ICC-ES Listing Report
ESL-1543

Reissued July 2024
Revised October 2024
This listing is subject to renewal July 2025.

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 AND DUPONT™ ARMORWALL PLUS STRUCTURAL INSULATED SHEATHING PANELS

Listee: DUPONT DE NEMOURS, INC.

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

- ASTM D1761-12, Standard Test Methods for Mechanical Fasteners in Wood and Wood-Based Materials, ASTM International.

Description of Products:

DuPont™ ArmorWall and DuPont™ ArmorWall Plus Structural Insulated Sheathing panels consist of a Class 1 Rated polyurethane foam insulation layer that is fused directly to the rear face of a ½-inch (12.7 mm) thick sheathing layer. The sheathing layer is a Magnesium Oxide board facer. The insulation layer thicknesses are 1 ½-inch, 2 ¼-inch, or 3 ¼-inch (38.1 mm, 57.2 mm, or 82.6 mm) for the 2-inch, 2 ¾-inch, or 3 ¾-inch (50.8 mm, 69.9 mm, or 95.3 mm) overall sheathing nominal thicknesses, respectively. The DuPont™ ArmorWall and DuPont™ ArmorWall Plus sheathing panels are attached directly to the base wall system, with the insulation layer facing inward, using minimum #14-13 DP1 fasteners with a maximum spacing of 12-inches (305 mm) on center along the perimeter and in the field. 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.

Findings: The attachment fasteners, as described in Table 1 below, have ultimate withdrawal strengths and ultimate lateral resistance strengths as specified in Table 1 when installed with a minimum 1-inch (25.4 mm) penetration into the ArmorWall™ panel (penetrating fully through the outer layer of Magnesium Oxide board and 1/2-inch (12.7 mm) into the composite foam insulation) based on testing in accordance with ASTM D1761.

TABLE 1—ASTM D1761 TEST PERFORMANCE (WITHDRAWAL AND LATERAL RESISTANCE STRENGTH)

Fastener Type and Length	Ultimate Withdrawal Strength (lbf)	Ultimate Lateral Resistance Strength (lbf)
Concealor #10-9 ULP Long-life TRI-SEAL® coated	280	450
Concealor #10-13 ULP Long-life TRI-SEAL® coated	304	482

For SI: 1 lbf = 4.45 N.

Identification:

1. The ICC-ES mark of conformity, electronic labeling, or the listing report number (ICC-ES ESL-1543 or ESL-1306), and when applicable, the ICC-ES listing mark, along with the name, registered trademark, or registered logo of the report holder [and/or listee] must be included in the product label.

2. In addition, the DuPont™ ArmorWall and DuPont™ ArmorWall 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 DuPont™ ArmorWall and DuPont™ ArmorWall Plus Structural Insulated Sheathing Panels must be installed in accordance with the DuPont de Nemours, Inc's published installation instructions and applicable codes.

DuPont™ ArmorWall and DuPont™ ArmorWall Plus Structural Insulated Sheathing Panels are attached directly to a base wall system of cold-formed steel members, as specified in Tables 2 through 6. 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 Concealor #14-13 DP-1 Pancake Head Screws with TRI-SEAL® coating 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 and DuPont™ ArmorWall Plus Structural Insulated Sheathing Panels are attached directly to a base wall system of solid sawn lumber members (Southern Pine Fir (South)), as specified in Tables 2 through 6. 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 Concealor #14-13 DP-1 Pancake Head Screws with TRI-SEAL® coating 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. Approval of the product's use is the sole responsibility of the local code official.
2. The listing applies only to the materials tested and as submitted for review by ICC-ES.
3. DuPont™ ArmorWall and DuPont™ ArmorWall Plus Structural Insulated Sheathing Panels are manufactured under a quality control program with inspections by ICC-ES.
4. The design and allowable capacities of the cladding, anchor clips, and connection between anchors clips and cladding are outside of the scope of this report.
5. Installation of DuPont™ ArmorWall and DuPont™ ArmorWall Plus Structural Insulated Sheathing Panels to structural framing must be installed in accordance with the DuPont de Nemours, Inc's published installation instructions, which covers the Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating. No other fasteners for attachment to the structural framing have been analyzed at this time.
6. Installation of fasteners for cladding attachment to ArmorWall™ Sheathing must be installed in accordance with the DuPont de Nemours, Inc's published installation instructions, which covers the Concealor #10-9 ULP Long-life fastener with TRI-SEAL® coating and the Concealor #10-13 ULP Long-life fastener with TRI-SEAL® coating. No other fasteners for cladding attachment to ArmorWall™ Sheathing have been analyzed at this time. Fasteners used for attachment to ArmorWall™ Sheathing must have a minimum 1-inch (25.4 mm) penetration into the ArmorWall™ panel. Penetrating fully through the outer layer of Magnesium Oxide board and 1/2-inch (12.7 mm) into the composite foam insulation. In accordance with the DuPont de Nemours, Inc's published installation instructions, impact drivers must not be utilized to attach cladding fasteners to the outer face of the ArmorWall™ sheathing.

TABLE 2—MCM PANEL INSTALLATION OVER ARMORWALL™ SHEATHING[1, 2, 10, 11]

Attachment of ArmorWall™ Sheathing to Structural Framing			Attachment to ArmorWall™ Sheathing										
Structural Framing Type and Spacing[3, 4]	Sheathing Fastener Type	Min. Fastener Penetration into Structural Framing[5] (in.)	Anchor Clip Fastener to ArmorWall™ Sheathing Only[6]	MCM Panel Height (in.)	Max. Anchor Clip Spacing[7, 8, 9] ((1) fastener at each anchor clip location) (in.)									
					Ultimate Design Negative Wind Pressure (psf)									
					20	25	30	35	40	45	50	55	60	65
33 mil (20 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 16-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	12	36	36	36	36	35	31	28	25.25	23.25	–
				24	35	28	23.25	20	17.5	15.5	14	12.5	11.5	–
				36	23.25	18.5	15.5	13.25	11.5	10.25	-	-	-	–
				48	17.5	14	11.5	-	-	-	-	-	-	–
				54	15.5	12.25	10.25	-	-	–	–	–	–	–
43 mil (18 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 16-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	12	36	36	36	36	35	31	28	25.25	23.25	21.5
				24	35	28	23.25	20	17.5	15.5	14	12.5	11.5	10.75
				36	23.25	18.5	15.5	13.25	11.5	10.25	-	-	-	-
				48	17.5	14	11.5	-	-	-	-	-	-	–
				54	15.5	12.25	10.25	-	-	–	–	–	–	–
57 mil (16 ga.) Cold-Formed Steel Framing (50ksi (345 Mpa)) with maximum on center spacing of 16-inches	Concealor 1/4"-14 DP-3 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	12	36	36	36	36	35	31	28	25.25	23.25	21.5
				24	35	28	23.25	20	17.5	15.5	14	12.5	11.5	10.75
				36	23.25	18.5	15.5	13.25	11.5	10.25	-	-	-	-
				48	17.5	14	11.5	-	-	-	-	-	-	–
				54	15.5	12.25	10.25	-	-	–	–	–	–	–
2-by-6 SPF (No.1, No.2 or Structural Select) Wood Framing with maximum on center spacing of 16-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration with minimum of 1" into wood stud framing	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	12	36	36	36	36	35	31	28	25.25	23.25	21.5
				24	35	28	23.25	20	17.5	15.5	14	12.5	11.5	10.75
				36	23.25	18.5	15.5	13.25	11.5	10.25	-	-	-	-
				48	17.5	14	11.5	-	-	-	-	-	-	–
				54	15.5	12.25	10.25	-	-	–	–	–	–	–

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

Footnotes:

[1] Table values are based on a total weight of 4.6 psf for the cladding and attachments. Total weight exceeding this amount is outside of the scope of this report and requires engineering design by a Registered Design Professional.

[2] Tables values are based on a deflection limit of L/120 for exterior walls with flexible finishes in accordance with Table 1604.3 of the 2024 and 2021 IBC.

[3] For the cold-formed steel framing options, the vertical studs of the wall framing are 600S162-33, 600S162-43, or 600S162-54 depending on the steel thickness. The cold-formed steel studs have a 6-inch (152 mm) web depth, 1.625-inch (41 mm) flange width, and 0.5-inch (13 mm) lip length.

[4] For the wood framing option, the vertical studs of the wall framing are 2-by-6 SPF (South) dimensional lumber determined by grade (No.1, No.2 or Structural Select).

[5] Length of fasteners used to attach ArmorWall™ Sheathing to may vary based on the thickness of ArmorWall™ Sheathing panel used and must meet the minimum fastener penetration into structural framing. Only the fasteners included in this table are permitted to be used for attachment of ArmorWall™ Sheathing to structural framing.

[6] Fasteners used with anchor clips must have a minimum 1-inch (25.4 mm) penetration into the ArmorWall™ panel. Penetrating fully through the outer layer of Magnesium Oxide board and 1/2-inch (12.7 mm) into the composite foam insulation. Anchor clips must be installed along both the top and bottom edges of the MCM panels and spaced horizontally. Only the anchor clip fasteners included in this table are permitted to be used for attachment to ArmorWall™ Sheathing.

[7] Interpolation between tables values is permitted. Extrapolation to higher pressures than what is included in the table is not permitted.

[8] The maximum spacing allowed is limited to 36-inches.

[9] Table cells indicating "–" are outside of the scope of this report and require additional engineering design by a Registered Design Professional.

[10] Installation of ArmorWall™ Sheathing to Structural Framing must comply with ICC-ES ESL-1306.

[11] Reported values have not been adjusted for safety factors.

TABLE 3—STANDARD VERTICAL HAT CHANNEL INSTALLATION OVER ARMORWALL™ SHEATHING[1, 2, 10, 11]

Attachment of ArmorWall™ Sheathing to Structural Framing			Attachment to ArmorWall™ Sheathing											
Structural Framing Type and Spacing[3, 4]	Sheathing Fastener Type	Min. Fastener Penetration into Structural Framing[5] (in.)	Hat Channel Fastener to ArmorWall™ Sheathing Only[6]	Horizontal distance between each vertical hat channel (in.)	Max. spacing between each fastener vertically[7, 8, 9] ((2) fasteners at each location) (in.)									
					Ultimate Design Negative Wind Pressure (psf)									
					20	25	30	35	40	45	50	55	60	65
33 mil (20 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 16-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	36	36	36	36	36	36	35	–
				24	36	36	36	36	35	31	28	25.25	23.25	–
				32	36	36	35	30	26.25	23.25	21	19	17.5	–
				40	36	33.5	28	24	21	18.5	16.75	15.25	-	–
				48	35	28	23.25	20	17.5	–	–	–	–	–
43 mil (18 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 24-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	36	36	36	36	36	36	35	32.25
				24	36	36	36	36	35	31	28	25.25	23.25	21.5
				32	36	36	35	30	26.25	23.25	21	19	17.5	16
				40	36	33.5	28	24	21	18.5	16.75	15.25	-	–
				48	35	28	23.25	20	17.5	–	–	–	–	–
57 mil (16 ga.) Cold-Formed Steel Framing (50ksi (345 Mpa)) with maximum on center spacing of 24-inches	Concealor 1/4"-14 DP-3 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	36	36	36	36	36	36	35	32.25
				24	36	36	36	36	35	31	28	25.25	23.25	21.5
				32	36	36	35	30	26.25	23.25	21	19	17.5	16
				40	36	33.5	28	24	21	18.5	16.75	15.25	-	–
				48	35	28	23.25	20	17.5	–	–	–	–	–
2-by-6 SPF (No.1, No.2 or Structural Select) Wood Framing with maximum on center spacing of 24-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration with minimum of 1" into wood stud framing	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	36	36	36	36	36	36	35	32.25
				24	36	36	36	36	35	31	28	25.25	23.25	21.5
				32	36	36	35	30	26.25	23.25	21	19	17.5	16
				40	36	33.5	28	24	21	18.5	16.75	15.25	-	–
				48	35	28	23.25	20	17.5	–	–	–	–	–

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

Footnotes:

[1] Table values are based on a total weight of 6 psf for the cladding and attachments. Total weight exceeding this amount is outside of the scope of this report and requires engineering design by a Registered Design Professional.

[2] Tables values are based on a deflection limit of L/120 for exterior walls with flexible finishes in accordance with Table 1604.3 of the 2024 and 2021 IBC.

[3] For the cold-formed steel framing options, the vertical studs of the wall framing are 600S162-33, 600S162-43, or 600S162-54 depending on the steel thickness. The cold-formed steel studs have a 6-inch (152 mm) web depth, 1.625-inch (41 mm) flange width, and 0.5-inch (13 mm) lip length.

[4] For the wood framing option, the vertical studs of the wall framing are 2-by-6 SPF (South) dimensional lumber determined by grade (No.1, No.2 or Structural Select).

[5] Length of fasteners used to attach ArmorWall™ Sheathing to may vary based on the thickness of ArmorWall™ Sheathing panel used and must meet the minimum fastener penetration into structural framing. Only the fasteners included in this table are permitted to be used for attachment of ArmorWall™ Sheathing to structural framing.

[6] Fasteners used for attachment to ArmorWall™ Sheathing must have a minimum 1-inch (25.4 mm) penetration into the ArmorWall™ panel. Penetrating fully through the outer layer of Magnesium Oxide board and 1/2-inch (12.7 mm) into the composite foam insulation. Only the fasteners included in this table are permitted to be used for attachment to ArmorWall™ Sheathing.

[7] Interpolation between tables values is permitted. Extrapolation to higher pressures than what is included in the table is not permitted.

[8] The maximum spacing allowed is limited to 36-inches.

[9] Table cells indicating "–" are outside of the scope of this report and require additional engineering design by a Registered Design Professional.

[10] Installation of ArmorWall™ Sheathing to Structural Framing must comply with ICC-ES ESL-1306.

[11] Reported values have not been adjusted for safety factors.

TABLE 4—INVERTED VERTICAL HAT CHANNEL INSTALLATION OVER ARMORWALL™ SHEATHING[1, 2, 10, 11]

Attachment of ArmorWall™ Sheathing to Structural Framing			Attachment to ArmorWall™ Sheathing											
Structural Framing Type and Spacing[3, 4]	Sheathing Fastener Type	Min. Fastener Penetration into Structural Framing[5] (in.)	Inverted Hat Fastener to ArmorWall™ Sheathing Only[6]	Horizontal distance between each inverted vertical hat channel (in.)	Max. spacing between each fastener vertically[7, 8, 9] ((1) fastener at each location) (in.)									
					Ultimate Design Negative Wind Pressure (psf)									
					20	25	30	35	40	45	50	55	60	65
33 mil (20 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 16-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	35	30	26.25	23.25	21	19	17.5	–
				24	35	28	23.25	20	17.5	15.5	14	12.5	11.5	–
				32	26.25	21	17.5	15	13	11.5	10.5	9.5	8.75	–
				40	21	16.75	14	12	10.5	9.25	8.25	7.5	-	–
				48	17.5	14	11.5	10	8.75	–	–	–	–	–
43 mil (18 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 24-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	35	30	26.25	23.25	21	19	17.5	16
				24	35	28	23.25	20	17.5	15.5	14	12.5	11.5	10.75
				32	26.25	21	17.5	15	13	11.5	10.5	9.5	8.75	8
				40	21	16.75	14	12	10.5	9.25	8.25	7.5	-	–
				48	17.5	14	11.5	10	8.75	–	–	–	–	–
57 mil (16 ga.) Cold-Formed Steel Framing (50ksi (345 Mpa)) with maximum on center spacing of 24-inches	Concealor 1/4"-14 DP-3 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	35	30	26.25	23.25	21	19	17.5	16
				24	35	28	23.25	20	17.5	15.5	14	12.5	11.5	10.75
				32	26.25	21	17.5	15	13	11.5	10.5	9.5	8.75	8
				40	21	16.75	14	12	10.5	9.25	8.25	7.5	-	–
				48	17.5	14	11.5	10	8.75	–	–	–	–	–
2-by-6 SPF (No.1, No.2 or Structural Select) Wood Framing with maximum on center spacing of 24-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration with minimum of 1" into wood stud framing	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	35	30	26.25	23.25	21	19	17.5	16
				24	35	28	23.25	20	17.5	15.5	14	12.5	11.5	10.75
				32	26.25	21	17.5	15	13	11.5	10.5	9.5	8.75	8
				40	21	16.75	14	12	10.5	9.25	8.25	7.5	-	–
				48	17.5	14	11.5	10	8.75	–	–	–	–	–

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

Footnotes:

[1] Table values are based on a total weight of 10 psf for the cladding and attachments. Total weight exceeding this amount is outside of the scope of this report and requires engineering design by a Registered Design Professional.

[2] Tables values are based on a deflection limit of L/120 for exterior walls with flexible finishes in accordance with Table 1604.3 of the 2024 and 2021 IBC.

[3] For the cold-formed steel framing options, the vertical studs of the wall framing are 600S162-33, 600S162-43, or 600S162-54 depending on the steel thickness. The cold-formed steel studs have a 6-inch (152 mm) web depth, 1.625-inch (41 mm) flange width, and 0.5-inch (13 mm) lip length.

[4] For the wood framing option, the vertical studs of the wall framing are 2-by-6 SPF (South) dimensional lumber determined by grade (No.1, No.2 or Structural Select).

[5] Length of fasteners used to attach ArmorWall™ Sheathing to may vary based on the thickness of ArmorWall™ Sheathing panel used and must meet the minimum fastener penetration into structural framing. Only the fasteners included in this table are permitted to be used for attachment of ArmorWall™ Sheathing to structural framing.

[6] Fasteners used for attachment to ArmorWall™ Sheathing must have a minimum 1-inch (25.4 mm) penetration into the ArmorWall™ panel. Penetrating fully through the outer layer of Magnesium Oxide board and ½-inch (12.7 mm) into the composite foam insulation. Only the fasteners included in this table are permitted to be used for attachment to ArmorWall™ Sheathing.

[7] Interpolation between tables values is permitted. Extrapolation to higher pressures than what is included in the table is not permitted.

[8] The maximum spacing allowed is limited to 36-inches.

[9] Table cells indicating "–" are outside of the scope of this report and require additional engineering design by a Registered Design Professional.

[10] Installation of ArmorWall™ Sheathing to Structural Framing must comply with ICC-ES ESL-1306.

[11] Reported values have not been adjusted for safety factors.

TABLE 5—RAINSCREEN CLIP AND RAIL INSTALLATION OVER ARMORWALL™ SHEATHING[1, 2, 10, 11]

Attachment of ArmorWall™ Sheathing to Structural Framing			Attachment to ArmorWall™ Sheathing											
Structural Framing Type and Spacing[3, 4]	Sheathing Fastener Type	Min. Fastener Penetration into Structural Framing[5] (in.)	Anchor Clip Fastener to ArmorWall™ Sheathing Only[6] ((2) fasteners per clip)	Horizontal distance between each vertical support rail (in.)	Max. spacing between each anchor clip vertically[7, 8, 9] ((2) fasteners at each anchor clip location) (in.)										
					Ultimate Design Negative Wind Pressure (psf)										
					20	25	30	35	40	45	50	55	60	65
33 mil (20 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 16-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	36	36	36	36	33.25	30.25	27.75	–
				24	36	36	36	31.75	27.75	24.75	22.25	20.25	18.5	–
				32	36	33.25	27.75	23.75	20.75	18.5	16.5	15	13.75	–
				40	33.25	26.75	22.25	19	16.5	14.75	13.25	12	11	–
				48	27.75	22.25	18.5	15.75	13.75	–	–	–	–	–
43 mil (18 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 24-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	36	36	36	36	33.25	30.25	27.75	25.5
				24	36	36	36	31.75	27.75	24.75	22.25	20.25	18.5	17
				32	36	33.25	27.75	23.75	20.75	18.5	16.5	15	13.75	12.75
				40	33.25	26.75	22.25	19	16.5	14.75	13.25	12	11	–
				48	27.75	22.25	18.5	15.75	13.75	–	–	–	–	–
57 mil (16 ga.) Cold-Formed Steel Framing (50ksi (345 Mpa)) with maximum on center spacing of 24-inches	Concealor ¼"-14 DP-3 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	36	36	36	36	33.25	30.25	27.75	25.5
				24	36	36	36	31.75	27.75	24.75	22.25	20.25	18.5	17
				32	36	33.25	27.75	23.75	20.75	18.5	16.5	15	13.75	12.75
				40	33.25	26.75	22.25	19	16.5	14.75	13.25	12	11	–
				48	27.75	22.25	18.5	15.75	13.75	–	–	–	–	–
2-by-6 SPF (No.1, No.2 or Structural Select) Wood Framing with maximum on center spacing of 24-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration with minimum of 1" into wood stud framing	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	16	36	36	36	36	36	36	33.25	30.25	27.75	25.5
				24	36	36	36	31.75	27.75	24.75	22.25	20.25	18.5	17
				32	36	33.25	27.75	23.75	20.75	18.5	16.5	15	13.75	12.75
				40	33.25	26.75	22.25	19	16.5	14.75	13.25	12	11	–
				48	27.75	22.25	18.5	15.75	13.75	–	–	–	–	–

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

Footnotes:

[1] Table values are based on a total weight of 10 psf for the cladding and attachments. Total weight exceeding this amount is outside of the scope of this report and requires engineering design by a Registered Design Professional.

[2] Tables values are based on a deflection limit of L/120 for exterior walls with flexible finishes in accordance with Table 1604.3 of the 2024 and 2021 IBC.

[3] For the cold-formed steel framing options, the vertical studs of the wall framing are 600S162-33, 600S162-43, or 600S162-54 depending on the steel thickness. The cold-formed steel studs have a 6-inch (152 mm) web depth, 1.625-inch (41 mm) flange width, and 0.5-inch (13 mm) lip length.

[4] For the wood framing option, the vertical studs of the wall framing are 2-by-6 SPF (South) dimensional lumber determined by grade (No.1, No.2 or Structural Select).

[5] Length of fasteners used to attach ArmorWall™ Sheathing to may vary based on the thickness of ArmorWall™ Sheathing panel used and must meet the minimum fastener penetration into structural framing. Only the fasteners included in this table are permitted to be used for attachment of ArmorWall™ Sheathing to structural framing.

[6] Fasteners used with anchor clips must have a minimum 1-inch (25.4 mm) penetration into the ArmorWall™ panel. Penetrating fully through the outer layer of Magnesium Oxide board and 1/2-inch (12.7 mm) into the composite foam insulation. Only the anchor clip fasteners included in this table are permitted to be used for attachment to ArmorWall™ Sheathing.

[7] Interpolation between tables values is permitted. Extrapolation to higher pressures than what is included in the table is not permitted.

[8] The maximum spacing allowed is limited to 36-inches.

[9] Table cells indicating "–" are outside of the scope of this report and require additional engineering design by a Registered Design Professional.

[10] Installation of ArmorWall™ Sheathing to Structural Framing must comply with ICC-ES ESL-1306.

[11] Reported values have not been adjusted for safety factors.

TABLE 6—HORIZONTAL RAIL INSTALLATION OVER ARMORWALL™ SHEATHING[1, 2, 10, 11]

Attachment of ArmorWall™ Sheathing to Structural Framing			Attachment to ArmorWall™ Sheathing											
Structural Framing Type and Spacing[3, 4]	Sheathing Fastener Type	Min. Fastener Penetration into Structural Framing[5] (in.)	Horizontal Rail Fastener to ArmorWall™ Sheathing Only[6]	Vertical distance between each horizontal support rail (in.)	Max. spacing between each fastener horizontally[7, 8, 9] ((2) fasteners at each location) (in.)									
					Ultimate Design Negative Wind Pressure (psf)									
					20	25	30	35	40	45	50	55	60	65
33 mil (20 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 16-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	6	36	36	36	36	36	36	36	36	36	–
				12	36	36	36	36	35	31	28	25.25	23.25	–
				18	36	36	31	26.5	23.25	20.5	18.5	16.75	15.5	–
				24	35	28	23.25	20	17.5	15.5	14	12.5	11.5	–
				36	23.25	18.5	15.5	13.25	11.5	–	–	–	–	–
43 mil (18 ga.) Cold-Formed Steel Framing (33ksi (228 Mpa)) with maximum on center spacing of 24-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	6	36	36	36	36	36	36	36	36	36	36
				12	36	36	36	36	35	31	28	25.25	23.25	21.5
				18	36	36	31	26.5	23.25	20.5	18.5	16.75	15.5	-
				24	35	28	23.25	20	17.5	15.5	-	-	-	–
				36	23.25	18.5	15.5	-	-	–	–	–	–	–
57 mil (16 ga.) Cold-Formed Steel Framing (50ksi (345 Mpa)) with maximum on center spacing of 24-inches	Concealor 1/4”-14 DP-3 Pancake Head Screw with TRI-SEAL® coating	Penetration through steel plus 3 threads	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	6	36	36	36	36	36	36	36	36	36	36
				12	36	36	36	36	35	31	28	25.25	23.25	21.5
				18	36	36	31	26.5	23.25	20.5	18.5	16.75	15.5	-
				24	35	28	23.25	20	17.5	15.5	-	-	-	–
				36	23.25	18.5	15.5	-	-	–	–	–	–	–
2-by-6 SPF (No.1, No.2 or Structural Select) Wood Framing with maximum on center spacing of 24-inches	Concealor #14-13 DP-1 Pancake Head Screw with TRI-SEAL® coating	Penetration with minimum of 1" into wood stud framing	Concealor #10-9 ULP or Concealor #10-13 ULP Long-life TRI-SEAL® coated	6	36	36	36	36	36	36	36	36	36	36
				12	36	36	36	36	35	31	28	25.25	23.25	21.5
				18	36	36	31	26.5	23.25	20.5	18.5	16.75	15.5	-
				24	35	28	23.25	20	17.5	15.5	-	-	-	–
				36	23.25	18.5	15.5	-	-	–	–	–	–	–

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

Footnotes:

[1] Table values are based on a total weight of 8 psf for the cladding and attachments. Total weight exceeding this amount is outside of the scope of this report and requires engineering design by a Registered Design Professional.

[2] Tables values are based on a deflection limit of L/120 for exterior walls with flexible finishes in accordance with Table 1604.3 of the 2024 and 2021 IBC.

[3] For the cold-formed steel framing options, the vertical studs of the wall framing are 600S162-33, 600S162-43, or 600S162-54 depending on the steel thickness. The cold-formed steel studs have a 6-inch (152 mm) web depth, 1.625-inch (41 mm) flange width, and 0.5-inch (13 mm) lip length.

[4] For the wood framing option, the vertical studs of the wall framing are 2-by-6 SPF (South) dimensional lumber determined by grade (No.1, No.2 or Structural Select).

[5] Length of fasteners used to attach ArmorWall™ Sheathing to may vary based on the thickness of ArmorWall™ Sheathing panel used and must meet the minimum fastener penetration into structural framing. Only the fasteners included in this table are permitted to be used for attachment of ArmorWall™ Sheathing to structural framing.

[6] Fasteners used for attachment to ArmorWall™ Sheathing must have a minimum 1-inch (25.4 mm) penetration into the ArmorWall™ panel. Penetrating fully through the outer layer of Magnesium Oxide board and 1/2-inch (12.7 mm) into the composite foam insulation. Only the fasteners included in this table are permitted to be used for attachment to ArmorWall™ Sheathing.

[7] Interpolation between tables values is permitted. Extrapolation to higher pressures than what is included in the table is not permitted.

[8] The maximum spacing allowed is limited to 36-inches.

[9] Table cells indicating “–“ are outside of the scope of this report and require additional engineering design by a Registered Design Professional.

[10] Installation of ArmorWall™ Sheathing to Structural Framing must comply with ICC-ES ESL-1306.

[11] Reported values have not been adjusted for safety factors.