACITY
Composite Footing Panels	2,833	5,666

For **SI:** 1 inch = 25.4 mm; 1lbf =44.N; 1 lbf/ft^2 = 47.9 Pa.

[1]Tabulated values are 5th percentile with 75% confidence values. The applicability for the design is to be determined by the designer of record.

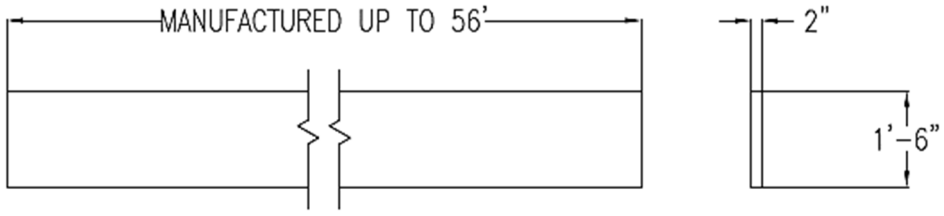

FIGURE 1—COMPOSITE FOOTING PANEL

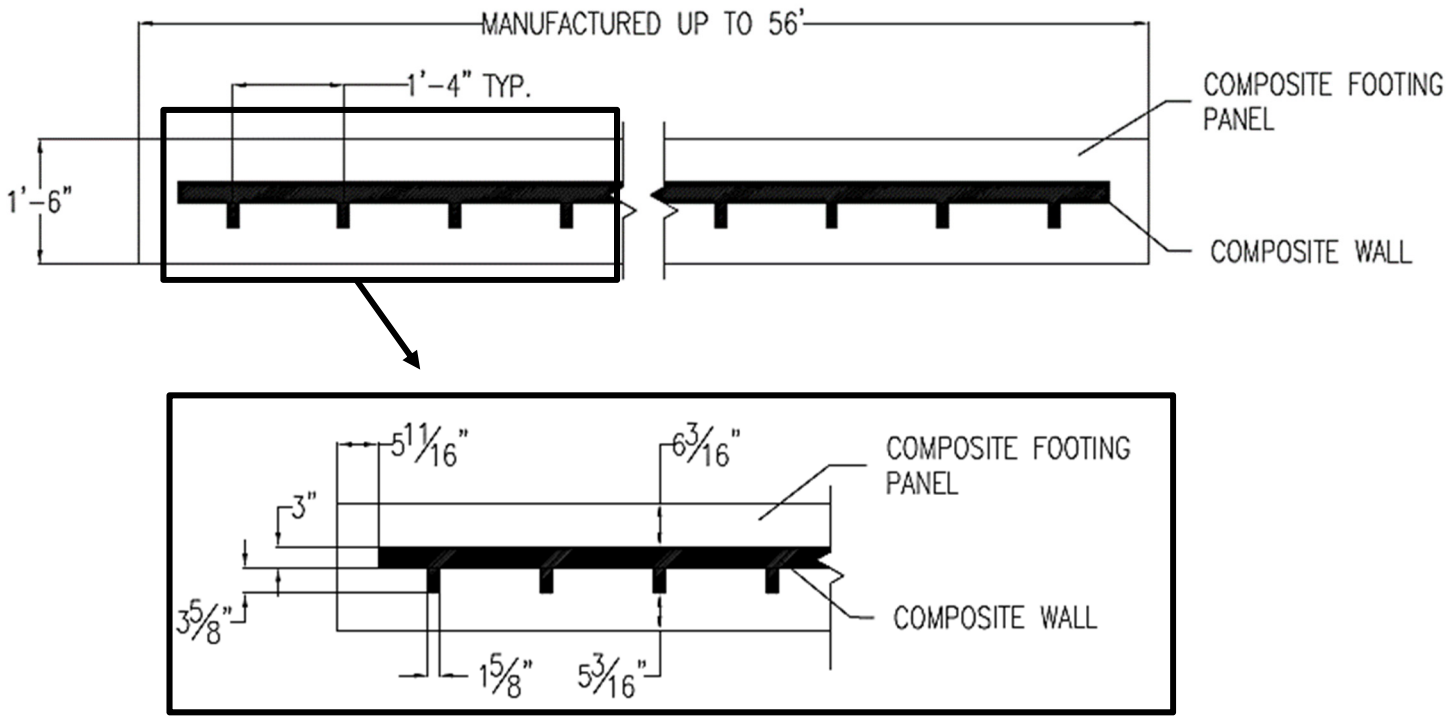

FIGURE 2—COMPOSITE WALL (ESR-4667) LOAD AREA ON COMPOSITE FOOTING PANEL