

# ICC-ES Evaluation Report

ESR-4773

Issued February 2025

This report also contains:

- [FL Supplement](#)

Subject to renewal February 2026

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<p><b>DIVISION: 06 00 00— WOOD, PLASTICS AND COMPOSITES</b></p> <p><b>Section: 06 12 00— Structural Panels</b></p>	<p><b>REPORT HOLDER:</b> <b>U2K TECHNOLOGIES, LLC</b></p>	<p><b>EVALUATION SUBJECT:</b> <b>WOOD PANEL HOME</b></p>	
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## 1.0 EVALUATION SCOPE

### 1.1 Compliance with the following codes:

- 2024, 2021, and 2018 [International Building Code® \(IBC\)](#)
- 2024, 2021, and 2018 [International Residential Code® \(IRC\)](#)

### Properties evaluated:

- Material Properties
- Surface-burning characteristics (cavity insulation)

### 1.2 Evaluation to the following green code(s) and/or standards:

- 2022 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 2020, 2015, 2012 and 2008 ICC 700 National Green Building Standard™ (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

### Attributes verified:

See Section 3.1

## 2.0 USES

Wood Panel Home, consisting of factory-assembled floor, wall and roof/ceiling panels, are used in load- and nonload-bearing exterior and interior wall, roof/ceiling and floor assemblies of Type V construction under the IBC and any construction permitted under the IRC. When panels are installed under the IRC, an engineered design is required in accordance with IRC Section R301.1.3.

## 3.0 DESCRIPTION

### 3.1 General:

The panels are factory-assembled structural panels consisting of wood-based sheathing facings fastened to wood framing members (studs/joists), with mineral wool insulation blankets placed inside cavities.

The attributes of the panels have been verified as conforming to the provisions of (i) CALGreen Section A4.404.3.3 for premanufactured building systems; (ii) ICC 700-2020, ICC 700-2015 and ICC 700-2012 Sections 601.5 and 11.601.5 for prefabricated components; and (iii) ICC 700-2008 Section 601.5 for prefabricated components. Note that decisions on compliance for those areas rest with the user of this report. The user is advised on the project-specific provisions that may be contingent upon meeting specific conditions, and the

verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

### 3.2 Panels:

**3.2.1 Floor and Roof/Ceiling Panels:** Floor and roof/ceiling panels have a nominal  $2\frac{3}{32}$ -inch-thick (18.3 mm) OSB facing on the exterior (top) side and a nominal  $\frac{1}{2}$ -inch-thick (12.7 mm) gypsum board or fiber-reinforced gypsum facing on the interior (bottom) side. Floor and roof/ceiling panels are maximum 8 feet (2.02 m) in width and a maximum 24 feet (6.09 m) in length. The thickness varies depending on the joist depth described in [Table 1](#). See [Figure 1](#) for additional information.

**3.2.2 Exterior Wall Panels:** Exterior wall panels have a nominal  $\frac{7}{16}$ -inch-thick (11.1 mm) OSB facing on the exterior side and a nominal  $\frac{1}{2}$ -inch-thick (12.7 mm) gypsum board or fiber-reinforced gypsum facing on the interior side. Exterior wall panels are maximum 9 feet (2.74 m) in height and a maximum 24 feet (7.32 m) in length. The exterior wall panel thickness is nominal 6 inches. The exterior wall panels may also include openings for windows and doors which must be framed with wood headers. See [Figure 2](#) for additional information.

**3.2.3 Interior Wall Panels:** Interior wall panels have a nominal  $\frac{1}{2}$ -inch-thick (12.7 mm) gypsum board or fiber-reinforced gypsum facing on both sides. Interior wall panels are maximum 9 feet (2.74 m) in height and a maximum 24 feet (7.32 m) in length. The interior wall panel thickness is nominal 6 inches. The interior wall panel may also include openings for windows and doors which must be framed with wood headers. See [Figure 3](#) for additional information.

### 3.3 Material Specifications:

**3.3.1 Panel Cavity Insulation:** Each blanket of mineral wool insulation is nominally 2 inches (50.8 mm) thick and has a flame spread of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. Blankets may be cut to smaller thicknesses for the overall insulation thickness to equal the framing member depth.

**3.3.2 Framing Members:** Framing members of wall panels consist of nominal 2-by-6 dimensional lumber. Framing members for floor and roof/ceiling panels consist of nominal 2-by-8, -10 or -12 dimensional lumber. Lumber species used for framing are given in Table 2.2 of the NDS Supplement. Framing members are spaced 12 to 24 inches on center and fastened to top and bottom plates in accordance with Table 2304.10.2 of the IBC and Table R602.3(1) of the IRC.

**3.3.3 Facings:** Facings are connected to framing members in accordance with applicable requirements in IBC Chapter 23.

**3.3.3.1 Fiber-reinforced Gypsum:** The fiber-reinforced gypsum panels comply with ASTM C1278 in accordance with Table 2506.2 of the IBC and Section R702.3.1 of the IRC.

**3.3.3.2 Gypsum Board:** Gypsum board panels are outlined in ICC-ES ESL-1346 and comply with ASTM C1396 in accordance with Table 2506.2 of the IBC and Section R702.3.1 of the IRC.

**3.3.3.3 Oriented Strand Board (OSB):**  $\frac{7}{16}$ -inch-thick OSB, used in exterior wall panels, complies with DOC PS2, Exposure 1 with a 24/16 span rating.  $2\frac{3}{32}$ -inch thick OSB, used in floor and roof/ceiling panels, complies with DOC PS2, Exposure 1 with a 24 o.c. span rating.

**3.3.4 Fasteners:** Nails used for framing and sheathing connections conform to the requirements of ASTM F1667 in accordance with Section 2303.6 of the IBC.

## 4.0 DESIGN AND INSTALLATION

**4.1 General:** Design and installation of the panels is in accordance with this report, the manufacturer's published installation instructions and the construction documents approved by the code official.

### 4.2 Design:

**4.2.1 General:** The capacity demand of the exterior and interior wall panels and the floor and roof/ceiling panels must be determined for each structure in accordance with the applicable requirements of the IBC by a registered design professional.

Panel openings must be determined by a registered design professional in accordance with the applicable code.

**4.2.2 Floor Panels:** [Table 1](#) provides allowable spans of floor joists used in the panels due to specific transverse loads (dead and live load). The panels must be used under dry service conditions where the moisture content in lumber in service is less than 16 percent, as in most covered structures. The spans in [Table 1](#) are intended for the Allowable Stress Design (ASD) method in accordance with the American Wood Council *National*

*Design Specification*<sup>™</sup> (NDS) for Wood Construction. No adjustment factor increases are permitted. For conditions not noted in [Table 1](#), the allowable span and panel capacity must be determined in accordance with the applicable code.

Allowable spans of roof/ceiling panels must be determined by a registered design professional in accordance with the applicable code.

Diaphragms of floor and roof panels must be determined by a registered design professional in accordance with the applicable code.

**4.2.3 Wall Panels:** [Table 2](#) provides allowable spans of wall studs used in panels due to specific transverse loads. The panels are used under dry service conditions where the moisture content in lumber in service is less than 16 percent, as in most covered structures. The spans in [Table 1](#) are intended for the Allowable Stress Design (ASD) method in accordance with the American Wood Council *National Design Specification*<sup>™</sup> (NDS) for Wood Construction. No adjustment factor increases are permitted. For conditions not noted in [Table 2](#), the allowable transverse load must be determined in accordance with the applicable code.

Axial load capacity of wall panels must be determined by a registered design professional in accordance with the applicable code.

Shear wall capacity of exterior or interior wall panels must be determined by a registered design professional in accordance with the applicable code.

**4.2.4 Connections:** Connections of panels to each other and/or supporting elements must be determined by a registered design professional in accordance with the applicable code.

**4.3 Installation:** The report holder's installation instructions must be available at the jobsite at all times during installation. Jobsite installation of panels must be in accordance with the approved construction documents prepared by the registered design professional.

**4.3.1 Connections:** Panel-to-panel and panel-to-foundation connections conducted at the jobsite must be as determined by a **registered** design professional in the approved construction documents.

**4.3.2 Roof Covering:** The exterior face of roof panels must be protected by an approved roof covering in accordance with Chapter 15 of the IBC or Chapter 9 of the IRC, as applicable.

**4.3.3 Exterior Wall Covering:** Exterior wall panels must be protected on the exterior by an approved exterior wall covering in accordance with Chapter 14 of the IBC or Chapter 7 of the IRC, as applicable.

**4.3.4 Interior Finishes:** Interior wall, ceiling and floor finishes complying with Chapter 8 of the IBC or Chapter 3 of the IRC, as applicable, must be provided.

**4.4 Special Inspections:** Special inspections shall be required by IBC Chapter 17, as applicable.

## 5.0 CONDITIONS OF USE:

The Wood Panel Home 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** Panels are fabricated, identified and erected in accordance with this report and the manufacturer's published installation instructions. If there are any conflicts between the manufacturer's published installation instructions and this report, the more restrictive governs.
- 5.2** Construction documents, including engineering calculations and drawings providing floor plans, wall details including window and door details, and connection details, must be submitted to the code official when application is made for a permit, verifying compliance with this report and the applicable code. The design calculations and details must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.3** Panel connections outlined in Section 4.3.1 are outside the scope of this report.
- 5.4** Evaluation of the foundation supporting the panels is outside the scope of this report and must comply with the applicable code.
- 5.5** Evaluation of roof coverings, exterior wall coverings and interior finishes required by Sections 4.3.2 through 4.3.4 is outside the scope of this report.
- 5.6** Use of the panels is limited to Type V residential occupancies under the IBC and one- and two-family dwellings under the IRC. For use of the panels under the IRC, the panels are limited to an engineered design under IRC Section 301.1.3, engineered in accordance with the provisions in this evaluation report.

- 5.7 The panels must be protected against decay and termites in accordance with IBC Section 2304.12 or IRC Sections R317 and R318, as applicable.
- 5.8 The panels and their attachments must be subject to inspection by the code official prior to exterior covering, as applicable. Special inspections shall be permitted as required in Section 4.4. Implementation of the special inspections is outside the scope of this report.
- 5.9 The panels are manufactured under an approved quality control program with inspections by ICC-ES.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Construction documents in accordance with applicable sections of 2023 ICC-G6 Guideline on Advance Panelization for Buildings.
- 6.2 Reports of testing in accordance with ASTM E84.
- 6.3 Reports of testing in accordance with ASTM C1278.
- 6.4 Quality control documentation in accordance with the ICC-ES Acceptance Criteria for Quality Control Documentation (AC10).

## 7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4773) along with the name, registered trademark, or registered logo of the report holder (U2K Technologies, LLC) must be included in the product label.
- 7.2 In addition, the panels bear a label including the panel type (exterior wall, interior wall, roof/ceiling or floor panel), panel size, date of manufacture and the project-specific panel number.
- 7.3 The report holder's contact information is the following:

**U2K TECHNOLOGIES, LLC**  
**124-14 METROPOLITAN AVENUE**  
**KEW GARDENS, NEW YORK 11415**  
**(720) 464-6637**  
[www.greenoriginhomes.com](http://www.greenoriginhomes.com)

TABLE 1—ASD ALLOWABLE FLOOR JOIST SPANS (feet-inches)<sup>1,2,3,4,5</sup>

SPACING (in.)	SPECIES	GRADE	NOMINAL JOIST SIZE		
			2x8	2x10	2x12
12	Austrian spruce	SS	14'-3"	18'-4"	22'-4"
		No. 1	12'-6"	16'-0"	19'-6"
		No. 2	12'-0"	15'-6"	18'-10"
	Douglas Fir	SS	14'-11"	19'-0"	23'-1"
		No. 1	12'-6"	15'-11"	19'-4"
		No. 2	11'-6"	14'-8"	17'-10"
	European larch	SS	14'-8"	18'-8"	22'-9"
		No. 1	14'-4"	18'-4"	22'-4"
		No. 2	14'-1"	18'-0"	21'-11"
	Norway spruce – Germany, NE France, & Switzerland	SS	13'-10"	17'-8"	21'-6"
		No. 1	11'-6"	14'-8"	17'-10"
		No. 2	10'-9"	13'-9"	16'-9"
	Scots pine – Austria & The Czech Republic, Romania, & Ukraine	SS	13'-2"	16'-10"	20'-6"
		No. 1	12'-0"	15'-4"	18'-7"
		No. 2	11'-2"	14'-3"	17'-3"
16	Austrian spruce	SS	12'-10"	16'-4"	19'-11"
		No. 1	10'-11"	14'-0"	17'-0"
		No. 2	10'-6"	13'-5"	16'-4"
	Douglas Fir	SS	13'-5"	17'-2"	20'-10"
		No. 1	10'-10"	13'-10"	16'-10"
		No. 2	9'-11"	12'-8"	15'-5"
	European larch	SS	13'-4"	17'-0"	20'-8"
		No. 1	13'-0"	16'-6"	20'-1"
		No. 2	12'-9"	16'-3"	19'-9"
	Norway spruce – Germany, NE France, & Switzerland	SS	12'-0"	15'-4"	18'-8"
		No. 1	9'-11"	12'-8"	15'-4"
		No. 2	9'-4"	11'-11"	14'-6"
	Scots pine – Austria & The Czech Republic, Romania, & Ukraine	SS	9'-10"	12'-7"	15'-2"
		No. 1	9'-10"	12'-7"	15'-2"
		No. 2	9'-8"	12'-4"	15'-0"
19	Austrian spruce	SS	10'-9"	13'-9"	16'-9"
		No. 1	10'-1"	12'-10"	15'-7"
		No. 2	9'-8"	12'-4"	15'-0"
	Douglas Fir	SS	12'-4"	15'-9"	19'-1"
		No. 1	9'-11"	12'-8"	15'-5"
		No. 2	9'-2"	11'-8"	14'-2"
	European larch	SS	12'-0"	15'-4"	18'-8"
		No. 1	11'-11"	15'-2"	18'-6"
		No. 2	11'-8"	14'-11"	18'-1"
	Norway spruce – Germany, NE France, & Switzerland	SS	10'-6"	13'-4"	16'-2"
		No. 1	9'-2"	11'-8"	14'-2"
		No. 2	8'-7"	10'-11"	13'-3"
	Scots pine – Austria & The Czech Republic, Romania, & Ukraine	SS	8'-3"	10'-6"	12'-10"
		No. 1	8'-3"	10'-6"	12'-10"
		No. 2	8'-3"	10'-6"	12'-10"
24	Austrian spruce	SS	8'-6"	10'-11"	13'-2"
		No. 1	8'-6"	10'-11"	13'-2"
		No. 2	8'-6"	10'-11"	13'-2"
	Douglas Fir	SS	10'-0"	12'-9"	15'-5"
		No. 1	8'-10"	11'-3"	13'-9"
		No. 2	8'-1"	10'-4"	12'-7"
	European larch	SS	9'-6"	12'-0"	14'-9"
		No. 1	9'-6"	12'-0"	14'-9"
		No. 2	9'-6"	12'-0"	14'-9"
	Norway spruce – Germany, NE France, & Switzerland	SS	8'-3"	10'-7"	12'-10"
		No. 1	8'-1"	10'-4"	12'-7"
		No. 2	7'-7"	9'-9"	11'-10"
	Scots pine – Austria & The Czech Republic, Romania, & Ukraine	SS	8'-9"	11'-2"	13'-8"
		No. 1	6'-7"	10'-10"	13'-2"
		No. 2	6'-7"	10'-1"	12'-3"

For SI: 1 inch = 25.4 mm; 1 feet= 305 mm.

<sup>1</sup>Allowable spans are based on a dead load of 10 psf and a live load of 40 psf applied.

<sup>2</sup>Allowable spans are based on nominal 2-by dimensional lumber joists visually graded lumber in accordance with Table 4F of NDS Supplement.

<sup>3</sup>Deflection limit is L/360 in accordance with Section 1604.3 of the IBC.

<sup>4</sup>When dimension lumber is used where moisture content will exceed 19% for an extended period, design values must be multiplied by the appropriate wet service factors (C<sub>m</sub>) from NDS Supplement Table 4F.

<sup>5</sup>End conditions and panel design are outside the scope of this Table.

TABLE 2—ASD ALLOWABLE OUT-OF-PLANE TRANSVERSE WALL STUD SPANS (feet-inches)<sup>1,2,3,4,5,6</sup>

ALLOWABLE WIND LOAD (psf)	SPECIES	GRADE	STUD SPACING (in.)			
			12	16	19	24
10 to 25	Austrian spruce	SS	12'-9"	11'-7"	10'-11"	10'-2"
		No. 1	12'-6"	11'-4"	10'-7"	9'-4"
		No. 2	12'-3"	11'-1"	10'-1"	8'-9"
	Douglas Fir	SS	13'-3"	12'-0"	11'-4"	10'-6"
		No. 1	12'-9"	10'-6"	10'-5"	9'-3"
		No. 2	12'-2"	10'-6"	9'-7"	8'-2"
	European larch	SS	13'-0"	11'-10"	11'-2"	10'-4"
		No. 1	12'-9"	11'-7"	10'-11"	10'-1"
		No. 2	12'-6"	11'-4"	10'-9"	9'-11"
26 to 40	Austrian spruce	SS	10'-11"	9'-11"	9'-4"	8'-8"
		No. 1	10'-7"	9'-2"	8'-4"	7'-5"
		No. 2	10'-2"	8'-9"	8'-0"	6'-11"
	Douglas Fir	SS	11'-4"	10'-3"	9'-8"	9'-0"
		No. 1	10'-6"	9'-0"	8'-3"	7'-3"
		No. 2	9'-7"	8'-3"	7'-7"	6'-5"
	European larch	SS	11'-1"	10'-1"	9'-6"	8'-10"
		No. 1	10'-11"	9'-11"	9'-4"	8'-8"
		No. 2	10'-8"	9'-6"	9'-2"	8'-6"
41 to 60	Austrian spruce	SS	9'-6"	8'-8"	8'-2"	7'-5"
		No. 1	8'-8"	7'-5"	6'-10"	6'-0"
		No. 2	8'-4"	7'-2"	6'-6"	5'-8"
	Douglas Fir	SS	9'-11"	9'-0"	8'-5"	7'-5"
		No. 1	8'-6"	7'-4"	6'-9"	5'-11"
		No. 2	7'-10"	6'-9"	6'-2"	5'-3"
	European larch	SS	9'-8"	8'-10"	8'-4"	7'-8"
		No. 1	9'-6"	8'-8"	8'-1"	7'-2"
		No. 2	9'-3"	8'-6"	7'-11"	7'-1"

For SI: 1 inch = 25.4 mm, 1 feet= 305 mm, 1 psf= 0.0478 kPa.

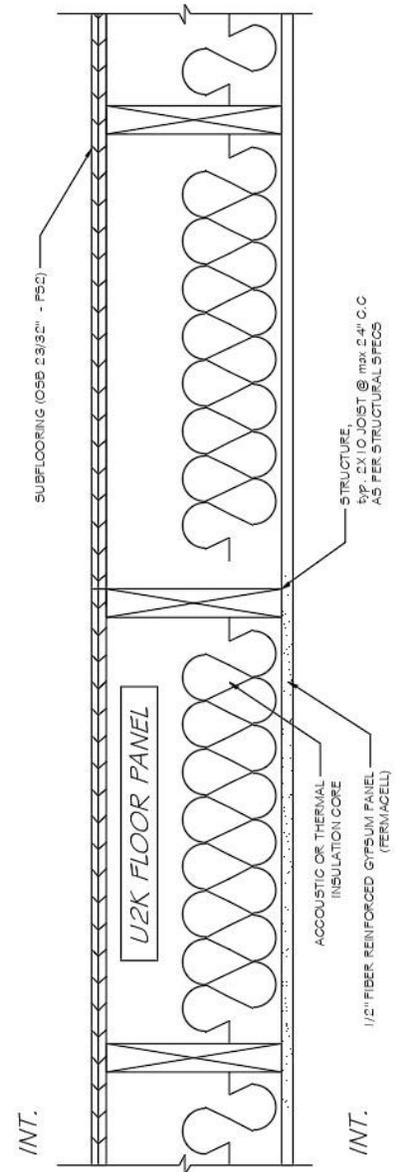
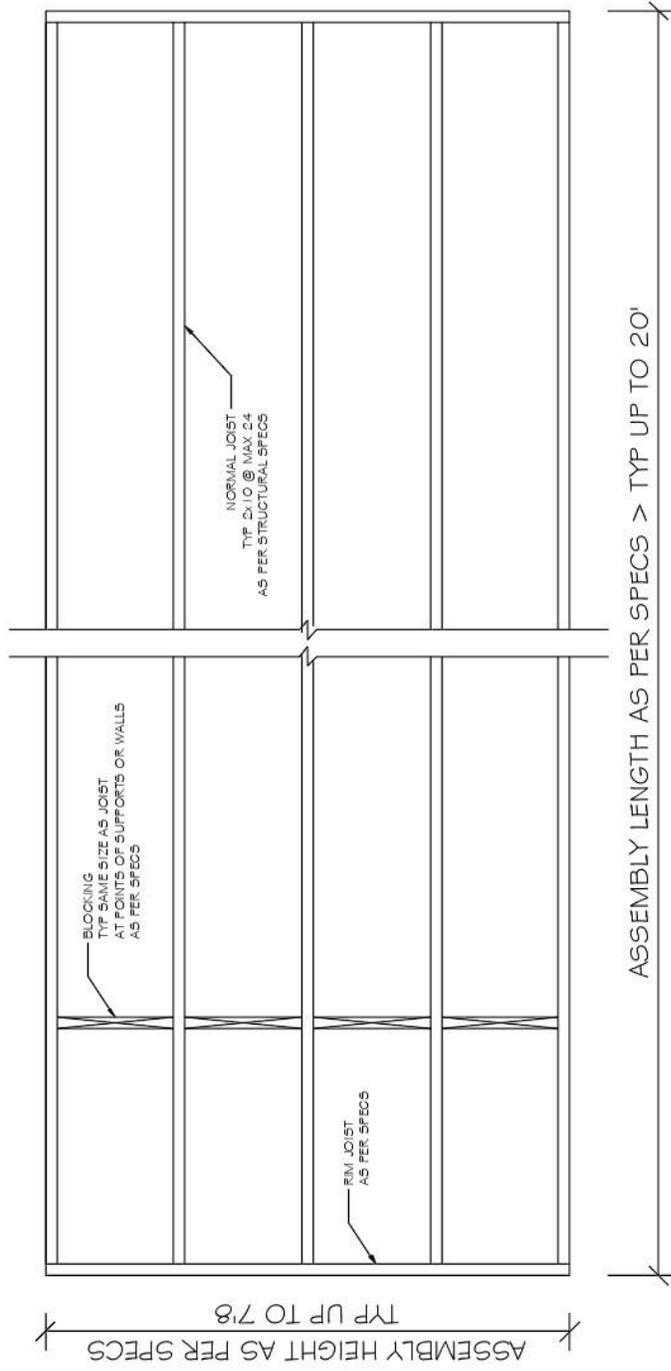
<sup>1</sup>Allowable spans are based on a dead load of 10 psf applied and a 16-foot wall height.

<sup>2</sup>Allowable spans are based on nominal 2-by-6 dimensional lumber studs visually graded lumber in accordance with Table 4F of NDS Supplement.

<sup>3</sup>Deflection limit is L/360 in accordance with Section 1604.3 of the IBC.

<sup>4</sup>When dimension lumber is used where moisture content will exceed 19% for an extended period, design values must be multiplied by the appropriate wet service factors (C<sub>M</sub>) from NDS Supplement Table 4F.

<sup>5</sup>End conditions and panel design are outside the scope of this Table.



03 U2K Floor/Ceiling Panel  
SCALE: 2" = 1'-0"

FIGURE 1—FLOOR/CEILING AND ROOF PANEL DETAILS

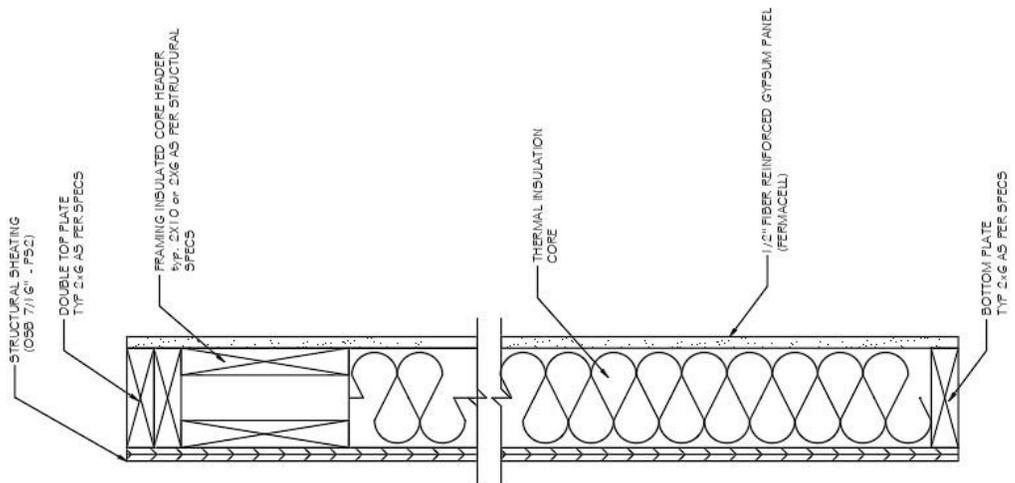
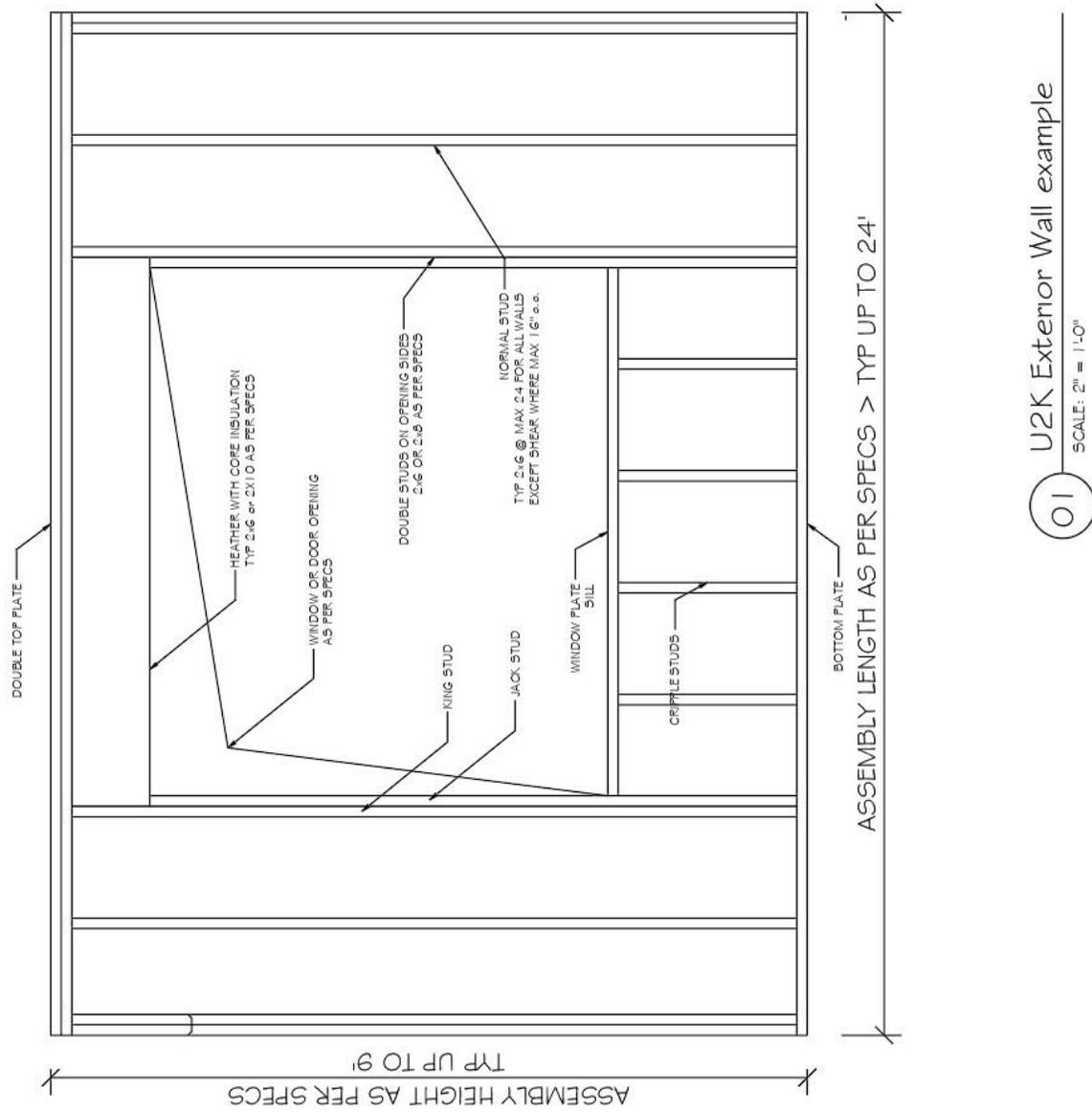


FIGURE 2—EXTERIOR WALL PANEL DETAILS

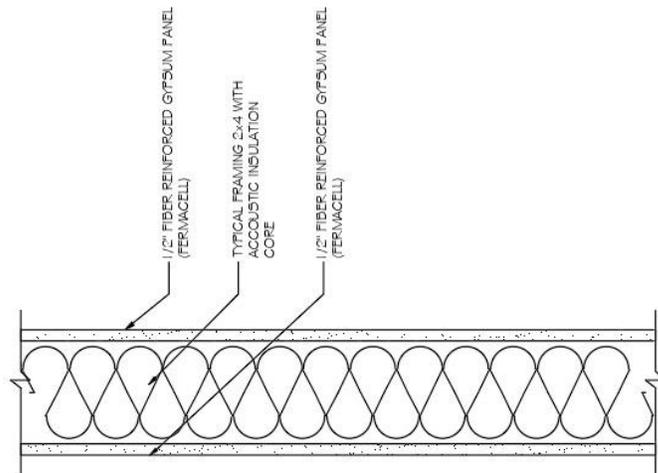
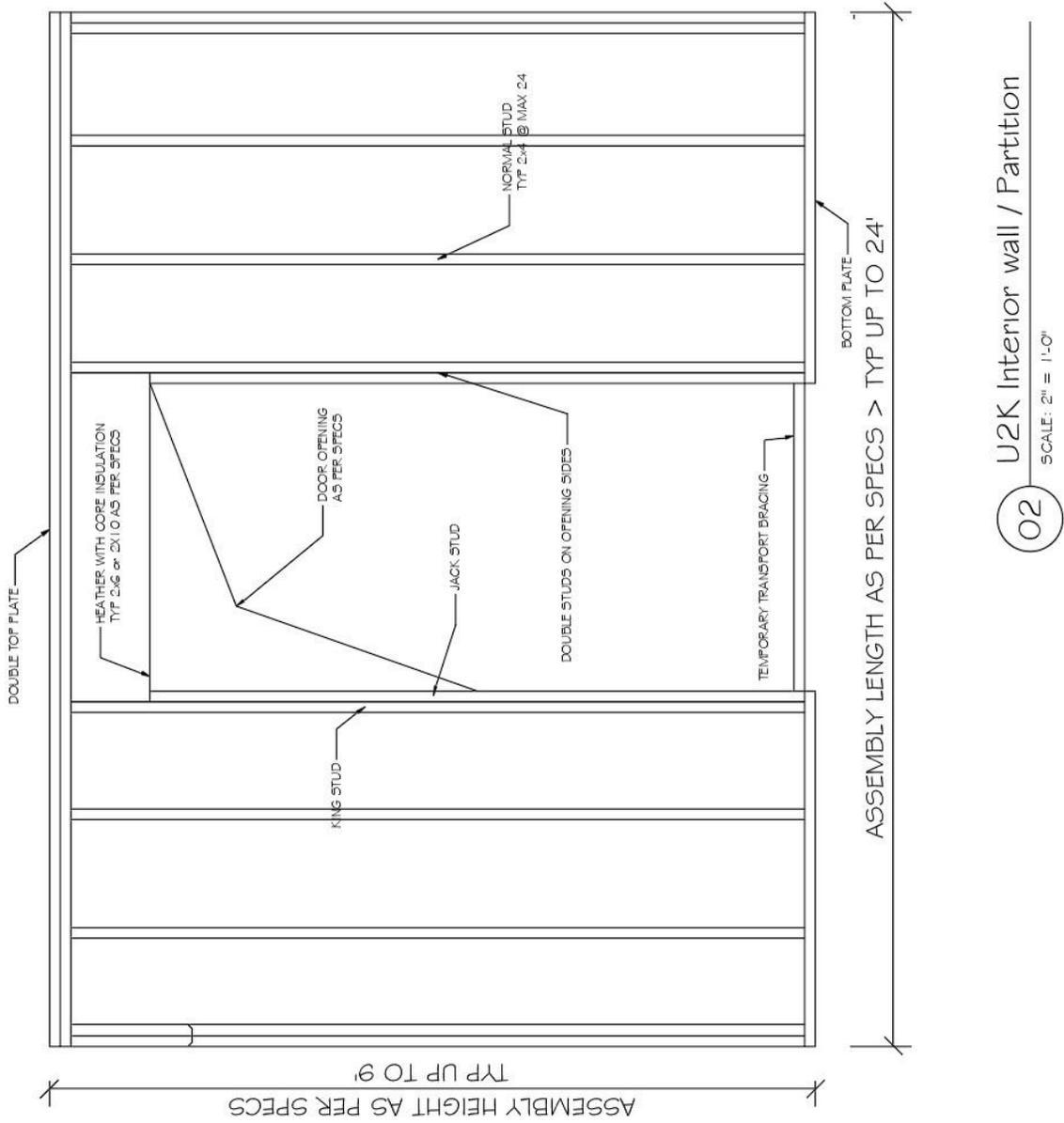


FIGURE 3—INTERIOR WALL PANEL DETAILS

**DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES**  
**Section: 06 12 00—Structural Panels**

**REPORT HOLDER:**

U2K TECHNOLOGIES, LLC

**EVALUATION SUBJECT:**

WOOD PANEL HOME

**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that Wood Panel Home, recognized in ICC-ES evaluation report ESR-4773, has also been evaluated for compliance with the codes noted below.

**Applicable code editions:**

- 2023 *Florida Building Code—Building*
- 2023 *Florida Building Code—Residential*

**2.0 CONCLUSIONS**

Wood Panel Home, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-4773, complies with the 2023 *Florida Building Code—Building* and *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4773 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of Wood Panel Home for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* or the *Florida Building Code—Residential* has not been evaluated, and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, issued February 2025.