



**MAXLIFE**  
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INNOVATING THE  
BUILDING ENCLOSURE™

# ArmorWall<sup>NC</sup>

## STRUCTURAL INSULATED SHEATHING

### PRODUCT DESCRIPTION

ArmorWall interior/exterior wall sheathing is a UL Classified and tested, high strength, fire resistant exterior insulated wall sheathing product, commonly referred to as an SIS (structural insulated sheathing) panel. MaxLife's technology fuses a structural element to the exterior face of our fused insulation layer which modernizes the installation of commercial and residential wall assemblies. This innovation allows the designer to re-implement legacy design or frees them to wider creativity while maintaining wall construction speed, efficiency, and code compliance.

Within the MaxLife Industries series of Armorwall products, ArmorWall NC is the factory non-coated panel. ArmorWall NC panels require a field-applied weather-resistant membrane prior to installation of exterior wall finish. Field application allows greater flexibility in choice of membranes which have been tested by MaxLife for compatibility and performance.

### PRODUCT ADVANTAGES

**Fusion Technology** – MaxLife's patented technology fuses component materials rather than laminating which allows for greater strength, no delamination in the field, a longer lasting product with greater weatherability. Fusion manufacturing of ArmorWall allows multiple finish veneers to be mechanically attached directly to the exterior sheathing board rather than requiring a fastener to fully penetrate the layer into the stud beyond. This allows less leakage potential and less thermal loss from fastener penetration found in traditional wall assemblies.

**NFPA 285 Approved** – ArmorWall (UL System No. EWS0043) allows the designer to utilize one product with multiple finish veneers and factory-coated or non-factory coated water-resistant membrane options on a single building in which all walls would be NFPA 285 compliant and approved. ArmorWall's tested traits and capabilities allow the designer more flexibility than ever seen before in the industry.

**Structural Rack & Shear** – Testing by ASTM E72 demonstrates ArmorWall to be stronger than many other sheathing and wood products when attached directly to the stud with no required interior blocking.

**Panelized Construction** – ArmorWall is ideal for handling the stress of factory-built wall assembly manufacturing process, including movement within the factory, deflection during transportation to the job site, and racking during wall erection. Self-adhered membranes have tremendous adhesion to the ArmorWall surface allowing flexibility of panelized wall assemblies further yielding ease of connecting control-layers upon installation to adjacent factory-built panels at installation.

**Multi-Component Reduces Labor** – ArmorWall combines multiple control layers of a wall assembly including structural, thermal, and air; into a one-step application which can be installed either vertically or horizontally. This one-step approach allows installation up to 3-5 times faster on the construction site saving time and money.

**Mold & Mildew Resistant** – No components exist within the product to allow any growth of mold or mildew as tested by ASTM C1338 and meet FEMA design standards for flood resistant materials.

### PRODUCT LIMITATIONS

- Do not install ArmorWall NC below grade. For these applications see ArmorWall BG.
- For required NFPA 285 ratings, ArmorWall NC Return must be utilized at rough openings. Contact Technical Services for further details.
- Direct applied adhered masonry and stucco applications must follow manufacturer's installation instructions.
- Do NOT use an impact drill to fasten cladding or attachments to the panel.
- ArmorWall NC requires a third-party compatible WRB application on site.
- Maximum stud spacing is 16" O.C. fasteners shall be placed 12" O.C. in the field. Parallel seams to studs must fall on studs and blocking is not required.

### HANDLING AND USE

ArmorWall NC can be cut and installed using standard job site hand tools. When being cut to size, avoid breathing dust and minimize contact with eyes. ArmorWall should be stored off the ground and 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.

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### BOARD SIZING AND INSULATING FACTORS

| Board Coverage          | Total Board Thickness | Sheathing Thickness | Insulation Thickness | R-Value | Weight <sup>1</sup> | SKU#      |
|-------------------------|-----------------------|---------------------|----------------------|---------|---------------------|-----------|
| 48"x96" (32sqft/sheet)  | 2"                    | 1/2"                | 1 1/2"               | R10     | 89 lbs              | ANC200096 |
| 48"x120" (40sqft/sheet) | 2"                    | 1/2"                | 1 1/2"               | R10     | 112 lbs             | ANC200120 |
| 48"x96" (32sqft/sheet)  | 2 3/4"                | 1/2"                | 2 1/4"               | R15     | 93 lbs              | ANC234096 |
| 48"x120" (40sqft/sheet) | 2 3/4"                | 1/2"                | 2 1/4"               | R15     | 117 lbs             | ANC234120 |
| 48"x96" (32sqft/sheet)  | 3 3/4"                | 1/2"                | 3 1/4"               | R21     | 99 lbs              | ANC334096 |
| 48"x120" (40sqft/sheet) | 3 3/4"                | 1/2"                | 3 1/4"               | R21     | 125 lbs             | ANC334120 |

<sup>1</sup> Average board weight may vary based upon environmental conditions.

### AIR / WATER / FIRE / THERMAL / FASTENER PROPERTIES

|  |  |                          |
|--|--|--------------------------|
| Air Leakage Resistance                   | Pass   | ASTM E2178 <sup>1</sup>  |
| Air Infiltration at 75 Pa                | 0.01 cfm/ft <sup>2</sup> (0.1 L/s/m <sup>2</sup> ) | ASTM E283 <sup>1</sup>   |
| Air Infiltration at 300 Pa               | 0.04 cfm/ft <sup>2</sup> (0.2 L/s/m <sup>2</sup> ) | ASTM E283 <sup>1</sup>   |
| Corrosiveness to Steel, Aluminum, Copper | Pass   | ASTM C665 Section 13.8   |
| Odor Emission                            | Pass   | ASTM C1304               |
| Water Penetration at 6.27 psf (300 Pa)   | Pass   | ASTM E331 <sup>1,2</sup> |
| Mold and Mildew                          | no observed growth                                 | ASTM C1338               |
| Fire Resistance                          | Pass   | NFPA 285 <sup>3</sup>    |
| Vapor Permeance                          | 0.5 perms (grains/hr in Hg ft) <sup>4</sup>        | ASTM E96 (Method A)      |
| Flame Spread/Smoke Developed Index       | 0 / 0  | ASTM E84                 |
| Thermal Resistance                       | 6.5 per inch                                       | ASTM C518 <sup>5</sup>   |
| Fastener Withdrawal Capacity             | 388.3 lbs  | ASTM D1037 <sup>6</sup>  |
| Fastener Pull Through                    | 505.2 lbs  | ASTM D1037 <sup>6</sup>  |
| Fastener Shear in Sheathing Only         | 585.5 lbs  | ASTM D1037 <sup>6</sup>  |

<sup>1</sup> When tested with approved ArmorWall compatible weather resistive barrier membrane.

<sup>2</sup> Total test duration full two continuous hours.

<sup>3</sup> ArmorWall NC passes NFPA 285 attached directly to the stud framing allowing any non-combustible veneer installed to its exterior as inclusive to the NFPA 285 approved assembly.

<sup>4</sup> Permeability applies from the interior face to the exterior face.

<sup>5</sup> Resistance rating applies to insulation component only

<sup>6</sup> Average ultimate value provided.

### SHEAR PROPERTIES<sup>1,2</sup>

| 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"  |  |  |
| Shear (lbs/ft) w/ Framing of Douglas-Fir-Larch or Southern Pine |  |   |       |       |   |  |  |
| #14-13  | 1"                                     | 301   | 437.5 | 537.5 | 570   |  |  |

<sup>1</sup> Per ASTM E72 and comparable to table Z306.4.1 of the IBC.

<sup>2</sup> Data presented is average values of the test.

### DEFLECTION PROPERTIES

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

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

<sup>2</sup> Criteria for Testing Products Subject to Cyclic Wind Pressure Loading per Florida Building Code 6<sup>th</sup> Edition (2017) Section 1604.



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For specific inquiries regarding installation of ArmorWall please contact MaxLife Industries Customer Services.

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