

# USG SECUROCK® BRAND GLASS-MAT SHEATHING

## REGULAR AND FIRECODE® X



### NEW, IMPROVED FACER-MAT DESIGN

#### Quality, high-performance sheathing for warranted protection from the elements

- Improved coated fiberglass facer mat to maximize coverage of air/water barrier systems
- Treated gypsum core, combined with fiberglass face and back, offers exceptional water resistance
- Scores and snaps easily for quick installation
- For use in most exterior systems when properly detailed by exterior finish manufacturer
- Meets or exceeds the requirements of ASTM C1177

#### DESCRIPTION

USG Securock® Brand Glass-Mat Sheathing is a noncombustible, moisture- and mold-resistant panel designed for use under exterior claddings where conventional gypsum sheathing products have traditionally been used, such as brick veneer, properly detailed Exterior Insulation Finish Systems (EIFS), clapboard siding, panel siding, shingle siding, shake siding and conventional stucco.

#### ADVANTAGES

**Mold-Resistant:** High resistance to mold and mildew and scores a 10 (highest) when tested in accordance with ASTM D3273.

**Resists Water:** Glass-mat sheathing facer on both sides sheds water.

**Quick, Dry Installation:** Quick score and snap, no sawing or special tools, and rapid screw or nail attachment.

**Exposure:** Can be exposed to weather for up to 12 months after application.

**Warranted Performance:** USG Securock Glass-Mat Sheathing is guaranteed for five years against manufacturing defects and for 12 months of weather exposure.

#### LIMITATIONS

1. USG Securock Glass-Mat Sheathing shall not be used as a nail base for exterior cladding.
2. Specific requirements regarding framing spacing, fastener spacing and fastener specifics to provide required lateral wind-load resistance are the responsibility of the design professional. (Refer to technical data and specifications on the following pages.)
3. USG Securock Glass-Mat Sheathing offers resistance to weather but is not intended for constant exposure to water. Protect this and all similar materials from the eroding effects of cascading water. If extreme weather conditions are possible, the design professional should consider recommending that panel joints be treated or a weather-resistant barrier be installed.
4. Not recommended for lamination to masonry surfaces. Use furring strips or framing.
5. Maximum stud spacing is 24" o.c.
6. USG Securock Glass-Mat Sheathing is not a finished surface.
7. USG Securock Glass-Mat Sheathing is not intended for tile applications.

#### PRODUCT DATA

**Dimensions:** 1/2" or 5/8" thick, 48" wide, 8', 9' and 10' long. Up to 12' lengths available in 5/8" thickness in some markets. Other sizes available on special order. Consult your USG sales office or representative for more information.

**Weight:** Approximately 2.0 lbs./sq. ft. for 1/2" thickness, 2.7 lbs./sq. ft. for 5/8" thickness.

**Edge Configuration:** Square edges.

**Compliance With Standards:** Meets or exceeds the physical property requirements of ASTM C1177. 5/8" USG Securock Glass-Mat Sheathing is UL Classified as to fire resistance, surface-burning characteristics and core combustibility. ICC ES Evaluation Report ESR 3044.

**PRODUCT DATA CONT.**

**Fire Performance:** USG Securock Glass-Mat Sheathing has a noncombustible core when tested in accordance with ASTM E136. Surface-burning characteristics—Flame spread 0, smoke developed 0, when tested in accordance with ASTM E84. Fire resistance—5/8" panels meet the requirements of Type X as defined in ASTM C1396 and ASTM C1177 when tested in accordance with ASTM E119. UL Classified as to fire resistance. See Underwriters Laboratories Fire Resistance Directory for specific designs.

**Tensile Bond:** Exceeds 15 psi requirements for both cementitious and acrylic adhesives per ASTM C297.

Physical Properties Per ASTM C1177	1/2" USG Securock® Brand Glass-Mat Sheathing	5/8" USG Securock® Brand Glass-Mat Sheathing Firecode® X
Weight, nominal, lbs./sq. ft.	2.0	2.7
Linear expansion with moisture change, in/in %RH	6.25 x 10 <sup>-6</sup>	6.25 x 10 <sup>-6</sup>
Coefficient of thermal expansion, in/in/°F	8.5 x 10 <sup>-6</sup>	8.5 x 10 <sup>-6</sup>
Flexural strength, parallel, lbf.	>80	>100
Flexural strength, perpendicular, lbf.	>107	>147
R-Value, ft <sup>2</sup> •°F•hr/BTU	0.40	0.50
Combustibility	Noncombustible	Noncombustible
ASTM D3273 score	10/10	10/10
Permeance, perms	29	28
Surface burning characteristics (per ASTM E84 or CAN/ULC-S102): flame spread/smoke developed	0/0	0/0
Humidified deflection, inches	<2/8"	<1/8"
Bending radius (dry)*	9'	9'

\*Due to the variability in environmental conditions of each installation, the framing and fastener spacing of curved walls should be reduced as the radius approaches the minimum allowed. At the minimum radius, it is recommended that fastener and frame spacing be 6" o.c.

**Allowable Uniform Wind Load (lbs./sq. ft.) for 1/2"-Thick Panels**

Frame Spacing	12"			16"			24"		
	4	6	8	4	6	8	4	6	8
Allowable Pressure	75	46	34	51	34	26	26	19	16

**Allowable Uniform Wind Load (lbs./sq. ft.) for 5/8"-Thick Panels**

Frame Spacing	12"			16"			24"		
	4	6	8	4	6	8	4	6	8
Allowable Pressure	107	67	50	75	50	38	34	27	24

**Notes:** Applicable for both steel and wood framing. The values in this table are based on testing per ASTM E330 and represent the capacity of the sheathing to resist flexural failure or fastener pull-through with a 3.0 factor of safety. Capacities are based on a minimum fastener head diameter of 0.325" (#6 bugle head screw). The withdrawal resistance of fasteners from framing is different on several factors, including but not limited to fastener type, fastener length and framing properties. The specification of fasteners is the responsibility of the Designer of Record. Manufacturer's recommendations are given below. These capacities assume continuous support of each stud flange over the full length of the sheathing panel. Allowable pressures are based on a maximum deflection limitation of L/360. Consult USG representative for higher deflection limitations. Allowable pressure values are for short-term wind loads. Framing design is independent of these values. The design capacities of assemblies constructed with pneumatically driven fasteners are beyond the scope of this submittal sheet.

**Moisture and Mold Resistance:** USG Securock Glass-Mat Sheathing resists moisture and mold and complies with ASTM C1177 for water resistance. In independent lab tests conducted on USG Securock Glass-Mat Sheathing at the time of manufacture per ASTM D3273, *Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber*, the panel score was 10.

This ASTM lab test may not accurately represent the mold performance of building materials in actual use. Given unsuitable project conditions during storage, installation or after completion, any building material can be overwhelmed by mold. To manage the growth of mold, the best and most cost-effective strategy is to protect building products from water exposure during storage and installation and after completion of the building. This can be accomplished by using good design and construction practices.

## APPLICATION TO WOOD STUD WALLS FOR RACKING RESISTANCE

For resisting wind and seismic loads: 1/2"-thick (12.7 mm) USG Securock Glass-Mat Sheathing will provide an allowable racking resistance of 122 plf (1.8 kN/m) when sheathing is attached to wood framing spaced 16" (406 mm) o.c. max. Application shall be by the use of nails: 11 gauge, 7/16" (11 mm) diameter head, 1-1/2" (38 mm) long, hot-dipped galvanized roofing nails, or #6 - 1-1/4" (32 mm) long corrosion-resistant bugle head screws. 5/8"-thick (15.9 mm) USG Securock Glass-Mat Sheathing will provide an allowable racking resistance of 138 plf (2.0 kN/m) when sheathing is attached to wood framing spaced 24" (610 mm) o.c. max. Application shall be by the use of nails: 11 gauge, 7/16" (11 mm) diameter head, 1-3/4" (44 mm) long, hot-dipped galvanized roofing nails, or #6 - 1-5/8" (41 mm) long corrosion-resistant bugle head screws. The USG Securock Glass-Mat Sheathing panels shall be applied solidly to the wall framing with the long edges of the panels parallel to the framing with all edges backed by framing members. Design capacities are based on a maximum fastener spacing of 4" (101 mm) o.c. around the perimeter of the sheathing panels and 8" (203 mm) o.c. along the intermediate framing members. The maximum height-length ratio shall not exceed 1.5:1 to be considered a shear wall segment. Studs and plates shall be anchored to resist forces. Shear walls using USG Securock Glass-Mat Sheathing shall not be used to resist forces imposed by masonry or concrete walls. The design capacities of assemblies constructed with pneumatically driven fasteners are beyond the scope of this submittal sheet.

**Note:** Local code requirements may limit the racking resistance values to a prescribed load; be sure to check with the authority having jurisdiction for the correct limitations when designing the racking resistance.

### INSTALLATION

USG Securock Glass-Mat Sheathing shall be installed in accordance with WB2451 USG Securock Glass-Mat Sheathing Installation Guide, GA-253 Application of Gypsum Sheathing, and ASTM C1280 Standard Specification for Application for Application of Gypsum Panel Products for Use as Sheathing. If extreme weather conditions are possible, the design professional should consider recommending that panel joints be treated or a weather-resistant barrier be installed.

### SPECIFICATIONS

#### PART 1: GENERAL

#### 1.1 Scope

Specify to meet project requirements.

#### 1.2 Delivery and Storage of Materials

All materials shall be stored in an enclosed shelter providing protection from damage and exposure to the elements. Damaged or deteriorated materials shall be removed from the premises. Prior to installation, panels should be stacked flat (unless the contractor in charge of site safety directs otherwise to avoid point overloading of the structure or a tripping hazard) and reasonably protected from the elements.

**Warning:** Store all USG Securock Glass-Mat panels flat. Panels are heavy and can fall over, causing serious injury or death. Do not move unless authorized. Panels 12' in length will ship in banded units. To ensure safety and performance of the product, use of a forklift truck with minimum 35" span between the forks when moving the banded units is recommended. Keep the nylon bands on each lift until individual boards are moved.

#### PART 2: PRODUCTS

- A. USG Securock Glass-Mat Sheathing—(1/2") (5/8") thick x 48" wide x 8'-10' long (up to 12' for 5/8" thickness) with square edges.
- B. Nails—(1-1/2") (1-3/4"), 11-gauge hot-dipped galvanized roofing nails, 7/16" diameter head (minimum).
- C. Screws—(1-1/4") (1-5/8") #6 bugle head corrosion-resistant fasteners. Where sheet-type weather-resistive barriers or self-adhering membranes are placed over the sheathing, corrosion resistance shall be equal to or greater than a hot-dipped galvanized coating of 1.5 ounces of zinc per square foot of surface area. Where liquid or fluid-applied air and water barriers are used, or where no sheet-type weather-resistive barrier is used over the sheathing, screws shall have a corrosion resistance of more than 800 hours per ASTM B117. Stainless steel fasteners shall be used in coastal or aggressive environments. Consult the building code for other requirements.

#### PART 3: EXECUTION

#### 3.1 Walls— Sheathing

- A. Apply weather-resistive or water barriers and flashing as required by and in accordance with the applicable local code requirements and the recommendations of the exterior cladding manufacturer, whichever is more stringent.
- B. Maximum fastener spacing for vertical surfaces is 8" o.c., unless limited by wind load restrictions or wood stud racking resistance requirements outlined in Product Data.
- C. Maximum frame spacing is 24" o.c.
- D. Sheathing must be thoroughly dry prior to installing adhesively applied and self-adhered ice/water barriers and joint tape. Failure to do so will result in an insufficient bond to the sheathing.

## SPECIFICATIONS CONT.

### PART 3: EXECUTION

- E. Apply side labeled "USG Securock®" toward exterior. Fit ends and edges closely but not forced together.
- F. Fasteners shall be driven flush with the panel surface, without countersinking or deep enough to break the glass mat, and into the framing.
- G. Unless otherwise specified or required, USG Securock Glass-Mat Sheathing may be applied either perpendicular or parallel to wood or steel framing.

#### 3.2 Soffits—Sheathing Application

The maximum frame spacing for soffits is 16" o.c. when installed parallel to the joists and 24" o.c. when installed perpendicular to the joists. Maximum fastener spacing for horizontal surface (soffits) is 8" o.c.

#### 3.3 Control Joints

Control joints shall be installed at building expansion joints. Location and design of these control joints shall be detailed by the design professional. Per the International Building Code®, the distance between control joints shall not be more than 30 feet.

#### 3.4 Shear- or Fire-Rated Construction

Shear- or fire-rated construction may have additional execution requirements as specified in local codes or the UL Fire Resistance Directory.

#### 3.5 Weather-Resistant Barriers

No weather-resistant barrier is required for exposure warranty but may be required by local codes or cladding system specifications.

#### 3.6 Exterior Cladding Application

Consult exterior cladding manufacturer for installation instructions.

#### 3.7 EIFS

EIFS, like all other cladding systems, is vulnerable to moisture that enters the cavity through wall penetrations, such as windows, doors, deck attachments and utility pipe chases, and at wall/ roof intersections. For most residential and some commercial EIFS, manufacturers now specify a weather-resistive barrier for additional protection from moisture that penetrates the wall. In addition, manufacturers of windows, doors, flashing and sealants offer instruction on proper installation and maintenance of their products.

- EIMA (EIFS Industry Members Association), [www.eima.com](http://www.eima.com). This website has extensive information about proper installation of EIFS, sealants, flashing, proper attachment of EIFS to substrates, and inspection, maintenance and repair of EIFS claddings.
- ASTM E2112, *Standard Practice for Installation of Exterior Windows, Doors and Skylights*
- ASTM C1481, *Standard Guide for Use of Joint Sealants with EIFS*
- ASTM C1397, *Standard Practice for Application of Class PB EIFS*
- AWCI (Association of Wall and Ceiling Industry) offers EIFS Education and Certification Programs for EIFS applicators and also for building officials, inspectors and design professionals. Contractors whose personnel have successfully completed the AWCI EIFS training can be found on AWCI's EIFS<sup>Smart</sup> Construction National Registry. See [www.awci.org](http://www.awci.org).

#### PRODUCT INFORMATION

See [usg.com](http://usg.com) for the most up-to-date product information.

#### WARNING

Dust can contain silica. Prolonged and repeated breathing of silica dust can cause lung damage and cancer. If cutting with a power tool, use a wet or vacuum saw to reduce the amount of dust generated. Dust can be corrosive to eyes, skin and respiratory tract. Contact can cause severe chemical burns. Wear eye, skin and respiratory protection. If eye contact occurs, flush immediately with water for 30 minutes. If ingested, call a physician. Product safety information: 800 507-8899 or [usg.com](http://usg.com) Customer Service: 800 USG.4YOU (874-4968). **KEEP OUT OF REACH OF CHILDREN.**

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#### NOTE

Products described here may not be available in all geographic markets. Consult your USG Company sales office or representative for information.

#### NOTICE

We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

#### SAFETY FIRST!

Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read MSDS and literature before specification and installation.

#### SUBMITTAL APPROVALS

Job Name	
Contractor	Date

800 USG.4YOU  
800 (874-4968)  
[usg.com](http://usg.com)

Manufactured by  
United States Gypsum Company  
550 West Adams Street  
Chicago, IL 60661

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