ICC Design No. WPC-1302-24

ESL-1302

Issued July 2022
Revised November 2022
This listing is subject to renewal July 2023.

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Applicant: DUPONT DE NEMOURS, INC.

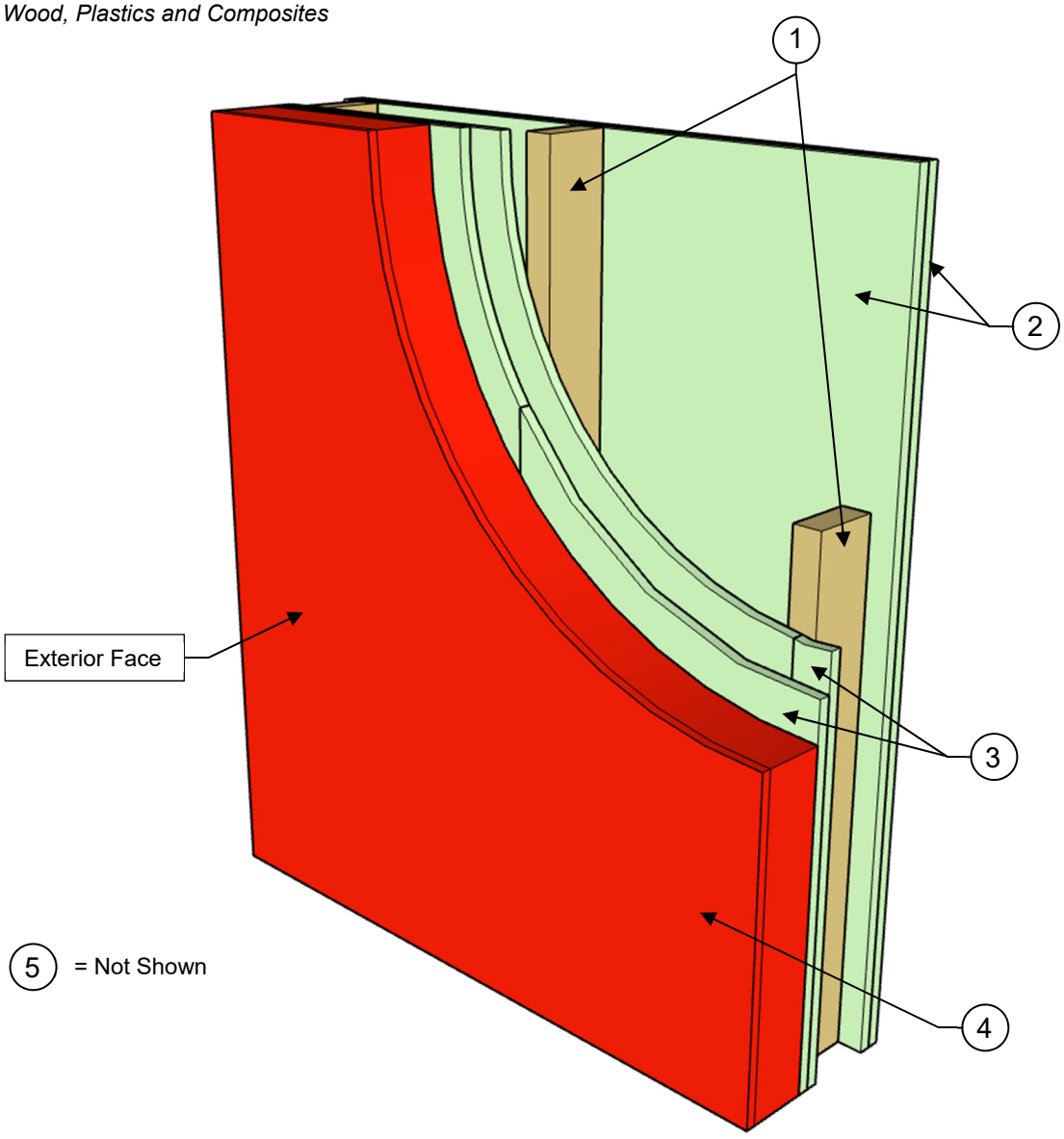
Product: DUPONT™ ARMORWALL AND DUPONT™ ARMORWALL PLUS STRUCTURAL INSULATED SHEATHING: 2-INCH, 2 3/4-INCH, AND 3 3/4-INCH THICK PANELS

Standard: ASTM E119 (UL 263) / CAN/ULC-S101

Assembly Rating: 2-Hour

Load: Load Bearing – See Conditions of Listing Note #7

WPC = Wood, Plastics and Composites



COMPONENTS OF CONSTRUCTION:

1. **Wood Framing –** Minimum 2-inch by 4-inch (50.8 mm by 101.6 mm) wood studs with a governing slenderness ratio (l_e/d) of 38.5, spaced maximum 24 inches (609.6 mm) on center, with blocking at mid-height in the weak-axis direction, are secured to top and bottom plates with 16d – 3 $^1/_2$-inch (88.9 mm) long x 0.131-inch (3.33 mm) diameter smooth shank framing nails. A double top plate is secured to the first top plate with 3-inch (76.2 mm) long x 0.131-inch (3.33 mm) diameter nails spaced 16 inches (406.4 mm) on center. Full-depth blocking is installed between each stud at mid-height of the wall assembly and secured with 3-inch (76.2 mm) long x 0.131-inch (3.33 mm) diameter nails.

   Note: See Conditions of Listing Items 5, 7 and 8 of ESL-1302.

2. **Interior Sheathing (Gypsum Wallboard) –** Two layers of minimum $^5/_8$-inch (15.9 mm) thick Type X gypsum wallboard with beveled edges are secured directly to the base wall system framing, on the interior side of the wall assembly. The base layer must be secured to the framing using 1 $^1/_4$-inch (31.8 mm) long Type W screws spaced at 12 inches (304.8 mm) on center along the perimeter and in the field of the gypsum wallboard. The face layer, with vertical panel joints staggered from the base layer, must be secured to the framing using 1 $^7/_8$-inch (47.6 mm) long Type W screws spaced at 12 inches (304.8 mm) on center along the perimeter and in the field, with the face layer screws staggered 6 inches (152.4 mm) from the base layer screws. Gypsum wallboard may be installed vertically or horizontally to the studs. All vertical seams must fall on studs and must be staggered from one side of the assembly to the opposite sides of the assembly. All face layer sheathing joints must be treated with two coats of joint compound with nominal 2-inch wide paper tape embedded in first layer of compound over all joints. All fastener heads must be covered with one layer of joint compound.

3. **Exterior Sheathing (Gypsum Wallboard) –** Two layers of minimum $^5/_8$-inch (15.9 mm) thick Type X gypsum wallboard with beveled edges are secured directly to the base wall system framing, on the exterior side of the wall assembly. The base layer must be secured to the framing using 1 $^1/_4$-inch (31.8 mm) long Type W screws spaced at 12 inches (304.8 mm) on center along the perimeter and in the field of the gypsum wallboard. The face layer, with vertical panel joints staggered from the base layer, must be secured to the framing using 1 $^7/_8$-inch (47.6 mm) long Type W screws spaced at 12 inches (304.8 mm) on center along the perimeter and in the field, with the face layer screws staggered 6 inches (152.4 mm) from the base layer screws. Gypsum wallboard may be installed vertically or horizontally to the studs. All vertical seams must fall on studs and must be staggered from one side of the assembly to the opposite sides of the assembly. All face layer sheathing joints must be treated with two coats of joint compound with nominal 2-inch wide paper tape embedded in first layer of compound over all joints. All fastener heads must be covered with one layer of joint compound.

4. **Exterior Sheathing (DuPont™ ArmorWall) –** One layer of maximum 3 $^3/_4$-inch (95.3 mm) thick DuPont™ ArmorWall or DuPont™ ArmorWall Plus Structural Insulated Sheathing is secured through the face and base layers of gypsum wallboard to the base wall system framing, on the exterior side of the wall assembly with the insulation layer of the panel facing inward, using minimum 6-inch (152.4 mm) long #14-13 DP1 concealer pancake head self-drilling screws spaced 12 inches (304.8 mm) on center along the perimeter and in the field. DuPont™ ArmorWall and DuPont™ ArmorWall Plus panels may be installed vertically or horizontally to the studs. All vertical seams must fall on studs and must be staggered from one side of the assembly to the opposite sides of the assembly. Joints and fastener heads must be treated with one layer of DuPont™ ArmorSeal Sealant.

   Note: Where one layer of 2-inch (50.8 mm) or 2 $^3/_4$-inch (69.9 mm) thick DuPont™ ArmorWall or DuPont™ ArmorWall Plus is used, minimum #14-13 DP1 concealer pancake head self-drilling screw lengths must be minimum 4-inch (101.6 mm) or 5-inch (127 mm) long, respectively.

5a. **Insulation –** None

5b. **Insulation (Not Shown) –** Optional minimum R-13 mineral wool insulation, bearing the UL Classification Marking for surface burning and/or fire resistance, with nominal thickness of 3 $^1/_2$-inches (88.9 mm) is friction-fit into each stud cavity.

5c. **Insulation (Not Shown) –** Optional minimum R-13 glass fiber insulation, bearing the UL Classification Marking for surface burning and/or fire resistance, with nominal thickness of 3 $^1/_2$-inches (88.9 mm) is friction-fit into each stud cavity.

6. **Exterior Facing Assembly (Not Shown) –** Any exterior facing, as authorized by the Authority having jurisdiction and installed in accordance with the manufacturer's installation instructions.