



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

Section: 06 16 13—Insulated Sheathing

Product Certification System:

The ICC-ES product-certification system includes evaluating reports of tests of standard manufactured product, prepared by accredited testing laboratories and provided by the listee, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the listee's quality system.

Products: DUPONT™ ARMORWALL, DUPONT™ ARMORWALL PLUS, DUPONT™ ARMORWALL SP, AND DUPONT™ ARMORWALL SP PLUS STRUCTURAL INSULATED SHEATHING PANELS

Listee: DUPONT DE NEMOURS, INC.

Evaluation: DuPont™ ArmorWall, DuPont™ ArmorWall Plus, DuPont™ ArmorWall SP, and DuPont™ ArmorWall SP Plus Structural Insulated Sheathing Panels were evaluated when tested in accordance with the following standard:

- ASTM E330-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference, ASTM International.

Description of Products:

DuPont™ ArmorWall and DuPont™ ArmorWall Plus: Available in 4 ft x 8 ft or 4 ft x 10 ft (1.22 x 2.44 m or 1.22 x 3.05 m) panels. Each structural insulated sheathing panel consists of urethane insulation fused directly to the rear face of a ½-inch (12.7 mm) thick sheathing layer. The sheathing layer is Magnesium Oxide board facer. The insulation layer's nominal density is 3.23 pcf (51.7 kg/m³) and has thicknesses of 1 ½, 2 ¼, and 3 ¼ inches (38.1, 57.2, and 82.6 mm) for 2, 2 ¾, and 3 ¾-inch (50.8, 69.9, and 95.3 mm) overall sheathing nominal thicknesses, respectively. DuPont™ ArmorWall Plus contains a factory-applied coating on the exterior face of the sheathing layer. DuPont™ ArmorWall is not factory-coated and must be covered with field applied and approved water-resistant barrier on the outside surface.

DuPont™ ArmorWall SP and DuPont™ ArmorWall SP Plus: Available in 4 ft x 8 ft and 4 ft x 10 ft (1.22 x 2.44 m or 1.22 x 3.05 m) panels. Each structural insulated sheathing panel consists of urethane insulation fused directly to the rear face of opposing ½-inch (12.7 mm) thick sheathing layers. The sheathing layers are Magnesium Oxide board facers on each outer face. The insulation layer's nominal density is 3.23 pcf (51.7 kg/m³) and has thicknesses of 1 ¾, 2 ¾, and 3 ¼ inches (44.5, 69.9, and 82.6 mm) for the 2 ¾, 3 ¾, 4 ¼ inch (69.9, 95.3 and 108.0 mm) overall sheathing nominal thicknesses, respectively. DuPont™ ArmorWall SP Plus contains a factory-applied coating on the exterior face of the sheathing layer on the side opposite to the base wall system. DuPont™ ArmorWall SP is not factory coated and must be covered with field applied and approved water-resistant barrier on the outside surface.

Findings: DuPont™ ArmorWall, DuPont™ ArmorWall Plus, DuPont™ ArmorWall SP, and DuPont™ ArmorWall SP Plus Structural Insulated Sheathing Panels, when installed on cold-formed steel or wood stud wall system, have average maximum ultimate test pressures as specified in Tables 1 and 2, respectively, below based on testing in accordance with ASTM E330, as referenced in the applicable sections of the following code editions:

- 2021 *International Building Code*®
Applicable Section: 104.11
- 2021 *International Residential Code*®
Applicable Section: R703.1.2
- 2015 *National Building Code of Canada*
Applicable Section: A-5.9.3.2.(1)

TABLE 1—ASTM 330 TEST PERFORMANCE WITH COLD-FORMED STEEL STUDS AND TRACKS

SHEATHING SERIES	BASE WALL SYSTEM	SHEATHING NOMINAL THICKNESS (in.)	MIN. LENGTH OF SCREWS (in.) ¹	AVERAGE MAXIMUM ULTIMATE TEST PRESSURE (psf) ²	TEST PRESSURES (psf) AT THE FOLLOWING DEFLECTION LIMITS ³	
					L/240 ⁴	L/360 ⁴
DuPont™ ArmorWall Structural Insulated Sheathing™ and DuPont™ ArmorWall Plus Structural Insulated Sheathing™	18 Gauge (43 mil) cold-formed steel members with max. on center spacing of 24 inches	2	3	70	40	30
		2 ¾	4	85	55	40
		3 ¾	5	85	55	40
	18 Gauge (43 mil) cold-formed steel members with max. on center spacing of 16 inches	2	3	145	95	75
		2 ¾	4	145	95	75
		3 ¾	5	145	95	75
	20 Gauge (33 mil) cold-formed steel members with max. on center spacing of 16 inches	2	3	60	40	25
		2 ¾	4	60	40	25
		3 ¾	5	60	40	25
DuPont™ ArmorWall SP Structural Insulated Sheathing™ and DuPont™ ArmorWall SP Plus Structural Insulated Sheathing™	18 Gauge (43 mil) cold-formed steel members with max. on center spacing of 24 inches	2 ¾	4	115	75	55
		3 ¾	5	115	75	55
		4 ¼	6	115	75	55

For SI: 1 inch = 25.4 mm; 1 pound per square foot = 47.88 Pa

¹ The screws are used to connect the sheathing panels to the cold-formed steel members.

² Reported values have not been adjusted with safety factors.

³ For the report values, the vertical studs of the wall framing are 600S162-33 or 600S162-43 as specified in the table. The studs have a 6-inch (152 mm) web depth, 1.625-inch (41 mm) flange width, and 0.5-inch (13 mm) lip length.

The horizontal tracks are 600T125-33 or 600T125-43, as specified in the table. The tracks have 6-inch (152 mm) web depth and 1.25-inch (32 mm) flange width.

⁴ Deflection limits L/240 and L/360 are based on negative pressures of tested 8-foot (2.44 m) tall walls.

TABLE 2—ASTM 330 TEST PERFORMANCE WITH WOOD STUDS

SHEATHING SERIES	BASE WALL SYSTEM	SHEATHING NOMINAL THICKNESS (in.)	MIN. LENGTH OF SCREWS (in.) ¹	AVERAGE MAXIMUM ULTIMATE TEST PRESSURE (psf) ²	TEST PRESSURES (psf) AT THE FOLLOWING DEFLECTION LIMITS ³	
					L/240 ⁴	L/360 ⁴
DuPont™ ArmorWall Structural Insulated Sheathing™ and DuPont™ ArmorWall Plus Structural Insulated Sheathing™	2-by-6 SPF (No.1, No.2 or Structural Select) dimensional lumber with max. on center spacing of 24 inches	2	3	70	40	30
		2 ¾	4	85	55	40
		3 ¾	5	85	55	40
	2-by-6 SPF (No.1, No.2 or Structural Select) dimensional lumber with max. on center spacing of 16 inches	2	3	145	95	75
		2 ¾	4	145	95	75
		3 ¾	5	145	95	75
DuPont™ ArmorWall SP Structural Insulated Sheathing™ and DuPont™ ArmorWall SP Plus Structural Insulated Sheathing™	2-by-6 SPF (No.1, No.2 or Structural Select) dimensional lumber with max. on center spacing of 24 inches	2 ¾	4	115	75	55
		3 ¾	5	115	75	55
		4 ¼	6	115	75	55

For SI: 1 inch = 25.4 mm; 1 pound per square foot = 47.88 Pa

¹ The screws are used to connect the sheathing panels to the 2-by-6 SPF (South) dimensional lumber.

² Reported values have not been adjusted with safety factors.

³ For the report values, the vertical studs of the wall framing are 2-by-6 SPF (South) dimension lumber determined by grade (No.1, No.2 or Structural Select).

⁴ Deflection limits L/240 and L/360 are based on negative pressures of tested 8-foot (2.44 m) tall walls.

Identification:

1. The ICC-ES mark of conformity, electronic labeling, or the listing report number (ICC-ES ESL-1306), and when applicable, the ICC-ES listing mark, along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
2. In addition, the DuPont™ ArmorWall, DuPont™ ArmorWall Plus, DuPont™ ArmorWall SP, and DuPont™ ArmorWall SP Plus Structural Insulated Sheathing Panels described in this listing are identified by a label on the panel or packaging material bearing the DuPont de Nemours, Inc. name, product name, plant code or manufacturing address, and other information to confirm standard compliance.
3. The report holder's contact information is the following:
DUPONT DE NEMOURS, INC.
1335 LITTON DRIVE
SALISBURY, NORTH CAROLINA 28147
(844) 629-4968
www.dupont.com

Installation:

The products must be installed in accordance with the DuPont de Nemours, Inc's published installation instructions and applicable codes.

DuPont™ ArmorWall sheathing panels are attached directly to a base wall system of cold-formed steel members, as specified in Table 1. The cold-formed steel members are made from ASTM A1003 minimum Grade 33 steel. For DuPont™ ArmorWall and DuPont™ ArmorWall Plus panels, the panels are installed so that the insulation layer is in contact with the base wall system. All DuPont™ ArmorWall sheathing panels are attached to the framing members using a minimum #14-13 Concealor® DP1 Pancake Head Screws installed through the panel and into the steel members with a maximum on-center spacing of 12 inches (305 mm). Fasteners edge and end distances are 1 inch (25.4 mm).

DuPont™ ArmorWall sheathing panels are attached directly to a base wall system of solid sawn lumber members (Southern Pine Fir (South)), as specified in Table 2. For DuPont™ ArmorWall and DuPont™ ArmorWall Plus panels, the panels are installed so that the insulation layer is in contact with the base wall system. All DuPont™ ArmorWall sheathing panels are attached to the framing members using a minimum #14-13 Concealor® DP1 Pancake Head Screws installed through the panel and into the wood framing members with a maximum on-center spacing of 12 inches (305 mm). Fasteners edge and end distances are 1 inch (25.4 mm).

Conditions of listing:

1. The listing addresses only conformance with the standard and code sections noted above.
2. Approval of the product's use is the sole responsibility of the local code official.
3. The listing applies only to the materials tested and as submitted for review by ICC-ES.
4. The average maximum ultimate test pressures listed in Tables 1 and 2 are not intended to be used as design values. Design values based on a safety factor may be established by a registered design professional and approved by the authority having jurisdiction.
5. DuPont™ ArmorWall, DuPont™ ArmorWall Plus, DuPont™ ArmorWall SP, and DuPont™ ArmorWall SP Plus Structural Insulated Sheathing Panels are manufactured under a quality control program with inspections by ICC-ES.