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**DIVISION: 07—THERMAL AND MOISTURE PROTECTION****Section: 07410—Metal Roof and Wall Panels****REPORT HOLDER:**

**VERISTEEL, INC.**  
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**EVALUATION SUBJECT:****VERICLAD® COMPOSITE STRUCTURAL PANELS****1.0 EVALUATION SCOPE****Compliance with the following codes:**

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

**Properties evaluated:**

- Structural
- Interior finish classification

**2.0 USES**

The VeriClad® Composite Structural Panels are used to support code-prescribed roof and floor loads in buildings of Type V-B (IBC) or Type V-N (UBC) construction and structures built in accordance with the IRC, where an engineered design is used in accordance with IRC Section R301.1.3.

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

The VeriClad® panels are factory-assembled panels consisting of structural steel facings adhered to an extruded polystyrene (XPS) core. The panels are nominally 48 inches (1219 mm) wide and 4 inches (102 mm) thick, with lengths ranging from 6 to 18 feet (1830 to 5490 mm), and weigh 4.44 psf (21.7 kg/m²). The panels have a Class A interior finish rating in accordance with IBC Section 803.1, a Class I interior finish rating in accordance with UBC Section 802 and meet the requirements of IRC Section R315.

**3.2 Panel Facings:**

The panel facings are steel complying with ASTM A 653 SS Grade 33, having a base-metal thickness of 0.0359 inch (0.91 mm) and a minimum G-60 galvanized coating.

**3.3 Panel core:**

The panel cores are extruded polystyrene (XPS) Type VI foam plastic boards with a nominal density of 2.0 pcf (29 kg/m³), recognized in an ICC-ES evaluation report, as specified in the manufacturer's quality documentation.

**3.4 Panel Adhesives:**

The facings are factory-adhered to the core using a Type II, Class 2, adhesive, recognized in an ICC-ES evaluation report, as specified in the manufacturer's quality documentation.

**4.0 DESIGN AND INSTALLATION****4.1 Design:**

The allowable uniformly distributed gravity loads for panels installed in a single span installation are given in Table 1. Allowable wind uplift loads for the panels, when installed as described in Section 4.2, are given in Table 2. Maximum allowable spans for supporting concentrated loads are given in Table 3.

**4.2 Installation:**

The panels must be supported by structural framing members complying with the applicable code, with a minimum bearing length of 2.25 inches (57 mm). The edge configuration of the panels allows adjacent panels to nest together.

Each end of the panels must be fastened to the supporting structure using four self-drilling screws having a minimum head diameter of 0.65 inch (16.5 mm). The screws must be compatible with the supporting construction. The screws must be installed through each panel, from the top, at a maximum spacing of 12 inches (305 mm) on center. Screws must be installed with a minimum edge distance of 1 inch (25.4 mm) and a minimum end distance of 1.5 inches (38 mm).

The top surface of floor panels must be covered by an approved 15-minute thermal barrier, such as a 1<sup>9</sup>/<sub>32</sub>-inch-thick (15.1 mm) wood structural panel bonded with exterior glue, which is also suitable for use as flooring. The underside (ceiling face) of floor and roof panels must be covered with minimum 1<sup>1</sup>/<sub>2</sub>-inch-thick gypsum wallboard screwed to the panels with Type S drywall screws at 12 inches (305 mm) on center each way.

Panels used as roof panels must be installed to allow for drainage in accordance with the code, with a minimum slope of 1<sup>1</sup>/<sub>4</sub> inch per foot (2 percent slope). The panels must be covered by a roofing system which complies with the code.

**5.0 CONDITIONS OF USE**

The VeriClad® 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 manufacturer's published installation instructions and this report, this report governs.

**5.2** Drawings and design details verifying compliance with this report must be submitted to the code 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.

- 5.3** Details and calculations substantiating the adequacy of the supporting construction and the connections to it must be submitted to and approved by the code official.
- 5.4** The adequacy of fasteners used to attach ceiling finishes, sprinkler pipes, or any other required building element to the underside of the panels must be justified to the satisfaction of the code official. Where the diameters of fasteners are greater than 0.19 inch (4.8 mm) and/or the spacing of fasteners is less than 12 inches (305 mm) on center, the allowable loads on the panels must also be justified to the satisfaction of the code official.

**5.5** The VeriClad® panels are produced in North Las Vegas, Nevada, under a quality control program with inspections by CI Professional Services (AA-656).

#### 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Sandwich Panels (AC04), dated May 2006.

#### 7.0 IDENTIFICATION

Each VeriClad® panel is identified by a stamp or label on one end of the panel bearing the manufacturer's name (Veristeel, Inc.) and address, the product name, the evaluation report number (ESR-2212), and the name of the inspection agency (CI Professional Services, Inc.).

**TABLE 1—ALLOWABLE UNIFORM GRAVITY LOAD ON PANELS (psf)**

PANEL SPAN	DEFLECTION LIMIT		
	L/180	L/240	L/360
6'-0"	224	224	168
7'-0"	192	192	135
8'-0"	168	164	109
9'-0"	149	135	90
10'-0"	126	112	75
11'-0"	104	94	63
12'-0"	87	79	53
13'-0"	74	68	45
14'-0"	64	58	38
15'-0"	56	50	33
16'-0"	49	43	28
17'-0"	43	37	25
18'-0"	39	33	22

For SI: 1 foot = 305 mm, 1 psf = 47.88 Pa.

**TABLE 2—ALLOWABLE UNIFORM UPLIFT LOAD ON PANELS (psf)**

PANEL SPAN	DEFLECTION LIMIT		
	L/180	L/240	L/360
6'-0"	116	116	116
7'-0"	99	99	99
8'-0"	87	87	87
9'-0"	77	77	77
10'-0"	69	69	69
11'-0"	63	63	63
12'-0"	58	58	53
13'-0"	53	53	45
14'-0"	49	49	38
15'-0"	46	46	33
16'-0"	43	43	28
17'-0"	40	37	25
18'-0"	38	33	22

For SI: 1 foot = 305 mm, 1 psf = 47.88 Pa.

**TABLE 3—ALLOWABLE PANEL SPANS  
UNDER CONCENTRATED LIVE LOAD<sup>1</sup> (ft-in)**

CONCENTRATED LOAD (lbf)	DEFLECTION LIMIT		
	L/180	L/240	L/360
1000	18 - 0	18 - 0	16 - 0
2000	11 - 0	11 - 0	6 - 0

For SI: 1 foot = 305 mm, 1 inch = 25.4 mm, 1 lbf = 4.4 N, 1 psf = 47.88 Pa.

<sup>1</sup>Allowable spans have been determined using a uniform dead load of 9 psf plus the concentrated live load, applied as required by IBC Section 1607.4.