

Pei Evaluation Service® is an accredited ISO Standard 17065 Product Certifier, accredited by the IAS. This **Product Evaluation Report** represents a product that Pei ES has Evaluated. This product has a Product Evaluation Service Agreement & Follow-up Inspection Service Agreement. This **Product Evaluation Report** in no way implies warranty for this product or relieves **United States Gypsum Company** of their liabilities for this product. This **PER** is an official document if it is within one year of the Initial or Re-Approval date.

Initial Approval
September, 2015

Re-Approved
April, 2021

See all Pei ES Listings at: www.p-e-i.com

Report Owner

United States Gypsum Company

700 North Highway 45
Libertyville, IL 60048

Product

1/2" (12.7 mm) **USG Securock® Brand UltraLight Glass-Mat Sheathing**

5/8" (15.9 mm) **USG Securock® Brand UltraLight Glass-Mat Sheathing Firecode® X**

Approved Manufacturing Locations

[USG Co. Plant #225](#)

6825 Evergreen Avenue
Jacksonville, FL 32208

[USG Co. Plant #301](#)

10 W. Evan Hewes Hwy.
El Centro, CA 92243

[USG Co. Plant #320](#)

13425 210th Street
Mediapolis, IA 52637

[USG Co. Plant #360](#)

12802 Deep Cut Lake Road
Shoals, IN 47581

[USG Co. Plant #833](#)

5500 Quarantine Road
Baltimore, MD 21226

[USG Co. Plant #850](#)

100 DL Nootens Dr.
Bridgeport, AL 35740

[USG Co. Plant #861](#)

1 USG Road
Sweetwater, TX 79556

General Details

1/2" (12.7 mm) **USG Securock® Brand UltraLight Glass-Mat Sheathing** and 5/8" (15.9 mm) **USG Securock® Brand UltraLight Glass-Mat Sheathing** are manufactured with the coated mat and manufactured at the plant locations listed on this **PER**. These plant locations have an approved Quality Control Manual to manufacture these products and are audited quarterly by Pei.

Product Description

Available in 1/2" (12.7 mm) Regular and 5/8" (15.9 mm) Type X thicknesses, **USG Securock® Brand UltraLight Glass-Mat Sheathing** (Regular and Firecode® X) are lightweight glass-mat sheathing panels with moisture and mold resistance. The panels feature a noncombustible, moisture-resistant gypsum core that is encased in a coated fiberglass facer mat to maximize coverage of air/water barrier systems. The 5/8" (15.9 mm) Type X panels are UL Classified for fire resistance and can be used in any UL Design in which Type USGX panels are listed.

Compliance

5/8" (15.9 mm) USG Securock® Brand UltraLight Glass-Mat Sheathing Firecode® X :

- Meets or exceeds the requirements of ASTM C 1177 *Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing*.
- Meets or exceeds the requirements for an Air Barrier Material as defined in C402.5.1.3 of the **2021 International Energy Conservation Code® (IECC)** when all joints are sealed and installed in accordance with the manufacturer's installation instructions.
- Meets or exceeds the requirements of the European Directive EN15283-1 Gypsum Boards with Fibrous Reinforcement, Gypsum Boards with Mat Reinforcement under the GM A1 Classification.
- Meets or exceeds the requirements of gypsum sheathing in accordance with the **2021 IRC** and the **2021 IBC**.
- Non-combustible core when tested in accordance with ASTM E 136, and defined in **2018 IBC** Section 703.5.2 and **2021 IBC** Section 703.3.1
- Surface Burning Characteristics - Flame Spread 0 / Smoke Development 0 when tested in accordance with ASTM E 84.
- Meets Type X definition in accordance with ASTM C 1396 and ASTM C 1177 when tested in accordance with ASTM E 119.
- Exceeds 15 psi flatwise tensile bond capacity required for adhesively attached EIFS when tested in accordance with ASTM C 297.
- Underwriters Laboratories Inc. Classification as to fire resistance, surface-burning characteristics and noncombustibility. See the UL Fire Resistance Directory for fire resistive design listings.
- Listed by ICC-ES, Evaluation Report ESR-3044 for compliance with 2018, 2015, 2012, 2009 & 2006 **IBC & IRC** for Structural, Noncombustibility, Surface Burning Characteristics, Fire-Resistance-Rated construction, and Physical Properties.
- Approved by State of Florida Product Approval FL 11429 as to compliance with the 2017 Florida Building Code for use outside High Velocity Hurricane Zones (HVHZ).
- Approved by Miami-Dade County Notices of Acceptance (NOA) for use as a substrate in specific EIFS clad wall & protected direct-applied soffit assemblies constructed within areas designated High Velocity Hurricane Zones (HVHZ). Visit the Miami-Dade County product Control Division website for approved assemblies.

Compliance *continued***1/2" (12.7 mm) USG Securock® Brand UltraLight Glass-Mat Sheathing:**

- Meets or exceeds the requirements of ASTM C 1177 *Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing*.
- Meets the requirements for an Air Barrier Material as defined in C402.5.1.3 of the **2021 International Energy Conservation Code**® (IECC) when all joints are sealed and installed in accordance with the manufacturer's installation instructions.
- Meets or exceeds the requirements of the European Directive EN15283-1 Gypsum Boards with Fibrous Reinforcement, Gypsum Boards with Mat Reinforcement under the GM A1 Classification.
- Meets or exceeds the requirements of gypsum sheathing in accordance with the **2021 IRC** and the **2021 IBC**.
- Non-combustible core when tested in accordance with ASTM E 136, and defined in **2018 IBC** Section 703.5.2 and **2021 IBC** Section 703.3.1
- Surface Burning Characteristics - Flame Spread 0 / Smoke Development 0 when tested in accordance with ASTM E 84.
- Underwriters Laboratories Inc. Classification as to surface-burning characteristics and noncombustibility.
- Listed by ICC-ES, Evaluation Report ESR-3044 for compliance with 2018, 2015, 2012, 2009 & 2006 **IBC & IRC** for Structural, Noncombustibility, Surface Burning Characteristics, Fire-Resistance-Rated construction, and Physical Properties.
- Approved by State of Florida Product Approval FL 11429 as to compliance with the 2017 Florida Building Code for use outside High Velocity Hurricane Zones (HVHZ).
- Approved by Miami-Dade County Notices of Acceptance (NOA) for use as a substrate in specific EIFS clad wall & protected direct-applied soffit assemblies constructed within areas designated High Velocity Hurricane Zones (HVHZ). Visit the Miami-Dade County product Control Division website for approved assemblies.

General Product Usage and Limitations

1. Panels shall be installed in accordance with Gypsum Association's GA-253, *Application of Gypsum Sheathing*, ASTM C1280, *Standard Specification for Application of Gypsum Sheathing* and the requirements of **USG** literature. Details for construction of a specific assembly to achieve a required fire resistance rating shall be installed in accordance with the published design.
2. 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.
3. 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 Gypsum Association's GA-600, *Fire Resistance and Sound Control Design Manual*.
4. Panels shall not be used as a base for nailing or other fastening. Mechanical attachment of exterior claddings' must be made directly to the framing.
5. Fasteners shall be driven flush with the panel surface without countersinking or being deep enough to break the glass mat.
6. Panels may be applied with long dimensions parallel or perpendicular to framing members except where limited by specific requirements. Sheathing orientation and fastener spacing may be governed by local code, or by the requirements of shear, wind or fire resistance-rated construction. Consult local codes and site-specific construction documents to ensure such requirements are met for every assembly prior to construction.
7. Must be stored in accordance with Gypsum Association's GA-801, *Handling and Storage of Gypsum Panel Products*.
8. These panels offer resistance to normal weather conditions, but are not intended for constant exposure to water. Protect panels from immersion in water and the eroding effects of cascading, pooling and/or ponding water.
9. **USG** approves the use of pneumatic or gas-power-driven pin fasteners to attach the panels to cold-formed steel framing, provided the pin manufacturer has evaluated the panels with the pin fastener in accordance with ICC-ES AC259 Acceptance Criteria, and where permitted by local codes. For wood framing, the pin manufacturer shall be consulted to ensure the fasteners have been evaluated so as to not adversely affect the performance of the sheathing and to verify load capacities of the pins. Any deviations in fastener specifications and resulting load capacities is the sole responsibility of the pin manufacturer, and shall be deemed acceptable by the authority having jurisdiction.
10. Panels shall not be directly laminated to masonry surfaces. Panels shall be installed over furring strips or framing.
11. Panels are not intended as a substrate for adhered tile applications.

Tested to

- ASTM C 1177/C 1177M-13** - Standard Specification for Glass-Mat Gypsum Substrate for Use as Sheathing.
- ASTM D136-12** - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 ° C.
- ASTM E 84-13**- Standard Test Method for Surface Burning Characteristics of Building Materials.
- ASTM E 96-16**- Standard Test Methods for Water Vapor Transmission of Materials.
- ASTM E 72-15** - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction; Section 14 Racking Load - Evaluation of Sheathing Materials on a Standard Wood Frame.
- ASTM E 72-05** - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction; Section 15 Racking Load - Evaluation of Sheathing Materials (Wet) on a Standard Wood Frame.
- ASTM E 119-14** - Standard Methods of Fire Endurance Tests of Building Construction and Materials
- ASTM E 330-14** - Standard Test Methods for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
- ASTM E2178-11** - Standard Test Method for Air Permeance of Building Materials
- UL 1715** - Fire Test of Interior Finish Materials.
- UNE-ISO 1182:2011** Reaction to Fire Tests for Products. Non-Combustability Test (ISO 1182:2010)
- UNE-ISO 1716:2011** Reaction to Fire Tests for Products. Determination of the gross heat of combustion (calorific value). (ISO 1716:2010)
- UNE-ISO 13823:2012+A1:2016:** Reaction to Fire Tests for Building Products - Building Products excluding floorings exposed to thermal attack by a single burning item.

Evaluated To

- European Directive EN 15283-1**
- ASTM C1177**

Table 1 - Physical Properties

Physical Property Test	1/2" (12.7 mm) USG Securock® Brand UltraLight Glass-Mat Sheathing	5/8" (15.9 mm) USG Securock® Brand UltraLight Glass-Mat Sheathing Firecode® X
Flexural Strength (ASTM C473-13) Minimum Breaking Load		
Edge Perpendicular	100 lbf	140 lbf
Edge Parallel	80 lbf	100 lbf
Hardness (ASTM C473-13) Minimum		
Core Test	15 lbf	15 lbf
End Test	15 lbf	15 lbf
Edge Test	15 lbf	15 lbf
Nail Pull Resistance (ASTM C473-13) Method B		
Minimum Average Resistance	80 lbf	90 lbf
Water Resistance (ASTM C473-13)		
Water Absorption (% by weight)	10% max	10% max
ASTM E84-13 / ASTM E119-14 Surface Burning		
Flame / Smoke Developed Index	0/0	0/0
ASTM E96 Water Vapor Transmission (Procedure A)		
Average Permeance	34.4	28.6
ASTM E136 Non-Combustability		
Non-combustable	Pass	Pass
ASTM E2178 Air Permeance		
Non-combustable (NTE 0.02/L/s-m ²)	0.01 L/s-m ²	0.01 L/s-m ²

Table 2 - Design Shear Loads for USG Securock® Brand UltraLight Glass-Mat Sheathing (Regular and Firecode® X)⁷

Sheathing	Framing ^{2,4}	Maximum Height to Width Aspect Ratio	Fastener ¹	Fastener Spacing ³ (inches o.c. around Perimeter, in Field)	Design Shear ^{5,6}
1/2" Securock® Applied Parallel to Framing	16" o.c.	1:1	#6 x 1-1/4" Bugle head Screw	4 and 8	161.7 plf
1/2" Securock® Applied Parallel to Framing	16" o.c.	1:1	Hot Dipped Galv. Roofing Nail	4 and 8	122.0 plf
5/8" Securock® Applied Parallel to Framing	24" o.c.	1:1	#6 x 1-1/4" Bugle head Screw	4 and 8	180.2 plf
5/8" Securock® Applied Parallel to Framing	24" o.c.	1:1	Hot Dipped Galv. Roofing Nail	4 and 8	148.3 plf

Notes:

1. Screws must have a minimum head dia. of 0.325" and roofing nails must have a minimum head dia. of 0.372"
2. The perimeter of the sheathing must be supported by framing members and / or blocking.
3. Fasteners must have a minimum edge distance of 3/8".
4. Framing to be nominal 2x4 No.1 Grade S.Y.P. minimum
5. Allowable capacities are for short term wind loads.
6. Allowable capacities are based on a maximum deflection of L/360.
7. Shear wall anchorage is outside of the scope of this report.
8. Capacities are based on testing per ASTM E72, *Standard Test Methods of Conducting Strength Tests of Panels for Building Construction* and represent the ultimate capacity divided by a 3.0 Safety Factor.

Table 3 - Windload Design Pressure - USG Securock® Brand UltraLight Glass-Mat Sheathing (Regular and Firecode® X)

Frame Spacing	12" o.c.			16" o.c.			24" o.c.		
	Fastener Spacing	4"	6"	8"	4"	6"	8"	4"	6"
5/8" Allowable Pressure	96	70	50	75	50	46	36	27	25
1/2" Allowable Pressure	82	35	26	40	41	26	33	17	18

Notes:

1. Panels can be installed perpendicular or parallel to the framing.
2. Screws must have a minimum head dia. of 0.325" and roofing nails must have a minimum head dia. of 0.372"
3. Fasteners must have a minimum edge distance of 3/8".
4. Allowable capacities are for short term wind loads.
5. Framing and Bracing are outside the scope of this report.
6. Allowable capacities are based on testing per ASTM E330, *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference* and represent the ultimate capacity of the panel to resist fastener pull-through and/or flexural failure using a 3.0 Safety Factor. 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.

Table 4 - Physical Properties per European Directive EN 15283-1

	12.7 mm USG Securock® Brand UltraLight Glass-Mat Sheathing		15.9 mm USG Securock® Brand UltraLight Glass-Mat Sheathing Firecode® X	
	Min	Max	Min	Max
Nominal Thickness	12.5	13	15.8	16.6
Width	1200	1200	1200	1200
Length	2400	3048	2400	3048
Minimum Breaking Load (N)				
	Min	Max	Min	Max
Longitudinal	546.1	--	683.7	
Transverse	213.4	--	267.1	
Water Absorption (% by weight)	10% max		10% max	
UNE-EN 13501-1:2007 Reaction to Fire	A1		A1	

Product Labeling

Each panel of **USG Securock® Brand UltraLight Glass-Mat Sheathing** and **USG Securock® Brand UltraLight Glass-Mat Sheathing Firecode® X** that is covered by this **PER**, must be marked with the following information:

1. **USG** Name
2. Product Name
3. Plant Identifier & Date Code
4. This **PER** Number & **Pei Evaluation Service®** Name or Logo
5. UL Backstamp Information for Fire Resistance (5/8" Only)
6. ICC-ES ESR-3044
7. Florida Product Approval FL11429
8. Miami-Dade County Notice of Acceptance
9. CE USG EN15283-1/GM A1 (Metric Board only)

Acceptable Evaluation Marks**Product Documentation**

- A Product Evaluation Service Agreement between **Pei Evaluation Service®** and **USG Corporation**
- A Follow-up Inspection Service Agreement between **Progressive Engineering Inc.** and **USG Corporation**
- A **USG** Corporation Quality Control Manual - Dated: 6/15/2020
- USG** Securock® Brand UltraLight Glass-Mat Sheathing Installation Guide No. WB2451/Rev. 3/2020
- USG** Securock Glass-Mat Sheathing Submittal Sheet No. WB2862/Rev. 4/2019
- SDS for **USG** Securock® Brand UltraLight Glass-Mat Sheathing - No. 54000004002A - Dated: 9/22/2020
- A **Pei** test report No. 2016-379 (D) - ASTM C297 Flatwise Tensile Strength Tests on 5/8" **USG** Securock Ultralight Firecode X Glass-Mat Sheathing With A Cement Base Coat on an Acrylic Base Coat - Dated: 3/24/2016
- A **Pei** test report No. 2016-0379 (A) - Evaluation of the 5/8" **USG** Securock Ultralight Firecode X Glass-Mat Sheathing to ASTM C1177/C1177M-13 Specifications - Dated: 3/17/2016
- A **Pei** test report No. 2016-1249 (A) - Evaluation of the 1/2" **USG** Securock Brand Ultralight Glass-Mat Sheathing to ASTM C1177/C1177M-13 Specifications - Dated: 7/28/2016
- A **Pei** test report No. 2016-1677 - Evaluation of the 1/2" **USG** Securock Ultralight Glass-Mat Sheathing to ASTM C1177/C1177M-13 Specifications - Dated: 9/26/2016
- A **Pei** test report No. 2008-1853 (A) - ASTM E72 Evaluation of Sheathing Materials - Single Side Racking Load using Dry 5/8" **USG** Securock Firecode X Glass-Mat Sheathing Mechanically Fastened to Wood Framing Using Nails - Dated: 12/23/2008 - Stamped by a professional engineer.
- A **Pei** test report No. 2016-379 (C) - ASTM E72 Evaluation of Sheathing Materials - Single Sided Racking Load using 5/8" **USG** Securock Ultralight Firecode X Glass-Mat Sheathing Mechanically Fastened to Wood Framing Using Screws - Dated: 3/10/2016
- A **Pei** test report No. 2016-1249 (C) - ASTM E72 Evaluation of Sheathing Materials - Single Sided Racking Load using 1/2" **USG** Securock Ultralight Glass-Mat Sheathing Mechanically Fastened to Wood Framing Using Screws - Dated: 7/21/2016
- An ASTM E84 Opinion Letter for 1/2" **USG** Securock Ultralight Glass-Mat Sheathing and 5/8" **USG** Securock Ultralight Firecode X Glass-Mat Sheathing - Dated: 11/16/2016
- UL Test Report 4786479791 - Tests in accordance with ASTM E84-13 - Test for Surface Burning Characteristics of Building Materials - Dated: 7/11/2014.
- UL Project 4786566727 - Tests in accordance with Standard Fire Tests of Building Construction and Materials, ANSI/UL263, Fourteenth Edition, Dated June 21, 2011 and the Materials CAN/ULC-S101-07 - Dated 9-10-2014.
- UL Project 4787336638 - ASTM E119-00a - Fire Tests of Building Construction and Materials Investigation, Dated March 03, 2016
- A **Pei** test report No. 2016-379 (E) - ASTM E96 Water Vapor Transmission Test on 5/8" **USG** Securock Ultralight Firecode X Glass-Mat Sheathing Tested to Procedure A - Dessicant Method - Dated: 3/24/2016
- A **Pei** test report No. 2016-1249 (D) - ASTM E96 Water Vapor Transmission Test on 1/2" **USG** Securock Ultralight Glass-Mat Sheathing Tested to Procedure A - Dessicant Method and Tested to Procedure B - Water Method - Dated: 7/28/2016

Product Documentation continued

- A *Pei* test report No. 2016-2077 - ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750° C on 1/2" USG Securock Ultralight Glass-Mat Sheathing - Dated: 11/18/2016
- A *Pei* test report No. 2016-379 (B) - ASTM E330 Negative Windload Test on 5/8" USG Securock Ultralight Firecode X Glass-Mat Sheathing (Vertical) on 16" o.c. Lumber Framing Using Screws 8" o.c. - Dated: 3/9/2016
- A *Pei* test report No. 2016-1002 (A) - ASTM E330 Negative Windload Test on 5/8" USG Securock Ultralight Firecode X Glass-Mat Sheathing (Vertical) on 12" o.c. Lumber Framing Using Screws 4" o.c. - Dated: 5/24/2016
- A *Pei* test report No. 2016-1002 (B) - ASTM E330 Negative Windload Test on 5/8" USG Securock Ultralight Firecode X Glass-Mat Sheathing (Vertical) on 24" o.c. Lumber Framing Using Screws 4" o.c. - Dated: 5/25/2016
- A *Pei* test report No. 2016-1002 (C) - ASTM E330 Negative Windload Test on 5/8" USG Securock Ultralight Firecode X Glass-Mat Sheathing (Vertical) on 12" o.c. Lumber Framing Using Screws 6" o.c. - Dated: 5/26/2016
- A *Pei* test report No. 2016-1249 (B) - ASTM E330 Negative Windload Test on 1/2" USG Securock Ultralight Glass-Mat Sheathing (Vertical) on Various Lumber Frame and Screw Spacings - Dated: 7/25/2016
- A *Pei* test report No. 2016-2040 - ASTM E330 Negative Windload Test on 1/2" USG Securock Ultralight Glass-Mat Sheathing (Vertical) on 24" o.c. Lumber Frame and 4" x 4" Screw Spacings - Dated: 11/16/2016
- A test report No. RAD-5893 - 1/2" USG Securock Brand® Ultralight Glass-Mat Sheathing Tested in Accordance with ASTM E2178-13 - Dated: 1/19/2017
- A test report No. 18/17443-1391 Parte 1 - UNE-EN ISO 1182:2011: Reaction to Fire Tests for Products. Non-combustability Test (ISO 1182:2010)" - Dated 9/18/2018
- A test report No. 18/17443-1391 Parte 1 - UNE-EN ISO 1716:2011: Reaction to Fire Tests for Products. Determination of the Gross Heat of Combustion (Calorific Value). (ISO 1716:2010)". - Dated 9/18/2018
- A test report No. 18/17443-1391 Parte 1 - UNE-EN 13823:2012+A1:2016: Reaction to Fire Tests for Building Products. Building Products Excluding Floorings Exposed to Thermal Attack by a Single Burning Item - Dated 9/18/2018
- A test report No. 18/17443-1391 Parte 2 - UNE-EN 13501-1:2007+A1:2010: Classification in Terms of the Behavior to Fire of Construction Products and Building Elements. Part 1: Classification Made from the Data Gathered During Fire Reaction Tests - Dated
- A *Pei* Calculation 2009-0807 - 5/8" Securock Glass-Mat Sheathing Allowable Wind Pressure - Dated 8/28/2009
- A *Pei* Calculation 2016-0961 - 1/2" Securock Glass-Mat Sheathing Allowable Wind Pressure - Dated 5/11/2016



Figure 1 - USG Securock® Brand UltraLight Glass-Mat Sheathing Face Mat