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**DIVISION: 07 00 00 – Thermal and Moisture Protection**  
**Section: 07 21 00 – Thermal Insulation**  
**Section: 07 21 13 – Board Insulation**  
**Section: 07 21 13.13 – Foam Board Insulation**

**REPORT HOLDER:**  
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**REPORT SUBJECT:**  
InSoFast® UX 2.0 and InSoFast® EX 2.5 Panels

### 1.0 SCOPE OF EVALUATION

**1.1** This Research Report addresses compliance with the following Codes:

- 2018, 2015, and 2012 *International Building Code*® (IBC)
- 2018, 2015, and 2012 *International Residential Code*® (IRC)
- 2017 *Oregon Residential Specialty Code* (ORSC), Section R703.1.1

NOTE: This report references 2018 Code sections. Code sections for earlier Code editions may differ.

**1.2** InSoFast® UX 2.0 and InSoFast® EX 2.5 Panels have been evaluated for the following properties (see Table 1):

- Surface Burning Characteristics
- Physical Properties
- Wind Load Resistance
- Drainage Performance

**1.3** InSoFast® UX 2.0 and EX 2.5 Panels have been evaluated for the following uses (see Table 1):

- Exterior Walls in Types I, II, III, and IV Construction
- Exterior Walls in Type V Construction

### 2.0 STATEMENT OF COMPLIANCE

InSoFast® UX 2.0 and InSoFast® EX 2.5 Panels comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2, and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.0.

### 3.0 DESCRIPTION

**3.1 InSoFast® UX 2.0 Panels:** InSoFast® UX 2.0 Panels are 4 feet by 2 feet with a thickness of 2 inches. The panels are interlocking and incorporate a series of drainage channels, horizontal wiring/utility chases, and vertical wiring and utility chases on the back side (see Figure 1).

The EPS is formed with a nominal density of 1.25 pcf (20 kg/m<sup>3</sup>), and complies with ASTM C578 Type VIII, and CAN/ULC-S701 Type 2 requirements. The panel has molded-in attachment studs, spaced at 16 inches on center, that are used for fastening to substrates and attaching finished wall coverings. The studs are exposed and flush with the panel on the internal and external planes.

**3.2 InSoFast® EX 2.5 Panels:** InSoFast® EX 2.5 Panels are 4 feet by 2 feet with a thickness of 2-1/2 inches. The panels are interlocking and incorporate a series of drainage channels, horizontal wiring/utility chases, and vertical wiring and utility chases on the back side (see Figure 1).

The EPS is formed with a nominal density of 1.25 pcf (20 kg/m<sup>3</sup>), and complies with ASTM C578 Type VIII, and CAN/ULC-S701 Type 2 requirements. The panel has molded-in attachment studs, spaced at 16 inches on center, that are used for fastening to substrates and attaching finished wall coverings. The studs are exposed and flush with the panel on the back side and are covered by 1/2 inch of EPS on the outer side.



## 4.0 PERFORMANCE CHARACTERISTICS

**4.1 Surface Burning Characteristics:** The foam plastic insulation, at the thickness and density recognized in Sections 3.1 and 3.2, has a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84.

## 5.0 INSTALLATION

**5.1 General:** InSoFast® Panels must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

All electrical, mechanical, and plumbing work must be in accordance with the applicable Code and is subject to approval by the Authority Having Jurisdiction. The InSoFast® Panels may not be used structurally to resist transverse, vertical, or plane loads.

### 5.2 Application:

**5.2.1 Interior Walls:** InSoFast® UX 2.0 and EX 2.5 Panels may be used for interior installations. The panels must be attached using the molded-in attachment studs to an existing structural wall complying with the applicable Code, using either (1) Approved fasteners that penetrate a minimum of 1 inch into concrete or masonry; (2) Into stud walls, No. 9 by 3-1/2 inch long coarse thread Type W screws, spaced as required for application of single-ply gypsum in Section 8 of ASTM C840; or (3) a combination of adhesive and mechanical fasteners (No. 9 by 3-1/2 inch coarse thread Type W screws), following the guidelines of Section 10 in ASTM C840, *System III: Application of Gypsum Board by Adhesive Nail-on to Wood Framing Members*. Gypsum board must be attached to the panels using the same options noted above except No. 6 by 1-5/8 inch coarse thread Type W screws are used (see Figure 2) and must penetrate a minimum of 1/2 inch into the face of the panel studs. When used, the adhesive used to attach the panels to the structural wall and to attach gypsum board to the panels must be specified by InSoFast, LLC and must be acceptable to the Code Official.

Refer to Table 2 for the maximum allowable lateral and withdrawal capacities of the fasteners in molded-in

attachment studs. The maximum spacing of the screws must be designed to support gravity loads of the wall covering.

The InSoFast® Panels must be separated from the building interior by a thermal barrier complying with IBC Section 2603.4 or IRC Section R316.4. In Attics and crawl spaces, the InSoFast® Panels may be covered with one of the coverings listed in IBC Section 2603.4.1.6, or IRC Sections R316.5.3 and R316.5.4, provided entry into the attic or crawl space is limited to service utilities and no storage is permitted. Utilities include, but are not limited to, mechanical equipment, electrical wiring, fan, plumbing, gas or electric water heaters, and gas or electric furnaces.

### 5.2.2 Exterior Walls:

**5.2.2.1 Exterior Walls for Use in Buildings Required to be of Types I, II, III, and IV Construction under the IBC:** InSoFast® EX 2.5 Panels may be used in or on exterior wall assemblies of Type I, II, III, or IV construction when the exterior wall assembly complies with the applicable conditions described in Intertek Design Listing [ISF/BI 30-01](#).

**5.2.2.2 Exterior Walls for Use in Buildings Required to be of Type V Construction under the IBC and Dwellings under the IRC:** The InSoFast® EX 2.5 Panels are used for exterior installations. The insulation panels are attached to an existing structural wall complying with IBC Chapter 16 or IRC Chapter 6. When installed over framed walls, the sheathing must comply with IBC Section 2304 or IRC Section R604. A water resistive barrier complying with IBC Section 1403.2 or IRC Section R703.2 must be installed behind the InSoFast® Panels. The exterior wall covering must comply with IBC Chapter 14 or IRC Section R703.2; or be recognized in a current Research Report (see Figure 3). Protection against termites must be provided in accordance with IBC Section 2603.8 or IRC Section R316.7.

The panels must be separated from the building interior with a thermal barrier complying with IBC Section 2603.4 or IRC Section R316.4.

The panels must be fastened through using the molded-in attachment studs using No. 9 by 3-1/2 inch long coarse thread Type W screws, spaced a maximum of 12 inches on center vertically through each attachment stud, attached using construction adhesive or polymer reinforced cement





basecoat. The wall covering must be attached to the molded-in attachment studs using minimum No. 6 by 1-5/8 inch long coarse thread Type W screws, spaced a maximum of 6 inches on center vertically to each attachment stud, or per the wall covering manufacturer's instructions, whichever is more restrictive.

**5.2.2.3 Approved Fasteners:** Refer to Table 2 for the maximum allowable lateral and withdrawal capacities of the fasteners when fastened to the molded-in attachment studs. The maximum spacing of the fasteners must be designed to support the gravity loads of the wall covering and to resist the negative wind pressures.

The allowable wind resistance recognized for the construction described above is limited to the following, whichever is more restrictive:

- 46 psf in the negative direction (pull-off)
- The wind resistance allowed by the Code for the underlying construction
- The maximum positive or negative wind resistance allowed by the Code for the wall covering
- The maximum positive or negative wind resistance allowed for proprietary wall coverings recognized in a current Research Report

## 6.0 CONDITIONS OF USE

**6.1** Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

**6.2** Use in fire resistance-rated construction is beyond the scope of this report.

**6.3** The InSoFast® Panels must be separated from the interior of the building by an approved thermal barrier in accordance with IBC Section 2603.4 or IRC Section R316.4.

**6.4** When required in construction of walls, a vapor retarder must be installed in accordance with IBC Section 1403.3 or IRC Section R702.7.

**6.5** Concealed electrical, mechanical, or plumbing components must be installed and inspected to verify compliance with the applicable Code, prior to the installation of finished wall covering.

**6.6** In areas where probability of termite infestation is "very heavy", the insulation must meet the requirements of IBC Section 2603.8 and IRC Section R316.7.

**6.7** The InSoFast® Panels are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

## 7.0 SUPPORTING EVIDENCE

**7.1** Reports of tests in accordance with ASTM C578, ASTM E330, ASTM D1761, ASTM E84, ASTM E2273, CAN/ULC-S701, NFPA 285, and NFPA 286.

**7.2** Report of tests in accordance with IBC Section 803.14, "Stability".

**7.3** Quality documentation.

**7.4** Intertek Listing Report "InSoFast® - UX 2.0 and EX 2.5 EPS Panels", on the [Intertek Directory of Building Products](#).

## 8.0 IDENTIFICATION

The InSoFast® UX 2.0 and InSoFast® EX 2.5 Panels are identified with the manufacturer's name (InSoFast, LLC), address and telephone number, the product name (InSoFast® UX 2.0 and InSoFast® EX 2.5), the Intertek Mark as shown below, Listed standards, and the Code Compliance Research Report number (CCRR-1029).



## 9.0 OTHER CODES

### 9.1 Oregon Residential Specialty Code:

**9.1.1 Scope of Evaluation:** InSoFast® EX 2.5 Panels were evaluated for compliance with the 2017, 2014, and 2011 Oregon Residential Specialty Code, Section R703.1.1, Exception 1, and 2008 Oregon Residential Specialty Code Amendment 918-480-0010 (8)(a)(B).





**9.1.2 Conclusion:** A 1/8 inch space between the water-resistive barrier and the exterior veneer is not required when the wall is constructed as follows:

- A single layer of InSoFast® EX 2.5 Panel is installed over the sheathing in accordance with Section 4.0 of this report and the manufacturer’s published installation instructions
- A layer of Grade D building paper is installed over the InSoFast® EX 2.5 Panels
- A minimum 1/2 inch layer of cementitious scratch coat is applied over self-furring lath complying with, and installed in accordance with, the applicable Code
- Thin-brick veneer is applied over the scratch coat

**10.0 CODE COMPLIANCE RESEARCH REPORT USE**

- 10.1** Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.
- 10.2** Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.
- 10.3** Reference to the <https://bpdirectory.intertek.com> is recommended to ascertain the current version and status of this report.

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TABLE 1 - PROPERTIES EVALUATED

PROPERTY	2018 IBC SECTION	2018 IRC SECTION	ORSC Section
Surface Burning Characteristics	2603.3	R302.10 R316.3	Not Applicable
Stability	803.14	Not Applicable	Not Applicable
Wind Resistance	1609	R301.2.1	Not Applicable
Foam Plastic Insulation	2603	R316	Not Applicable
Water-resistive barrier	1403.2	R703.2	Not Applicable
Drainage Efficiency	NA	NA	R703.1.1 Exception 1

TABLE 2 – CAPACITIES OF FASTENERS IN ATTACHMENT STUDS

APPLICATION	FASTENER TYPE	ALLOWABLE LOAD CAPACITY (lbf)	
		Withdrawal	Lateral
Attaching Wall Covering	No. 6 by 1-5/8 inch coarse type W screw	65	94
Attaching Panel to Structural Wall	No. 9 by 3-1/2 inch long Type W screw	96	37

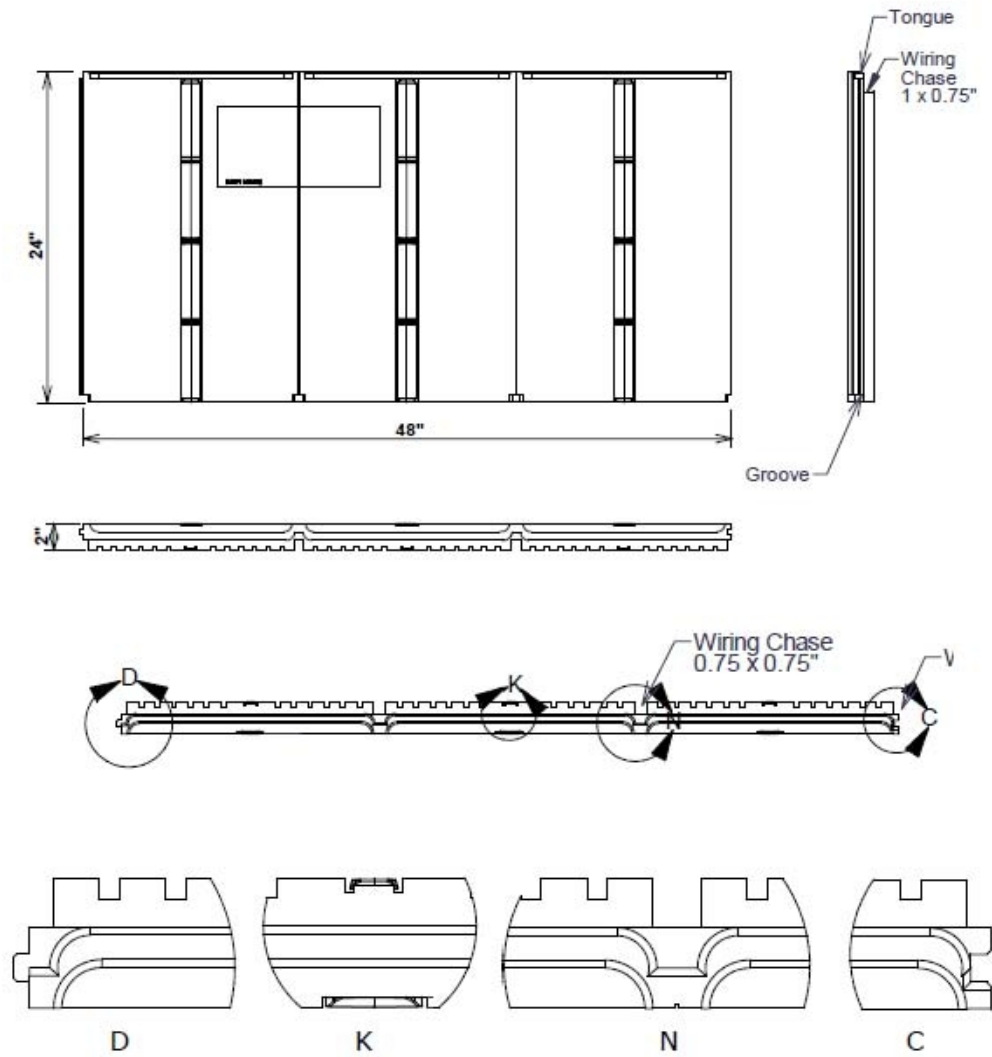


FIGURE 1 – InSoFast® Panel Details

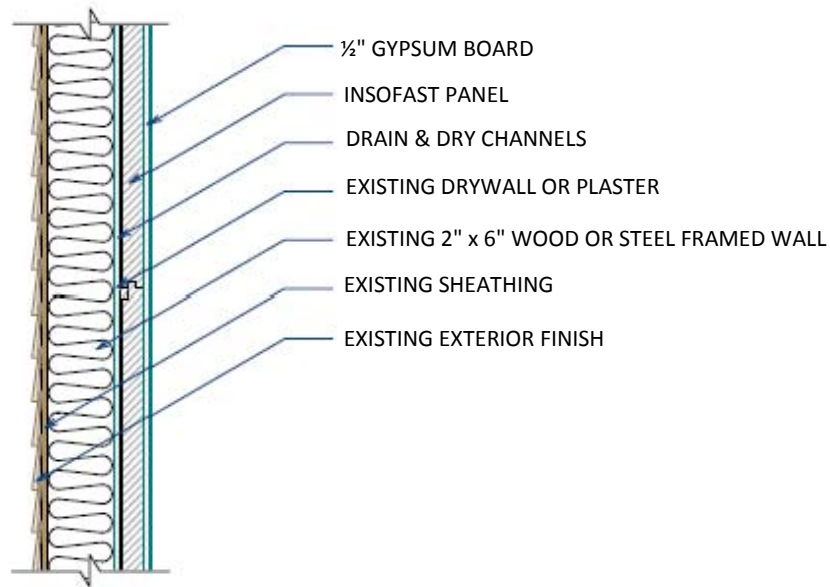


FIGURE 2 – Typical Interior Installation

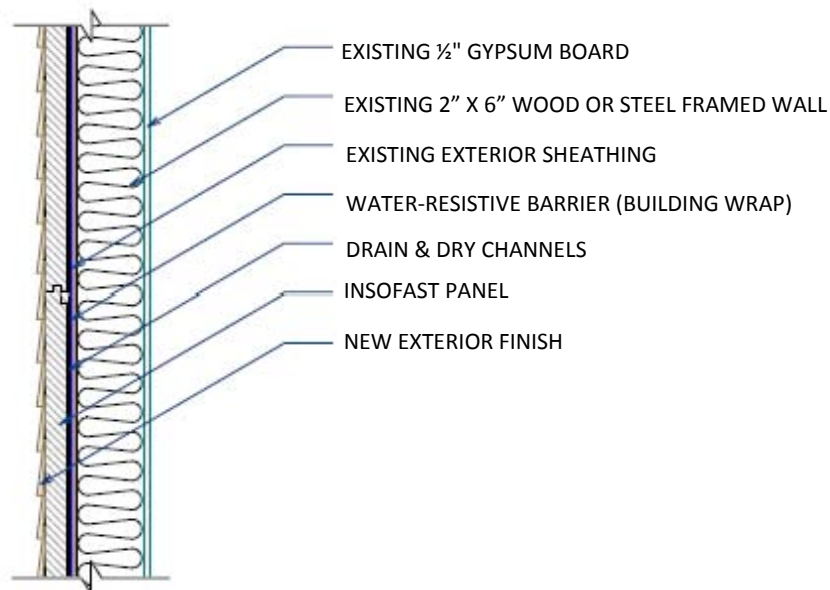


FIGURE 3 – Typical Exterior Installation – Type V Construction

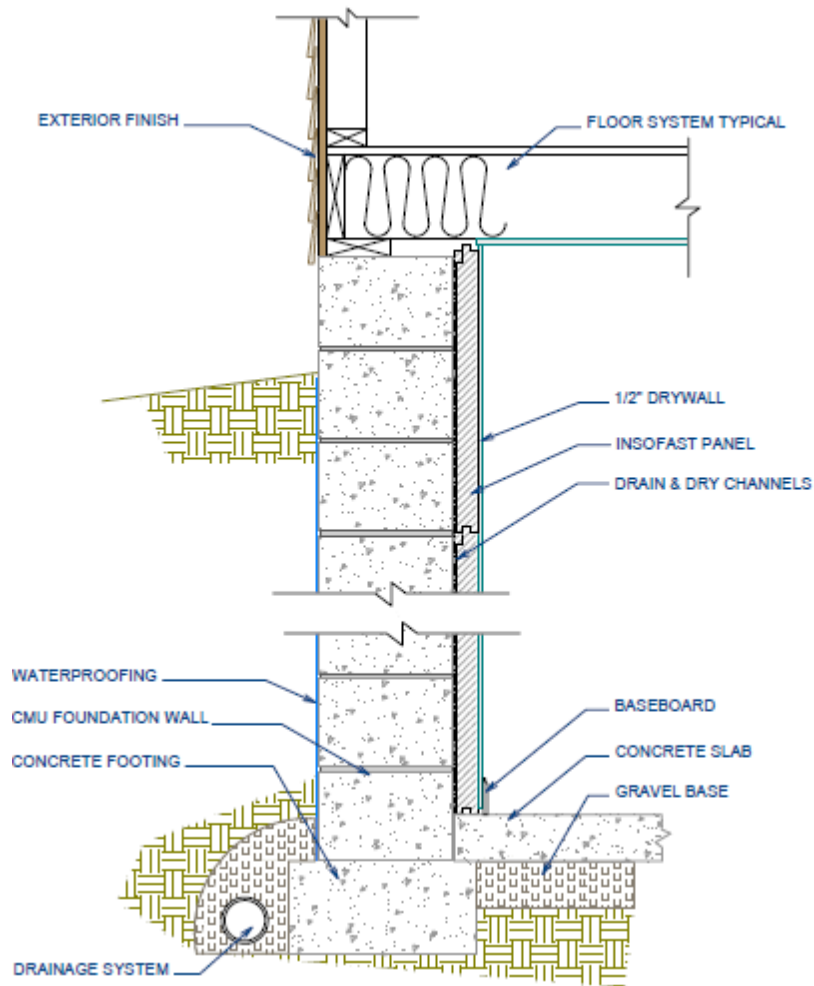


FIGURE 4 – Typical Basement Interior Installation