

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: ARMORWALL, ARMORWALL PLUS, ARMORWALL SP, AND ARMORWALL SP PLUS STRUCTURAL INSULATED SHEATHING PANELS

Listee: MAXLIFE INDUSTRIES

Evaluation: ArmorWall, ArmorWall Plus, ArmorWall SP, and 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:

ArmorWall and 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. ArmorWall Plus contains a factory-applied coating on the exterior face of the sheathing layer. ArmorWall is not factory-coated and must be covered with field applied and approved water-resistant barrier on the outside surface.

ArmorWall SP and 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. 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. ArmorWall SP is not factory coated and must be covered with field applied and approved water-resistant barrier on the outside surface.

Findings: ArmorWall, ArmorWall Plus, ArmorWall SP, and ArmorWall SP Plus Structural Insulated Sheathing Panels have ultimate design pressures as specified in Table 1 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

SHEATHING SERIES	BASE WALL SYSTEM	SHEATHING NOMINAL THICKNESS (in.)	MIN. LENGTH OF SCREWS (in.) ¹	AVERAGE MAXIMUM TEST PRESSURE (psf) ²	TEST PRESSURE (psf) AT THE FOLLOWING DEFLECTION LIMITS ³	
					L/240 ⁴	L/360 ⁴
ArmorWall Structural Insulated Sheathing™ and ArmorWall Plus Structural Insulated Sheathing™	18 Gauge (43 mil) cold-formed steel members with max. on center spacing of 24 inches	2	3	+135 / -70	+80 / -40	+60 / -30
		2 ¾	4	+125 / -85	+80 / -55	+70 / -40
		3 ¾	5	+125 / -85	+80 / -55	+70 / -40
	18 Gauge (43 mil) cold-formed steel members with max. on center spacing of 16 inches	2	3	+170 / -145	+115 / -95	+115 / -75
		2 ¾	4	+170 / -145	+115 / -95	+115 / -75
		3 ¾	5	+170 / -145	+115 / -95	+115 / -75
	20 Gauge (33 mil) cold-formed steel members with max. on center spacing of 16 inches	2	3	+90 / -60	+60 / -40	+60 / -25
		2 ¾	4	+90 / -60	+60 / -40	+60 / -25
		3 ¾	5	+90 / -60	+60 / -40	+60 / -25
ArmorWall SP Structural Insulated Sheathing™ and 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	+175 / -115	+115 / -75	+80 / -55
		3 ¾	5	+175 / -115	+115 / -75	+80 / -55
		4 ¼	6	+175 / -115	+115 / -75	+80 / -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 for 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 8-foot (2.44 m) tall walls.

Identification:

1. Packaging of ArmorWall, ArmorWall Plus, ArmorWall SP, and ArmorWall SP Plus Structural Insulated Sheathings carry a label indicating the manufacturer's name (MaxLife Industries) and address, identification of the manufacturing facility, production date and batch number, the product name (ArmorWall, ArmorWall Plus, ArmorWall SP, or ArmorWall SP Plus), ICC-ES Listing number (ESL-1306), and when applicable, the ICC-ES Listing Mark.
2. The report holder's contact information is the following:

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Installation:

The products must be installed in accordance with the MaxLife Industries' published installation instructions and applicable codes. 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 ArmorWall and ArmorWall Plus panels, the panels are installed so that the insulation layer is in contact with the base wall system. All 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 minimum 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 report 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 report applies only to the materials tested and as submitted for review by ICC-ES.
4. Capacities of the supporting members and embedment of fasteners in the supporting member must be checked by a registered design professional as they may control the design.
5. ArmorWall, ArmorWall Plus, ArmorWall SP, and ArmorWall SP Plus Structural Insulated Sheathing Panels are manufactured under a quality control program with inspections by ICC-ES.