



**DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES**

**Section: 06 16 00—Sheathing**

**REPORT HOLDER:**

**WEYERHAEUSER**

**EVALUATION SUBJECT:**

**DIAMOND™ FLOOR PANELS AND DIAMOND™ SHEATHING PANELS**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2021, 2018 and 2015 *International Building Code*® (IBC)
- 2021, 2018 and 2015 *International Residential Code*® (IRC)

**Property evaluated:**

Structural

**2.0 USES**

The Diamond™ Floor Panels and Diamond™ Sheathing Panels (Diamond™ Panels) described in this evaluation report are Exposure 1 oriented strand board (OSB) products designed and manufactured for prescriptive and engineered applications.

**3.0 DESCRIPTION**

The Diamond™ Panels are manufactured to comply with proprietary property requirements and with performance requirements specified in the U.S. Voluntary Product Standard PS-2 as outlined in the approved quality assurance manual.

The Diamond™ Panels are manufactured with wood strands blended with the exterior type of adhesive as specified in the approved quality assurance manual. The panels are typically produced in nominal 4-foot-wide-by-8-foot-long (1219mm by 2438mm) sheets. Diamond™ Floor Panels are produced with tongue and groove along the long-edge of the panels, while Diamond™ Sheathing Panels are produced without the tongue and groove along the long-edge of the panels. Diamond™ Panels have the span rating and thickness as shown in Table 1 in this evaluation report.

**4.0 DESIGN AND INSTALLATION**

**4.1 Design:**

Design capacities provided in this evaluation report supplement the design capacities prescribed in

Chapter 23 of the IBC for wood structural panels. Table 2 provides product design capacities for Weyerhaeuser's Diamond™ Panels. Table 3 provides section properties for Weyerhaeuser's Diamond™ Panels. Table 4 provides equivalent specific gravities for the Weyerhaeuser's Diamond™ Panels for use in design of nailed connections (withdrawal and lateral) under Chapter 12 of the 2018 and 2015 ANSI/AWC *National Design Specification*® for Wood Construction (NDS).

**4.2 Installation:**

Diamond™ Panels must be installed in accordance with the applicable code and the manufacturer's published installation requirements.

**5.0 CONDITIONS OF USE**

The DIAMOND™ 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** Panels are installed in accordance with the applicable building code, this report and supplemented by the manufacturer's installation instructions.
- 5.2** Panels are manufactured in Elkin, North Carolina, under a quality control program with inspections conducted by ICC-ES.

**6.0 EVIDENCE SUBMITTED**

Data in accordance with the ICC-ES Acceptance Criteria for Wood Structural Panels (AC182), dated April 2001, (Editorially revised April 2022).

**7.0 IDENTIFICATION**

**7.1** Weyerhaeuser Diamond™ Panels are identified with a stamp that includes the product name, span rating, thickness category, exposure category, product standard, manufacturer name and address, mill number (537), date of manufacture, and evaluation report number (ESR-4133).

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

**WEYERHAEUSER**  
**32901 WEYERHAEUSER WAY SOUTH**  
**SUITE 102**  
**FEDERAL WAY, WASHINGTON 98001**  
**(888) 453-8358**  
[www.weyerhaeuser.com](http://www.weyerhaeuser.com)  
[wood@weyerhaeuser.com](mailto:wood@weyerhaeuser.com)

**TABLE 1—SPAN RATING FOR DIAMOND FLOOR PANELS AND DIAMOND SHEATHING PANELS**

SPAN RATING	PS-2 GRADE	PERFORMANCE CATEGORY
24 o.c.	Structural I Rated Sturd-I-Floor	23/32 inch
48/24	Structural I Rated Sheathing	23/32 inch

**TABLE 2—DESIGN CAPACITIES FOR DIAMOND FLOOR PANELS AND DIAMOND SHEATHING PANELS<sup>(1)</sup>**

PERFORMANCE CATEGORY (in.)	STRENGTH AXIS <sup>(2)</sup>	BENDING STIFFNESS EI (lbf-in <sup>2</sup> /ft)	BENDING STRENGTH F <sub>b</sub> S (lbf-in/ft)	PLANAR SHEAR F <sub>s</sub> (lb/Q) (lbf/ft)	AXIAL STIFFNESS EA x10 <sup>6</sup> (lbf/ft)
23/32	Parallel	395,000	1,360	380	6.5
	Perpendicular	170,000	790	380	4.6

<sup>(1)</sup> Design capacities are single values that represent the allowable capacities per 1-foot of width.

<sup>(2)</sup> Primary strength axis corresponds to the long panel dimension.

**TABLE 3—SECTION PROPERTIES DIAMOND FLOOR PANELS AND DIAMOND SHEATHING PANELS<sup>(1)</sup>**

NOMINAL THICKNESS		PANEL WEIGHT (psf)	AREA A (in <sup>2</sup> /ft)	MOMENT OF INERTIA I (in <sup>4</sup> /ft)	SECTION MODULUS S (in <sup>3</sup> /ft)	STATICAL MOMENT Q (in <sup>3</sup> /ft)	SHEAR CONSTANT lb/Q (in <sup>2</sup> /ft)
Performance category (in.)	Average (in.)						
23/32	0.730	2.6	8.760	0.389	1.066	0.799	5.840

<sup>(1)</sup> Section properties represent 1-foot of width.

**TABLE 4—EQUIVALENT SPECIFIC GRAVITY VALUES FOR DIAMOND FLOOR PANELS AND DIAMOND SHEATHING PANELS<sup>(1)</sup>**

PERFORMANCE CATEGORY (in.)	NAIL RESISTANCE	
	Lateral	Withdrawal
	Equivalent Specific Gravity	
23/32	0.51	0.45

<sup>(1)</sup> Equivalent specific gravity values are provided for use in design of nailed connections (lateral and withdrawal) in accordance with Chapter 12 of the 2018 and 2015 *National Design Specification® for Wood Construction* (NDS) (Chapter 11 of the 2012 NDS for the 2012 IBC and IRC).