



## ABET, Inc. EXTERIOR GRADE HPL WALL PANEL CLADDING SYSTEM

### CSI Section: 074243 Composite Wall Panels

#### 1.0 RECOGNITION

The ABET, Inc. HPL MEG F1 Wall Panel Cladding System has been evaluated for use as a nonload-bearing exterior wall covering in accordance with Chapter 14 of the IBC and Chapter 7 of the IRC. The system is permitted under the IBC on Type V Construction and buildings constructed in accordance with the IRC. The Wall Panel Cladding System may also be installed on buildings of construction types I, II, III, or IV under the IBC when installed in accordance with Section 4.4 of this report. The Wall Panel Cladding System may be used for interior applications as part of a Class A interior wall finish. The Wall Panel Cladding System has been evaluated for durability, weather resistance, wind-load resistance, use on exterior walls on Types I, II, II and IV construction, and as an interior finish. The HPL MEG F1 Wall Panel Cladding System evaluated in this report are satisfactory alternatives to the following codes and regulations:

- 2012 and 2009 International Building Code® (IBC)
- 2012 and 2009 International Residential Code® (IRC)
- 2010 Florida Building Code, Building (FBC) and Florida Building Code, Residential (FRC) – Supplement attached
- ICC-ES AC 92, dated December 2013, editorially revised March 2016

#### 2.0 LIMITATIONS

The ABET, Inc. HPL MEG F1 Wall Panel Cladding System described in this report comply with the codes listed in Section 1.01 of this report, subject to the following conditions:

**2.1** Installation of the HPL MEG F1 Wall Panel Cladding System shall be in accordance with this report, the project calculations and details, installation instructions and the applicable code. If there are any conflicts between the manufacturer’s published installation instructions and this report, the more restrictive shall govern.

**2.2** Drawings, design details and calculations verifying compliance with this report and adequacy of the connections and supporting framing, prepared by a

registered design professional when required by the statutes of the jurisdiction in which the project is to be constructed, shall be submitted to the code official for approval.

**2.3** The maximum allowable wind pressure for the HPL MEG F1 Wall Panel Cladding System is provided in Table 1 of this report. The capacities of the supporting wall and connections shall be equal to or greater than the allowable wind pressure.

**2.4** Where installed as exterior cladding only on buildings of Type I, II, III or IV Construction under the IBC, the HPL MEG F1 Wall Panel Cladding System shall be constructed in accordance with Section 3.4 pf this report.

**2.5** When use is as an interior wall covering, with spaces between adjacent panels, the HPL MEG F1 Wall Panel Cladding System shall be installed over a substrate having a Class A finish, complying with IBC Section 803.1.1.

**2.6** Where installed as interior cladding only on buildings of Type I, II, III or IV Construction the HPL MEG F1 Wall Panel Cladding System shall be installed in accordance with IBC Section 803.11.

**2.7** HPL MEG F1 Wall Panel Cladding System shall be installed by qualified installers recognized by ABET, Inc.

**2.8** The HPL MEG F1 wall panels shall be manufactured in Bra, Italy, under a quality control program with inspections by Quality Control Consultants (QCC), LLC.

#### 3.0 PRODUCT USE

**3.1 General:** The HPL MEG F1 Wall Panel Cladding System shall be installed in accordance with the project specific structural calculations, details and instructions, and this report. Installation shall be by qualified installers recognized by ABET, Inc. A copy of the design and installation documents shall be available on the jobsite at all times during construction. Where conflicts occur, the more restrictive governs.

**3.2 Design:** Attachment of the HPL MEG F1 Wall Panel Cladding System to the wall shall be designed by a qualified design professional and the design submitted to the code official for approval. The design shall include the substructure system connections used to connect the wall cladding panels to the supporting wall or substrate. Table 1 of this report provides the allowable wind load for the HPL MEG F1 Wall Panel Cladding System.

*The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.*





#### TABLE 1 – MAXIMUM SPACING AND ALLOWABLE TRANSVERSE LOAD

MAXIMUM SPACING OF CHANNELS OR FASTENERS <sup>2, 3</sup> (inches)	ALLOWABLE TRANSVERSE LOAD <sup>1</sup> (psf)
24	62

SI: 1 inch = 25.4 mm, 1 psf = 47.9 N/m<sup>2</sup>

1. Maximum allowable positive and negative transverse (wind) load capacity determined from ASTM E330 testing.
2. Load tests were conducted on multi-span configurations.
3. Maximum spacing for channels, fasteners, and panel spans is 24 inches. A minimum channel/fastener/span support is required for every 2.67 square feet of panel (example: 16 inches horizontally by 24 inches vertically).

The connection capacity and the supporting substrate capacity shall equal or exceed the design uniform transverse loads and gravity loads for the cladding and substrate determined in accordance with IBC Chapter 16 or IRC Section R301.2.1 as applicable.

### 3.3 Installation

**3.3.1 General:** Installation of the HPL MEG F1 Wall Panel Cladding System shall be in accordance with the manufacturer’s published installation instructions and this evaluation report. If there is a conflict between this report and the manufacturer’s published installation instructions, the more restrictive prevails.

The HPL MEG F1 Wall Panel Cladding System shall be installed over supporting walls and substructures that have been designed and constructed to resist safely the superimposed loads required by Chapter 16 of the IBC. The supporting substructure shall be securely connected to the supporting wall with corrosion-resistant fasteners.

Exterior wall assemblies shall include a water-resistive barrier, flashing, a means for draining water that enters the assembly to the exterior and protection against condensation in accordance with IBC Section 1403.2 or IRC Section R703.2, as applicable. A clear airspace space of not more than 1 inch (25.4 mm) shall be maintained behind the wall panels. The wall panels may be cut and trimmed in accordance with the design documents and this report. A nominal gap of 3/8 inch (10 mm) shall be maintained at panel-to-panel and panel-to-penetration joints, except that horizontal joints and corners may be closed with joint closures and corner closures as decorative elements when specified by the building designer. A perforated aluminum vent screen may be installed at the base of the wall system and at window and door heads to prevent pest and vermin infiltration into the ventilation cavity. Perforations in the aluminum vent screen shall allow a minimum opening of 2.36 square inches per linear foot (464 mm<sup>2</sup>/m).

**3.3.2 Substructure System:** Connection of the substructure system, J-channels, hat-channels and components, described in Section 3.1.2 of this report, shall be in accordance with Section 4.2 of this report. The channels shall be installed vertically at a maximum horizontal spacing of 24 inches (610 mm) on center. Channels shall be connected to the underlying substrate with fasteners spaced a maximum of 24 inches (610 mm) on center with a minimum of one fastener every 2.67 square feet (0.25m<sup>2</sup>) of wall panel area. Table 1 of this report lists allowable transverse loads.

**3.4 Types I, II, III and IV Construction:** The HPL MEG F1 Wall Panel Cladding System may be used on the exterior face of exterior walls of buildings required to be of Type I, II, III or IV construction under the IBC when installed in accordance with this Section.

Wall assemblies shall be as described in Table 2 of this report. Wallboard and sheathing shall be installed with the long dimensions perpendicular to the studs and fastened to the studs with No. 6 by 1¼ inch long (31.8 mm) Type S bugle head screws spaced at 8 inches (203 mm) on center along the perimeter and 12 inches (305 mm) on center in the field. For recognition under the 2009 IBC, exterior gypsum sheathing shall be covered by a Grade D or better water-resistive barrier that shall have a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. The substrate system aluminum channels, as described in Section 3.1.2 of this report, shall be installed vertically and fastened to the steel studs with 2 inch (51 mm) long No. 12-11 self-drilling screws spaced 12 inches (305 mm) on center. Wall panels shall be fastened to the channels with 1<sup>3</sup>/<sub>16</sub> inch (30 mm) long No. 12-11, self-tapping stainless steel screws, as described in Section 3.1.3 of this report, spaced a maximum of 24 inches (610 mm) on center.

The ABET, Inc. HPL MEG F1 Wall Panel Cladding System is used as a nonload-bearing exterior wall covering in accordance with Chapter 14 of the IBC and Chapter 7 of the IRC. The wall panel cladding system may be used for interior applications as part of a Class A interior wall finish. The wall panel cladding system may also be installed on buildings of construction types I, II, III, IV, or V under the IBC and buildings constructed in accordance with the IRC when installed in accordance with Section 4.4 of this report.

### 4.0 PRODUCT DESCRIPTION

**4.1 General:** The HPL MEG F1 Wall Panel Cladding System is a wall covering system with open joints between panels that allows air to circulate between the back of the panels and the exterior face of the water-resistive barrier. The cladding panels are fastened to a



substructure system of extruded aluminum channels. Figure 1 of this report illustrates system details.

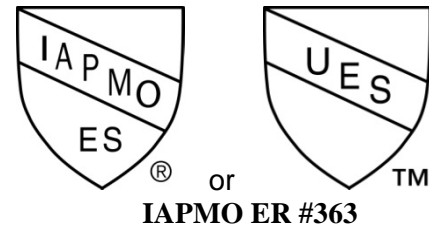
**4.1.1 Panels:** HPL MEG F1 wall cladding panels are decorative high-pressure laminates (HPLs) complying with 2012 IBC Section 1409. The wall cladding panels are nominally 3/8 inch (10 mm) thick and are available in a variety of panel sizes, colors, finishes, and textures. Panels have a maximum nominal weight of 2.97 psf (14.4 kg/m<sup>2</sup>). HPL MEG F1 wall cladding panels have a flame spread index of not more than 25 and a smoke-developed index of not more than 450 when tested in accordance with ASTM E84 and comply as Class A interior finish in accordance with IBC Section 803.1.1.

**4.1.2 Substructure:** The substructure system shall consist of either aluminum extrusions or galvanized steel members in accordance with this section. Aluminum extrusions shall be made of 6063-T5 or 6063-T6 alloy aluminum, complying with ASTM B317, which are fastened to the existing building to provide support for the wall cladding panels. The substructure includes 1/8-inch-thick (3.18 mm) aluminum J-channels and hat-channels. Galvanized steel J-channels and hat-channels may be utilized of the same thickness or alternate thicknesses when shown to be structurally equivalent. Aluminum J-channels shall have a nominal width of 3 inches (76 mm) and a depth of 1 inch (25.4 mm). Aluminum hat-channels shall have a nominal width of 4 1/4 inches (137 mm) and a depth of 1 inch (25.4 mm). Channels shall be spaced a maximum of 24 inches (610 mm) on center. The substructure system including channels and rail extrusions, shall weigh a maximum of 1.0 pound per foot (14.6 N/m) of component length.

**4.1.3 Wall Panel Fasteners:** Wall panel fasteners shall be minimum 1 3/16 inch (30 mm) long No. 12-11, self-tapping stainless steel screws. Wall panels shall be predrilled and the minimum fastener edge distance shall be 1 1/16 inch (17.5 mm).

### 5.0 IDENTIFICATION

The HPL MEG F1 Wall Panels shall be labeled with the manufacturer's name (ABET, Inc.) and address, product name, thickness, color, finish, batch number, and the name of the approved inspection agency, Quality Control Consultants (QCC). The label shall include the IAPMO Uniform ES Mark of Conformity and the Evaluation Report Number (ER-363). Either Mark of Conformity may be used as shown below:



### 6.0 SUBSTANTIATING DATA

**6.1** Data in accordance with the ICC-ES Acceptance Criteria for Polymer-based, Polymer-modified and High-Pressure Laminate Exterior and Interior Wall Cladding (AC92), dated December 2013, editorially revised March 2016.

**6.2** Reports of testing in accordance with NFPA 285 and NFPA 268.

### 7.0 CONTACT INFORMATION

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### 8.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research carried out by IAPMO Uniform Evaluation Service on ABET, Inc. HPL MEG F1 Wall Panel Cladding System to assess its conformance to the codes and standards shown in Section 1.0 of this report and documents the product's certification.

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For additional information about this evaluation report please visit [www.uniform-es.org](http://www.uniform-es.org) or email at [info@uniform-es.org](mailto:info@uniform-es.org)



Wall Component	Material Description
<b>Base Wall System (BWS)</b> Use either 1, 2 or 3	<p>1 – concrete wall</p> <p>2 – concrete masonry wall</p> <p>3 – 1 layer of 5/8-inch thick Type X gypsum wallboard installed on the interior side of minimum 3 5/8 inch deep minimum No. 18 gauge thick steel studs spaced a maximum or 16 inches on center. Lateral bracing installed as required. Wall stud cavities shall be filed at each floor line with minimum 4 pcf density mineral wool friction fit between steel wall studs.</p>
<b>Perimeter Fire Barrier System</b>	Perimeter fire barrier system complying with Section 715.4 of the 2012 IBC shall be installed, as applicable, to fill the void between the edge of the concrete floor slab and the interior surface of the exterior wall assembly.
<b>Wall Stud Cavity Insulation</b> Use either 1, 2 or 3	<p>1 – None</p> <p>2 – Fiberglass batt insulation (faced or unfaced)</p> <p>3 – Mineral wool insulation (faced or unfaced)</p>
<b>Exterior Sheathing</b> Use either 1 or 2	<p>1 – None (for <b>BWS 1</b> or <b>2</b> above)</p> <p>2 – 5/8 inch thick Type X exterior type gypsum sheathing complying with ASTM C1177 (for <b>BWS 3</b> above)</p>
<b>Water Resistive Barrier (WRB) Material</b> Use either 1 or 2	<p>1 – See allowable <b>WRB</b> materials in Table 3 of this report.</p> <p>2 – Any approved <b>WRB</b> material shall be permitted to be applied over the exterior gypsum sheathing when covered by a minimum 2-inches of minimum 4 pcf mineral wool insulation.</p>
<b>Mineral Wool Insulation</b>	Minimum 4 pcf density mineral wool insulation (e.g., Thermafiber, Roxul IIG) installed over exterior sheathing and <b>WRB</b> . Mineral wool thickness shall be sized to maintain nominal 1-inch air cavity depth behind MEG panels when <b>Panel Attachment System 2</b> or <b>3</b> are used to support panels. Mineral wool insulation shall be securely held in place by aluminum rails. Additional mineral wool attachment recommended by the manufacturer shall also be incorporated.
<b>Panel Attachment System</b> Use either 1 or 2	<p>1 – Minimum 3/32-inch thick extruded aluminum rails, or equivalent, aligned over steel wall framing, spaced maximum 16-inches on center, and mechanically attached to the steel wall framing. Minimum 4-inch wide, 16 gauge galvanized steel strapping installed horizontally and spaced a maximum of 24-inches on center. Metal strapping may be located either behind the exterior gypsum sheathing (direct to studs) or on the exterior side of the exterior gypsum sheathing.</p> <p>2 – Cascadia clips spaced a maximum of 16-inches on center horizontally. Horizontal rows spaced a maximum of 24-inches on center vertically. Aluminum rails shall be installed over and attached to the Cascadia Clips. Minimum 4 pcf density mineral wool insulation shall be installed to the full depth of the Cascadia Clip.</p>
<b>Exterior Wall Covering</b>	Maximum 10-mm thick MEG F1 exterior grade phenolic panels installed using <b>Panel Attachment System 1</b> or <b>2</b> .
<b>Window Closure</b>	Minimum 16 gauge steel flashing installed around the entire window opening.
<b>Flashing of windows, doors or other exterior wall penetrations</b>	As an option, flash around windows, doors and other exterior wall penetrations with limited amounts of maximum 12-inch wide acrylic, asphalt or butyl-based flashing tape or liquid-applied membrane material.

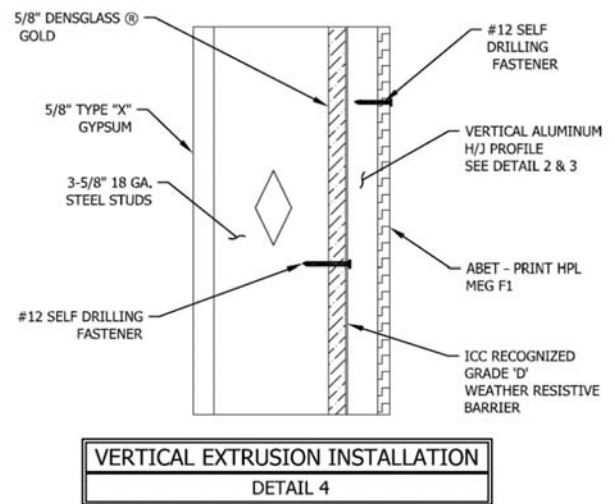
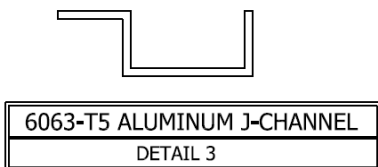
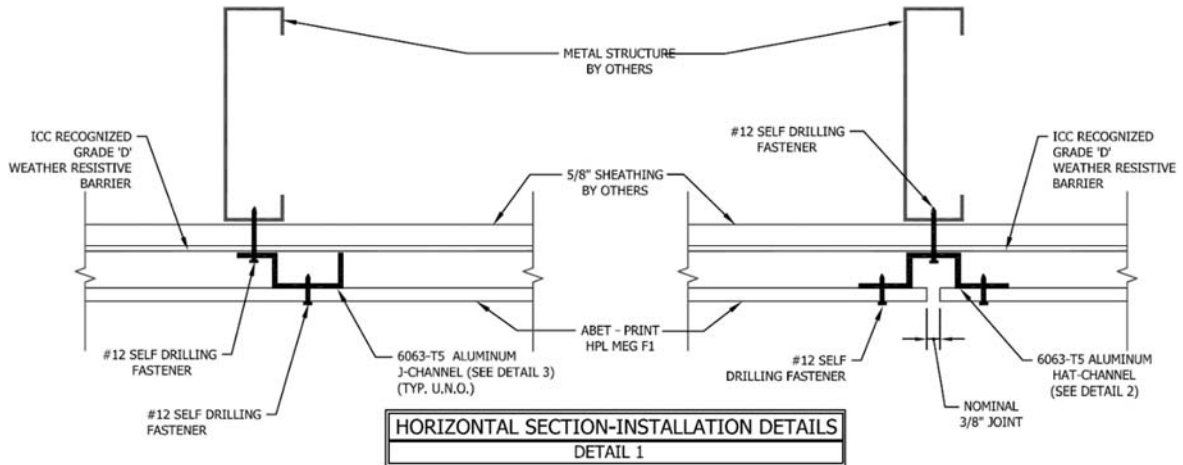
SI: 1 inch = 25.4 mm; 1 pcf = 16.0 kg/m<sup>3</sup>

Manufacturer	Product Designation
Cosella Dorken Products	Delta-Fassade S
Dupont	Tyvek Commercial Wrap; Tyvek Commercial Wrap D
Dow Chemical Company	WeatherMate; WeatherMate Plus
VaproShield	RevealShield
Pactiv Building Products	GreenGuard C500 Building Wrap; GreenGuard C2000 Building Wrap; GreenGuard Classic Wrap (a.k.a. Lowes Housewrap); GreenGuard RainDrop 3d
Prosoco	R-Guard Spray Wrap; R-Guard MVP



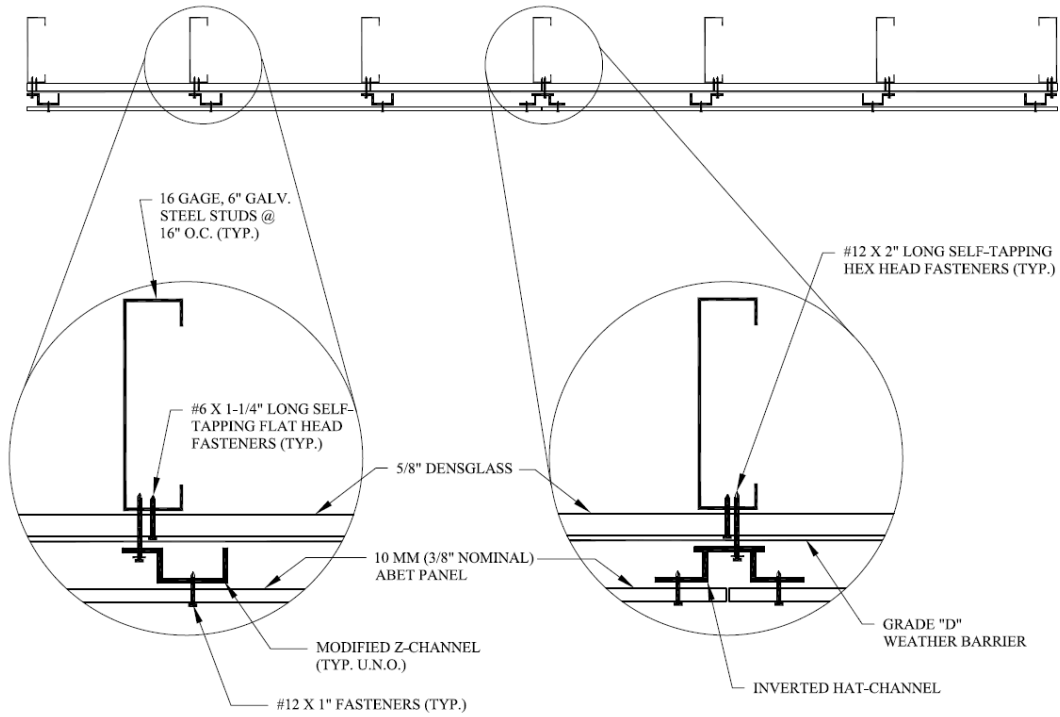
Note: WRB shall be recognized in a valid evaluation report from an approved source

### Figure 1





**Figure 1- (Continued)**





## FLORIDA SUPPLEMENT

### ABET, Inc. EXTERIOR GRADE HPL WALL PANEL CLADDING SYSTEM

#### CSI Section: 074243 Composite Wall Panels

#### 1.0 RECOGNITION

HPL MEG F1 Wall Panel Cladding System evaluated in IAPMO UES ER-363 is a satisfactory alternative to the following codes and regulations:

- 2010 Florida Building Code, Building (FBC, Building)
- 2010 Florida Building Code, Residential (FBC, Residential)

#### 2.0 LIMITATIONS

**2.1** The HPL MEG F1 Wall Panel Cladding System described in IAPMO UES ER-363 complies with the 2010 FBC, Building and the 2010 FBC, Residential. The design and installation of the HPL MEG F1 Wall Panel Cladding System shall be in accordance with the 2009 and 2012 International Building Code and the 2009 and 2012 International Residential Code as noted in ER-363.

**2.2** Load combinations, including wind loads, shall be in accordance with Sections 1605.2 or 1605.3 of the FBC, Building, as applicable.

**2.3** "In order to provide for inspection for termite infestation, clearance between exterior wall coverings and final earth grade on the exterior of a building shall not be less than 6 inches (152 mm)," in accordance with Section 1403.7 of the FBC, Building or Section R704 of the FBC, Residential.

**2.4** Evaluation of the HPL MEG F1 Wall Panel Cladding System to the high-velocity hurricane zone provisions in Section 1409 of the FBC, Building and Chapter 44 of the FBC, Residential is outside the scope of this report.

**2.5** Verification shall be provided that a quality assurance agency audits the manufacturer's quality assurance program and audits the production quality of products, in accordance with Section (5)(d) of Florida Rule 61G20-3.008. The quality assurance agency shall be approved by the Commission (or the building official when the report holder does not possess an approval by the Commission).

For additional information about this evaluation report please visit [www.uniform-es.org](http://www.uniform-es.org) or email at [info@uniform-es.org](mailto:info@uniform-es.org)

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