

## ICC Design No. WPC-1302-06

**ESL-1302** 

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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

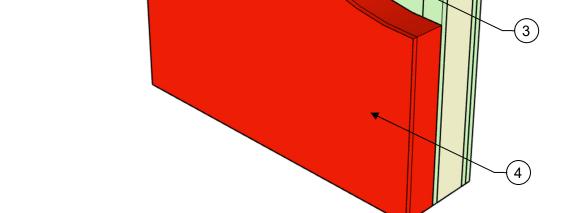
**Assembly** 

Rating: 2-Hour

WPC = Wood, Plastics and Composites

**Exterior Face** 

Load: Load Bearing – See Conditions of Listing Note #4







## **COMPONENTS OF CONSTRUCTION:**

1. **Cold-Formed Steel Structural Members –** Minimum 3  $^{5}/_{8}$ -inch (92 mm) deep, minimum 20 gauge (37.5 mils), corrosion-protected or galvanized steel channel-shaped studs spaced maximum 24 inches (609.6 mm) on center installed into same gauge thick track at top and bottom of wall (track not shown). Steel studs must have minimum 1  $^{5}/_{8}$ -inch (41.3 mm) flanges and  $^{1}/_{2}$ -inch (12.7 mm) return. Steel studs must be secured to the track framing with  $^{1}/_{2}$ -inch (12.7 mm) Type S-12 screws. 16-gauge (62.5 mils) steel channel blocking, 1  $^{1}/_{2}$ -inch (38.1 mm) wide with  $^{1}/_{2}$ -inch (12.7 mm) legs, is installed mid-height of the wall along the length of the wall (blocking not shown). Steel channel blocking is attached with 16 gauge (62.5 mils) 1  $^{1}/_{2}$ -inch (38.1 mm x 38.1 mm) galvanized steel angles at each end with two #10 x  $^{3}/_{4}$ -inch (19.1 mm) self-drilling screws.

Note: See Conditions of Listing Items 4 and 6 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 S screws spaced at 8 inches (203.2 mm) on center along the perimeter and 12 inches (304.8 mm) on center 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  $^{5}/_{8}$ -inch (41.3 mm) long Type S screws spaced at 8 inches (203.2 mm) on center along the perimeter and 12 inches (304.8 mm) on center in the field, with the face layer screws staggered 4 inches (101.6 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 two layers of joint compound.
- 3. **Exterior Sheathing (Gypsum Wallboard)** One layer of minimum <sup>5</sup>/<sub>8</sub>-inch (15.9 mm) thick Type X gypsum wallboard with beveled edges is secured directly to the base wall system framing, on the exterior side of the wall assembly, using 1 <sup>1</sup>/<sub>4</sub>-inch (31.8 mm) long Type S screws spaced at 8 inches (203.2 mm) on center along the perimeter and 12 inches (304.8 mm) on center in the field of the gypsum wallboard. 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. Horizontal and vertical gypsum wallboard panel edge joints are permitted to be left uncovered without 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 exterior sheathing 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/<sub>4</sub>-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.

- 5. Insulation Minimum R-15 mineral wool insulation, bearing the UL Classification Marking for surface burning and/or fire resistance, with nominal thickness of 3 <sup>1</sup>/<sub>2</sub>-inches (88.9 mm) and a minimum density of 2.0 lbs./ft³ (32 kg/m³) is friction-fit into each stud cavity. The insulation thickness must match the stud cavity depth.
- 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.