

DuPont™ ArmorWall™ SP Plus Fire-Rated Structural Insulated Sheathing

5-in-1 Composite Panel for DuPont™ ArmorWall™ System (2-Hour Fire-Rated)

FEATURES/BENEFITS

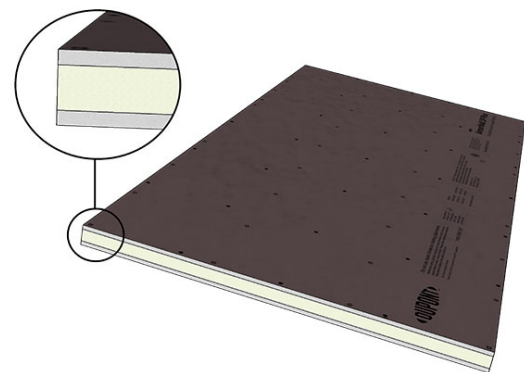
Description

DuPont™ ArmorWall™ SP Plus Fire-Rated (FR) Structural Insulated Sheathing (SIS) is an exterior wall sheathing product that has undergone rigorous ICC testing, receiving a two-hour fire resistant rating. This rating is twice that of our standard ArmorWall™ Plus panels. The unique feature of ArmorWall™ SP Plus FR SIS is that in addition to having a Magnesium Oxide (MgO) Sheathing material layer on the exterior face, it has an added layer of MgO sheathing on the interior face, which encapsulates the rigid foam insulation. This additional layer of sheathing, made from a naturally occurring fire-resistant mineral, makes ArmorWall™ SP Plus FR SIS twice as fire-resistant as the Plus version.

It also provides a factory-applied, air and water-resistive barrier on both the exterior and interior sheathing, which once sealed, makes the enclosure "dried-in," allowing for the commencement of interior construction, irrespective of the final exterior finish's status. ArmorWall™ SP Plus FR SIS is an all-in-one panel product that combines five traditional building enclosure elements: structural sheathing, fire-resistance, air barrier, water-resistive barrier, and a high-performance continuous insulation layer, making it a cost-saving and labor-reducing option compared to traditional, individual components.

Product Benefits

- Meets continuous insulation (ci) requirements, building codes, and construction schedules faster and more cost effectively.
- MgO layers replace the common sheathings (such as gypsum, plywood, etc.) and compounds found in other products that require additional coatings, time and cost.
- Industry-leading exterior adhesion performance and compatibility with tapes, sealants, and other materials.
- High fire-resistance, durability, and strength.
- Cladding no longer requires attachment back to the stud frame assembly or other substrates.



Applications

ArmorWall™ SP Plus FR SIS is an ideal solution for the following building types:

- Buildings that may receive a future addition; ArmorWall™ SP Plus FR SIS can provide a fire-rating on one side of a building that may allow a future building to be built close to it at a later time.
- High-rise buildings where installers are able to work with single panels in place of several components, which may lead to safer installation conditions.
- Commercial and Multifamily buildings located in high wind zones.
- Buildings in densely populated areas.
- Job sites with minimum lay down space or short timelines.

Available Sizes

Total Panel Thickness	Sheathing Thickness	Insulation Thickness	R-Value	Size	Net Weight ¹
2 3/4"	1/2" + 1/2"	1 3/4"	R11	4' x 8' (32 sqft/sheet)	185 lbs
3 3/4"	1/2" + 1/2"	2 3/4"	R17	4' x 8' (32 sqft/sheet)	199 lbs
4 1/4"	1/2" + 1/2"	3 1/4"	R21	4' x 8' (32 sqft/sheet)	203 lbs

¹Average panel weight may vary based upon environmental conditions.

PROPERTIES

Physical Properties

Property	Method	Value
Air Leakage Resistance	ASTM E2357	Pass
Air Infiltration at 75 Pa	ASTM E283	0.01 cfm/ft ² (0.1 L/s/m ²)
Air Infiltration at 300 Pa	ASTM E283	0.04 cfm/ft ² (0.2L/s/m ²)
Fastener Sealability ²	ASTM D1970	Pass
Fire Resistance	NFPA 285 ³	Pass
Flame Spread/Smoke Developed Index (MgO Board)	ASTM E84	0 / 0
Flame Spread/Smoke Developed Index (insulation)	ASTM E84	20 / 200
Foam Compression Range	ASTM D1621	30 psi
Mold and Mildew	ASTM C1338	Pass
Thermal Resistance	ASTM C518	6.5 per inch
Vapor Permeance (of 2" panel)	ASTM E96 (Procedure A)	0.5 Perms (grains/hr in Hg ft ²)
Water Penetration at 6.27 psf (300 Pa)	ASTM 331 ¹	Pass
Cladding Attachment Figures		
Fastener Shear in Sheathing Only	ASTM D1761 ⁴⁵	519 lbs
Fastener Pull Through	ASTM D1761 ⁴⁵	505.2 lbs
Fastener Withdrawal Capacity	ASTM D1761 ⁴⁵	284 lbs

¹Total test duration two continuous hours

²ArmorWall™ Plus FR SIS is self-sealing around cladding attachment fasteners.

³ArmorWall™ Plus FR SIS passes NFPA 285 attached directly to the stud framing allowing most cladding installed to its exterior as inclusive to the NFPA 285 approved assembly

⁴Fastener data reflects attachment to the panel not attachment to structure.

Deflection Properties

Property	Test Method	Stud Thickness ³	Span	Results
L/240	TAS 202-94 ¹	18 ga	86"	+113/-95 psf (+5400/-4560 Pa)
L/240	TAS 202-94 ¹	20 ga	86"	+60/-40 psf (+2880/-1920 Pa)
L/360	TAS 202-94 ¹	18 ga	86"	+113/-75 psf (+5400/-3600 Pa)
L/360	TAS 202-94 ¹	20 ga	86"	+60/-25 psf (+2880/-1200 Pa)
	TAS 203-94 ²	18 ga		+113/-95 psf (+5400/-4560 Pa)
	TAS 203-94 ²	20 ga		+60/-40 psf (+2880/-1920 Pa)

¹Impact and Non-impact Resistance Building Envelope Components Using Uniform Static Air Pressure per Florida Building Code 6 Edition (2017) Section 1604

²Criteria for Testing Products Subject to Cyclic Wind Pressure Loading per Florida Building Code 6 Edition (2017) Section 1604

Shear Properties

Fastener Type	Min. Fastener Penetration into Framing	Panel Applied Direct to Framing (Fastener Spacing at Panel Edges in Inches)		Panel Applied Direct to Framing w/ 1/2" Gypsum on Opposite Face (Fastener Spacing at Panel Edges in Inches)	
		12"	6"	4"	6"
#14-13	1"	301 lbf (RNV)	437.5 lbf (RNV)	537.5 lbf (RNV)	570 lbf (RNV)
#14-13	1"	150 lbf (ASD)	218.75 lbf (ASD)	268.75 lbf (ASD)	285 lbf (ASD)

TESTING

Application Standards

DuPont™ ArmorWall™ SP Plus Fire-Rated Structural Insulated Sheathing, when used as an approved **DuPont commercial wall system**, meets various ASTM Testing Standards. Applicable standards include:

- **ASTM C518** - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- **ASTM C1338** - Standard Test Method for Determining Fungi
- **ASTM D1970** - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
- **ASTM E72** - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- **ASTM E84** - Standard Test Method for Surface Burning Characteristics of Building Materials
- **ASTM E90** - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- **ASTM E96** - Standard Test Methods for Water Vapor Transmission of Materials
- **ASTM E119 / UL 263** - Standard Test Methods for Fire Tests of Building Construction and Materials
- **ASTM E283** - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
- **ASTM E331** - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- **ASTM E2357** - Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies

Notice

DuPont™ ArmorWall™ SP Plus Fire-Rated Structural Insulated Sheathing complies with the following codes:

- **NFPA 285** - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components
- **1 and 2-Hour Fire-Rated Assemblies** - are located within the ArmorWall™ Structural Insulated Sheathing Rated
- **ICC-Listed** - ICC-ES ESL-1306, ICC-ES ESL-1442, ICC-ES ESL-1302
- **ASHRAE 90.1-2013** - Energy Standard for Buildings Except Low-Rise Residential Buildings
- **Testing Application Standard (TAS) 202-94** - Impact & Nonimpact Resistance Building Envelope Components using Uniform Static Air Pressure.
- **Testing Application Standard (TAS) 203-94** - Criteria for Testing Products Subject to Cyclic Wind Pressure Loading

Warranty

Ten-year limited warranty may be applicable when used as a component in the DuPont™ ArmorWall™ System. Visit www.ArmorWall.DuPont.com or contact your DuPont representative for details.

HANDLING

Warning

- **WARNING: For Professional Use Only** - Read and follow the entire Handling section and the Safety Data Sheets carefully before use. The information below is designed to protect the user and allow for safe use and handling of DuPont™ ArmorWall™ Brand products. Follow all applicable federal, state, local and employer regulations.

Handling & Use

- **ArmorWall™ SP Plus FR SIS** can be cut and installed using standard jobsite hand tools.

Product Limitations

- Do not install **ArmorWall™ SP Plus FR SIS** below grade.
- Direct applied mortar/base/bond coat stucco applications require utilization of a slip sheet or drainage plane for capillary break.
- **ArmorWall™ SP Plus FR SIS** can remain uncovered once installed on the wall assembly for a period not to exceed 180 days. When implemented behind open joint rainscreen systems, **ArmorWall™ SP Plus FR SIS** has a maximum gap allowance of 3/8".

- When being cut to size, it is recommended to wear safety gloves, glasses, and a mask to avoid breathing dust and minimize contact with eyes.
- ArmorWall™ SP Plus FR SIS should be stored off the ground in original shipment condition until ready for installation.
- Avoid ground contact or continuous exposure to moisture and direct sunlight.
- Some skinning and direct coloration of the insulation edges is normal if exposed to UV light prior to installation; however, it does not affect the performance of the panel.
- Some cupping of the panel is expected during shipment and can be rectified during installation by beginning installation from the center of the panel and working outward per the fastener standard of the designed application.
- Contact Customer Services for exposure longer than 180 days or for gaps greater than 3/8".



For more information, visit us at
www.dupont.com/building.html
or call us at 1-833-338-7668

NOTICE: DuPont believes this information to be reliable. It is subject to change as additional knowledge and experience are gained. It is not intended as a substitute for any testing you may conduct to determine for yourself the suitability of our products for your particular purpose. Customer is also responsible for ensuring its use of product, including workplace and disposal practices are in compliance with applicable laws and regulations. Since conditions for use are outside the control of DuPont, DUPONT DE NEMOURS, INC. OR ITS AFFILIATES MAKE NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND ASSUMES NO LIABILITY IN CONNECTION WITH ANY USE OF THIS INFORMATION. This information is not intended as a license to operate under or a recommendation to infringe any trademark, patent or technical information of DuPont or other persons covering any material or its use.

©2024 DuPont. All rights reserved. DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, or ® are owned by affiliates of DuPont de Nemours, Inc. unless otherwise noted.