MAXLIFE INDUSTRIES
INNOVATING THE BUILDING ENCLOSURE®

ArmorWall VP
Structural Insulated Sheathing™
Vapor Permeable

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.

Amongst the factory-coated panels in the Armorwall series of products, ArmorWall VP arrives complete with a vapor-permeable weather resistive barrier coating. Once seam and fasteners have been sealed the envelope may be considered "dried-in" allowing interior construction to commence regardless of final exterior finish status.

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 panel 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 flexability than ever seen before in the industry.For a current list of all 285 assemblies see the guides in the downloads section at www.maxlifeinsutries.com.

Vapor Permeable – A factory-applied self-healing vapor permeable air barrier membrane (ArmorSeal VP), along with the natural permeability of the sheathing itself, allows for any moisture to drive to the exterior face after installation up to and during the construction phase.

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 installaltion 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 VP below grade. For these applications see ArmorWall BG.
- For required NFPA 285 ratings, ArmorWall Return must be utilized at rough openings. Contact Customer Services for further details.
- Direct applied mortar/base/bond coat stucco applications require utilization of a slip sheet or drainage plane for capillary break.
- Do NOT use an impact drill to fasten cladding or attachments to the panel.
- 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.
- ArmorWall VP 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 VP has a maximum gap allowance of 1/4". Contact Customer Services for exposure longer than 180 days or for gaps greater than 1/4".

HANDLING AND USE

ArmorWall 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 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.

Explore our ArmorWall Solutions:

ArmorWall NC – Structural Insulated Sheathing – Non-Coated
ArmorWall VP – Structural Insulated Sheathing – Vapor Permeable
ArmorWall NP – Structural Insulated Sheathing – Non Permeable
ArmorWall PB – Structural Insulated Sheathing – PermaBase®
ArmorWall BG – Structural Insulated Sheathing – Below Grade
ArmorWall SP (NC, VP, NP) – Structural Insulated Sheathing – Symmetrical Panel

PANEL SIZING AND INSULATING FACTORS						
Panel Coverage	Total Panel Thickness	Sheathing Thickness	Insulation Thickness	R-Value	Weight *1	SKU#
Standard Panel Sizing						
48"x96" (32sqft/sheet)	2"	1/2"	1 1/2"	R10	92 lbs	AVP20096
48"x96" (32sqft/sheet)	2 3/4"	1/2"	2 1/4"	R15	96 lbs	AVP234096
48"x96" (32sqft/sheet)	3 3/4"	1/2"	3 1/4"	R21	103 lbs	AVP334096
Special Order Panel Sizing						
48"x120" (40sqft/sheet)	2"	1/2"	1 1/2"	R10	115 lbs	AVP200120
48"x120" (40sqft/sheet)	2 3/4"	1/2"	2 1/4"	R15	120 lbs	AVP234120
48"x120" (40sqft/sheet)	3 3/4"	1/2"	3 1/4"	R21	129 lbs	AVP334120

*1 Average panel weight may vary based upon environmental conditions.

AIR / WATER / FIRE / THERMAL / FASTENER PROPERTIES		
Air Leakage Resistance	Pass	ASTM E2357
Air Infiltration at 75 Pa	0.01 cfm/ft^2 (0.1 L/s/m^2)	ASTM E283
Air Infiltration at 300 Pa	0.04 cfm/ft^2 (0.2 L/s/m^2)	ASTM E283
Water Penetration at 6.27 psf (300 Pa)	Pass	ASTM E331 *1
Mold and Mildew	No observed growth	ASTM C1338
Fastener Sealability *2	Pass	ASTM D1970
Fire Resistance	Pass	NFPA 285 *3
Vapor Permeance (factory-applied coating)	16 Perms (grains/hr in Hg ft^2)	ASTM E96 (Method B)
Vapor Permeance (panel)	0.5 Perms (grains/hr in Hg ft^2)	ASTM E96 (Procedure A)
Flame Spread/Smoke Developed Index (facer)	0 / 0	ASTM E84
Flame Spread/Smoke Developed Index (insulation)	10/250	ASTM E84
Thermal Resistance	6.5 per inch	ASTM C518
Foam Compression Range	38-42 psi	ASTM D1621
CLADDING ATTACHMENT FIGURES		
Fastener Withdrawal Capacity	284 lbs	ASTM D1761 *4 *5
Fastener Pull Through	505.2 lbs	ASTM D1761 *4 *5
Fastener Shear in Sheathing Only	519 lbs	ASTM D1761 *4 *5

*1 Total test duration full two continuous hours.

*2 ArmorWall VP is self-healing around cladding attachment fasteners.

*3 ArmorWall VP passes NFPA 285 attached directly to the stud framing allowing most cladding installed to its exterior as inclusive to the NFPA 285 approved assembly.

*4 Average ultimate value after thermal cycling (10 cycles) provided.

*5 Fastener data reflects attachment to the panel not attachment to structure.

SHEAR PROPERTIES *1 *2							
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)		
		Shear (lbs/ft) w/ Framing of Douglas-Fir-Larch or Southern Pine w/ blocked perimeters					
		12"	6"	4"	6"		
#14-13	1"	301 lbf (RNV) 150 lbf (ASD) 240 lbf (LFRD)	437.5 lbf (RNV) 218.75 lbf (ASD) 350 lbf (LRFD)	537.5 lbf (RNV) 268.75 lbf (ASD) 430 lbf (LRFD)	570 lbf (RNV) 285 lbf (ASD) 456 lbf (LRFD)		

*1 Per ASTM E72 and comparable to table 2306.2(1) of the 2015 IBC.

*2 Data presented is RNV (Reference Nominal Value), ASD (Allowable Stress Design), and LRFD (Load and Resistance Factor Design) as tested.

DEFLECTION PROPERTIES				
	Test Method *1	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 *2	18 ga		+113/-95 psf (+5400/-4560 Pa)
	TAS 203-94 *2	20 ga		+60/-40 psf (+2880/-1920 Pa)

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

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

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

Company Address | 4995 South Main Street, Salisbury, North Carolina 28147
Website Address | www.maxlifeindustries.com
Toll Free Number | 1-844-MAX4YOU (1-844-629-4968)
Customer Service Email | cs@maxlifeindustries.com

MAXLIFE FUSION TECHNOLOGY