

USG
Building
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Solutions

USG SECUROCK® BRAND ULTRALIGHT GLASS-MAT SHEATHING

INSTALLATION GUIDE



USG SECUROCK® BRAND ULTRALIGHT GLASS-MAT SHEATHING

GENERAL



- 1.1 USG Securock® Brand UltraLight Glass-Mat Sheathing meets all requirements of ASTM C1177, *Standard Specification for Glass-Mat Substrate for Use as Sheathing*. Panels are available in 1/2 in. (12.7 mm) and 5/8 in. (15.9 mm) thicknesses, 48 in. (1219 mm) wide, and standard lengths of 8-12 ft. (2438-3658 mm), with square edges. Other sizes are available on special order. Check with your local USG representative for availability.
- 1.2 Panels may be used under exterior claddings where conventional gypsum sheathing products have traditionally been used, such as brick veneer, clapboard, wood shingles or shakes, plywood, vinyl, metal, conventional stucco, protected soffits and EIFS.
- 1.3 Panels are warranted for five years against manufacturing defects and for 12 months of weather exposure. For more information, refer to USG literature *USG Securock® Brand UltraLight Glass-Mat Sheathing Limited Warranty* (WB2863).
- 1.4 Details and requirements pertaining to framing and application limitations shall be controlled by the weather-resistive barrier requirements, cladding, structural or fire-resistance-rated system, and must be approved by the architect, engineer or design professional of record.
- 1.5 Panels shall be installed in accordance with GA-253, *Application of Gypsum Sheathing*, ASTM C1280, *Standard Specification for Application of Gypsum Sheathing* and the requirements of USG product-specific literature.
- 1.6 Avoid conditions during construction that result in excessive moisture load in the building. High moisture can cause condensation in the unfinished exterior walls during periods of cold weather. Forced air heaters, wet masonry, poured concrete and finishing materials introduce large volumes of water vapor into the building as they cure or dry. Use ventilation and mechanical dehumidification to reduce moisture levels to below the dew point temperature of the exterior air. Any damage resulting from insufficient interior moisture management during construction is not the responsibility of USG.
- 1.7 USG Securock® Brand UltraLight Glass-Mat Sheathing is not to be used as a base for nailing or other fastening.
- 1.8 Details for construction of a specific assembly to achieve a required fire resistance rating shall be installed in accordance with the UL Design or GA File Number.
- 1.9 Use best practices for sound control design and installation to ensure optimal installed acoustical performance. For more information, refer to the *USG Gypsum Construction Handbook* and GA-600, *Fire Resistance and Sound Control Design Manual*.
- 1.10 Where resistance to racking shear and/or transverse wind load is required, system-design capacities shall be obtained from published USG literature, engineering evaluations and/or test reports of a specific assembly where mandated by local code requirements.
- 1.11 Always wear appropriate personal protective equipment, such as gloves, safety glasses, hearing protection and a NIOSH-approved dust mask when handling and installing panels.

DELIVERY AND JOB SITE STORAGE



2.1

All materials shall be delivered in their original, unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements. Plastic covers used to protect panel products during shipment are intended to provide temporary protection from moisture exposure and should be removed upon receipt at the distributor's location. Failure to remove this plastic covering can result in damage to gypsum panel products due to moisture, condensation and/or mold. For more information, refer to Gypsum Association's GA-801, *Handling and Storage of Gypsum Panel Products*.



WARNING

Store panels flat, unless the site manager directs vertical stacking to avoid point overloading of the floor structure or a tripping hazard. Panels are heavy and can fall over, causing serious injury or death. Do not move unless authorized.



2.2

Protect panels from exposure to cascading, pooling and/or ponding water.

FRAMING

- 3.1 Panels shall be installed on either wood or steel framing. The framing system shall be designed to meet the requirements of the intended application.
- 3.2 The maximum spacing for framing members is 24 in. (610 mm) OC.
- 3.3 Framing members shall be straight and true, and attached securely following accepted engineering practices.
- 3.4 The surfaces to which abutting edges or ends of the panels are to be attached shall not be less than 1-1/4 in. (32 mm) for steel framing and 1-1/2 in. (38 mm) for wood framing.
- 3.5 Bearing surfaces shall not be less than 3/4 in. (19 mm) for internal corners or angles.
- 3.6 Framing members shall be installed so that the surface will be on an even plane, and shall not vary more than 1/8 in. (3 mm) from the plane of the adjacent framing members, unless otherwise specified (i.e. curved surfaces).

FASTENERS

- 4.1** Fastener selection shall be based on framing type, weather-resistive barrier type, and cladding and structural considerations such as racking shear and/or transverse wind load requirements. USG published capacities are based on minimum code requirements, and minimum requirements for fasteners shall be as follows:

FASTENER*	LENGTH		DESCRIPTION
	1/2 in. (12.7 mm) THICK PANEL	5/8 in. (15.9 mm) THICK PANEL	
	1 in. (25 mm)	1-1/4 in. (32 mm)	Bugle head fine thread, #6 minimum, corrosion-resistant drill point fastener. For steel framing 0.03 in. (0.76 mm) and thicker.
	1 in. (25 mm)	1-1/4 in. (32 mm)	Bugle head fine thread, #6 minimum, corrosion-resistant drill point fastener. For steel framing 0.03 in. (0.76 mm) and thicker.
	1-1/4 in. (32 mm)	1-5/8 in. (41 mm)	Bugle head fine thread, #6 minimum, corrosion-resistant sharp point fastener for wood framing.
	1-1/4 in. (32 mm)	METAL: 1-1/4 in. (32 mm) WOOD: 1-5/8 in. (41 mm)	Wafer head, corrosion-resistant fasteners, fine thread drill or sharp point for steel framing; coarse thread sharp point for wood framing.
	1-1/2 in. (38 mm)	1-3/4 in. (44 mm)	11-gauge hot-dipped galvanized nail.

*Screws must meet or exceed ASTM C1002, *Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs* or ASTM C954, *Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness*.

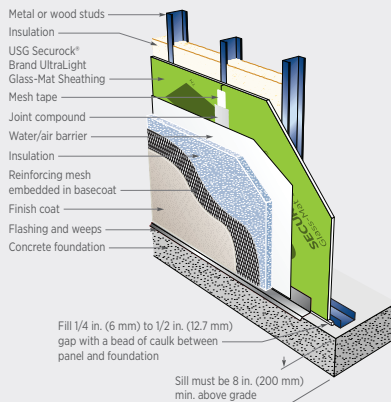
- 4.2 CORROSION RESISTANCE:** Where sheet type weather-resistive barriers, self-adhering membranes or liquid-applied weather-resistive barriers are placed over the panels, corrosion resistance of fasteners shall be equal to or greater than 48 hours in accordance with ASTM B117, *Standard Practice for Operating Salt Spray (Fog) Apparatus*. Where no weather-resistive barrier is used over the panels, fasteners shall have a minimum rating of 500 hours per ASTM B117.

- 4.3 EDGE DISTANCE:** The minimum distance from any fastener to the edge or end of the panel is 3/8 in. (10 mm).

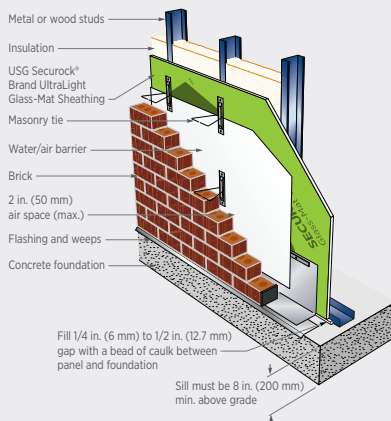
- 4.4 SPACING:** Maximum fastener spacing is 8 in. (200 mm) OC.

PANEL CUTTING AND APPLICATION

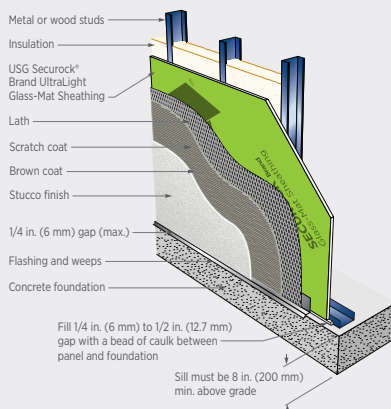
EXTERIOR INSULATION AND FINISHING SYSTEMS (EIFS)



BRICK WALL APPLICATION



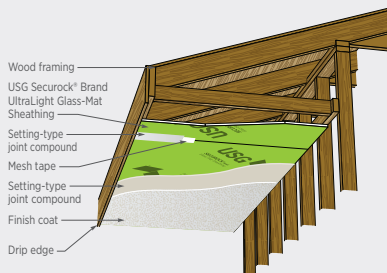
STUCCO WALL APPLICATION



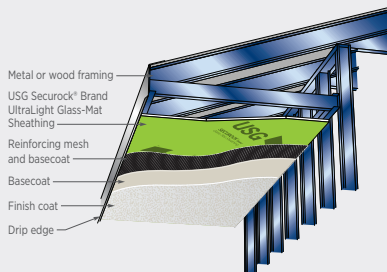
- 5.1 Panels may be applied with long dimensions parallel or perpendicular to framing members, except where limited by specific requirements. Panel orientation may be governed by local code or by the requirements of shear or fire-rated construction. Consult local codes and site-specific construction documents to ensure such requirements are met for every assembly prior to construction.
- 5.2 Panels shall be cut to size by scoring the face mat with a utility knife from the face side or by sawing. Separate by snapping the panel away from the score line to fracture the core and then by scoring the back mat with a utility knife. If a power saw is used, a cordless, low-RPM saw will generate less airborne debris than a corded power saw.
- 5.3 The cut edges and ends of the panels shall be trimmed to obtain neatly fitting joints when installed.
- 5.4 Holes for pipe penetrations, fixtures or other small openings shall be scored or saw-cut from the face side of panels before removing the cutout.
- 5.5 Install panels with the logo side out. Panels are labeled "this side out" along the face that must be visible from the exterior side of the assembly when installed properly.
- 5.6 All vertical ends and edge joints shall be centered over framing members and shall be offset a minimum of one framing cavity between adjacent rows of panels. Fit panels closely at edges and ends, but do not force together.
- 5.7 Hold panels in firm contact with framing members and secure with fasteners as specified. Fasteners shall be driven flush with the panel surface—without countersinking or breaking the glass mat—for attachment to the framing. Fasten the panel to framing, working from the center of the panel toward the edges and ends.
- 5.8 Supplementary use of panel adhesive will strengthen the connection and bridge minor irregularities between the panel and framing, facilitating enhanced performance and appearance. The use of adhesive, however, will not reduce the number of fasteners required by the specification. For optimal bond, apply adhesive in accordance with manufacturer's instructions. Framing must be free from oil and dirt, and panel must be clean and dry.
- 5.9 Fit panels snugly around window and door openings. Panel joints shall be offset a minimum of 4 in. (100 mm) from the edge of any opening to reduce the potential for stress cracking. Refer to the weather-resistive barrier or cladding system manufacturer for specific installation requirements.
- 5.10 Panels shall be flashed at all openings (head, sill, etc.) and all roof/wall intersections (step, kickout, etc.) to prevent water intrusion.
- 5.11 Panels shall be installed with a minimum 1/4 in. (6 mm) gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.
- 5.12 Panels shall be a minimum of 8 in. (200 mm) from the finish grade in fully weather and water protected cladding systems and in properly drained and ventilated crawl spaces.
- 5.13 Where panels intersect horizontal surfaces, such as slabs or foundation walls, gap panels 1/4 in. (6 mm) to 1/2 in. (12.7 mm) above the intersecting surface and fill gap with sealant to prevent moisture from wicking into the panel.

SOFFIT CONSTRUCTION

WOOD FRAME SOFFIT APPLICATION



METAL FRAME SOFFIT APPLICATION



CONTROL JOINTS

REPAIR INSTRUCTIONS

- 6.1 Roof must be dried-in prior to the installation of panels in horizontal applications.
- 6.2 Maximum fastener spacing for soffits is 8 in. (200 mm) OC.
- 6.3 Panels are subject to expansion and contraction due to changes in temperature and humidity. A 1/4 in. (6 mm) clearance joint (perimeter relief) is required between panels installed in soffits and adjacent walls, fascia, beams or columns. Wings of "L", "U" and "T"-shaped areas should be separated with control joints. See the "Control Joints" section of this publication for additional requirements.
- 6.4 Adequate ventilation in accordance with the local code requirements shall be provided for the space immediately above the panels.
- 6.5 Applications must be designed to resist wind uplift.
- 6.6 Fascia boards shall extend at least 1/4 in. (6 mm) below the ceiling board or adjacent trim moldings, whichever is lower, to provide a drip edge.

OPTION 1

Apply a synthetic-type direct-applied finish system in accordance with the finish manufacturer's recommendations.

OPTION 2

Embed USG Sheetrock® Brand Joint Tape in USG Sheetrock® Brand Durabond® Joint Compound over all joints. After fill coat has set, apply finish coat of USG Sheetrock® Brand Durabond® Joint Compound over joints.

Once dry, apply a smooth, uniform thin coat of USG Sheetrock® Brand Durabond® Joint Compound over the entire surface of the panels. Setting-type joint compound should be applied thick enough to ensure proper hydration prior to setting. After the joint compound has dried, apply one coat of a good quality latex flat exterior primer and finish with two coats of a balanced, good-quality alkyd or latex exterior paint.

- 7.1 The location and design of control joints are the responsibility of the design professional of record.
- 7.2 Control joints shall be installed at every building construction joint.
- 7.3 Locate all other control joints as per cladding system requirements.
- 7.4 For more information, refer to USG literature *Fire-Resistant Assemblies* (SA100), *The USG Gypsum Construction Handbook*, and/or Gypsum Association's GA-216, *Application and Finishing of Gypsum Panel Products*, GA-234, *Control Joints for Fire-Resistance Rated Systems* or GA-253, *Application of Gypsum Sheathing*.

- 8.1 For openings or gaps smaller than 8 in. (200 mm) in any direction, the panel shall be repaired as follows:
 - A From a separate panel of similar thickness of USG Securock® Brand UltraLight Glass-Mat Sheathing, cut a piece larger than the damaged area using a knife or a jab saw to be used as the repair patch. Place the repair patch over the damaged area ensuring that it covers all damage. Trace around the repair patch and cut along the marking to create a hole in the damaged panel. Gaps between the repair patch and the damaged panel shall not exceed 1/8 in. (3 mm).

REPAIR INSTRUCTIONS, CONT.

PRODUCT INFORMATION

See usg.com for the most up-to-date product information.

CAUTION

Dust may cause irritation to eyes, skin, nose, throat and upper respiratory tract. Cut and trim with a utility knife or hand saw to minimize dust levels. Power tools must be equipped with a dust collection system. Wear eye, skin and respiratory protection if necessary. If eye contact occurs, flush thoroughly with water for 15 minutes. If irritation persists, call a physician. Do not swallow. If swallowed, call a physician. For more information call Product Safety: 800 507-8899 or see the SDS at usg.com.

KEEP OUT OF REACH OF CHILDREN.

TRADEMARKS

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SAFETY FIRST!

Follow good safety and industrial hygiene practices during handling and installation of all products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read Safety Data Sheets and related literature on products before specification and/or installation.

- B Use sections of drywall steel track to support the repair patch and secure using appropriate fasteners.
 - C Ensure all surfaces are clean, dry and free of dust or debris.
 - D Apply 3/8 in. (10 mm) bead of appropriate sealant to joints and trowel to provide a layer approximately 2 in. (50 mm) wide by 1/16 in. (2 mm) thick spanning the joint.
 - E Apply glass mesh joint tape to all joints, overlapping at intersections by the width of the tape, and strike flush.
- 8.2 For openings or gaps larger than 8 in. (200 mm) in any direction, the panel shall be repaired as follows:
 - A Cut the damaged panel back to the framing on parallel sides.
 - B From a separate panel of similar thickness of USG Securock® Brand UltraLight Glass-Mat Sheathing, cut a repair patch using a knife or jab saw that tightly fits into the opening and secure to framing with appropriate fasteners. Gaps between the repair patch and the damaged panel shall not exceed 1/8 in. (3 mm).
 - C Ensure all surfaces are clean, dry and free of dust or debris.
 - D Apply 3/8 in. (10 mm) bead of appropriate sealant to joints and trowel to provide a layer approximately 2 in. (50 mm) wide by 1/16 in. (2 mm) thick spanning the joint.
 - E Apply glass mesh joint tape to all joints, overlapping at intersections by the width of the tape, and strike flush.

CLEAN UP

- 9.1 Leftover material shall be removed from the job site.
- 9.2 Waste material shall be disposed of in a safe manner and in compliance with site, local, state and/or federal requirements.

EXPOSURE AFTER INSTALLATION

- 10.1 Panels shall be covered by an exterior cladding or other weather-resistive barrier and are not intended for long-term exposure. Panels shall not be exposed to the elements for more than 12 months after they have been installed. If exposure is anticipated to exceed 12 months, the addition of elastomeric joint treatment and/or the application of a weather-resistive barrier immediately after installation may provide additional protection. Fluid-applied air barrier systems shall be applied to panels in strict accordance with manufacturer requirements.
- 10.2 Apply weather-resistive barrier, framing or joint treatment as required by, and in accordance with, applicable local code requirements and recommendations of the exterior cladding manufacturer, whichever is more stringent.

Joint treatment shall be as follows:

 - A Apply 3/8 in. (10 mm) bead of appropriate sealant to joints and trowel to provide a layer approximately 2 in. (50 mm) wide by 1/16 in. (2 mm) thick spanning the joint.
 - B Apply glass mesh joint tape to all joints, overlapping at intersections by the width of the tape, and strike flush.

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