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A LEADER IN THE BUILDING MATERIALS INDUSTRY

For more than 100 years, USG has been a leader in producing innovative products and systems to build the environments in which we live, work and play. As the inventor of wallboard and mineral wool ceiling tile, USG helped create North America's building materials industry. Our flagship brands are recognized around the world and include USG Securock® Brand high-performance roof boards, USG Sheetrock® Brand gypsum panels, USG Durock® Brand cement boards and USG Donn® Brand suspension systems.

USG is North America's leading producer of gypsum wallboard, joint compound and a vast array of related products for the construction and remodeling industries. We are also a leader in the manufacture of ceiling suspension systems and are widely recognized for our premier acoustical panels and specialty ceiling systems. Our family of products provides creative building solutions that set new standards for productivity and efficiency, helping contractors and architects deliver high-quality and innovative designs. This same level of dedication has gone into creating a portfolio of high-performing roofing products.

Our steadfast dedication to the company's core business beliefs—integrity, safety, performance, quality, diversity, innovation and service—has helped us consistently manufacture the quality products that you expect, backed by the service and support you can depend upon. Our commitment to the roofing industry is to deliver a selection of high-quality and high-performing products that give roofing professionals a better choice in the roof board category.

A HIGH-PERFORMANCE PORTFOLIO OF ROOFING SOLUTIONS THAT STAND ABOVE THE REST No matter what the application, the high-performance portfolio of USG roofing solutions gives you a better choice in the roof board category. Our products meet stringent performance requirements, offer exceptional features and deliver superior strength. All so you can rest easy that your vision will always be covered by the best.

USG SECUROCK® BRAND GYPSUM-FIBER ROOF BOARD



- Cover board for fully adhered systems
- Exceptional bond and low surface absorption
- Superior wind uplift
- 97% recycled content

USG SECUROCK' BRAND GLASS-MAT ROOF BOARD



- Cover board for mechanically attached systems
- Less itchiness, thanks to tighter mat
- Scores and snaps cleanly and easily
- Unlimited slope in fire barrier applications

USG SECUROCK' BRAND CEMENT ROOF BOARD



- Lightest cement board in industry
 - Easy to cut and fasten
 - Ideal for systems such as liquid applied
 - Noncombustible

USG SECUROCK" BRAND GYPSUM-CONCRETE PATCH



- Great for repairing gypsum roof decks
- Noncombustible
- Fast installation
- Durable

USG STRUCTURAL PANEL CONCRETE ROOF DECK



- Alternative to traditional roof decks
- Easy to install
- Noncombustible
- Superior uplift strength

USG gives you an option of high performing roofing solutions that are backed by the service and responsiveness that only USG can provide. **usg.com/securock**

USG Roofing Solutions

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USG SECUROCK[®] BRAND GYPSUM-FIBER ROOF BOARD

High-performance gypsum-fiber roof board for use in low-slope commercial roofing systems

- Exceptional bond and low absorption in adhered systems
- Moisture- and mold-resistant
- Excellent wind-uplift performance
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	/	Manufactured from 97% recycled material		
	DESCRIPTION	USG Securock [®] Brand Gypsum-Fiber Roof Board is a high-performance roof board for use in low- slope roofing systems. Its unique fiber-reinforced, uniform composition gives the panel strength and water resistance through to the core. USG Securock Gypsum-Fiber Roof Board provides exceptional bond and low absorption in adhered systems and, with uniform composition, achieves high wind-uplift ratings with no risk of facer delamination. Made from 97% recycled material, USG Securock Gypsum-Fiber Roof Board combines superior performance with sustainable design for all types of roofing systems, including single-ply, fluid-applied, built-up, spray foam, metal and modified bitumen roofing.		
	ADVANTAGES	Exceptional Strength: Engineered to provide superior wind-uplift performance for a wide variety of roof assemblies. USG Securock Gypsum-Fiber Roof Board has uniform composition providing enhanced bond strength of membrane systems with no risk of facer delamination.		
		Fire Performance: Provides excellent fire performance and demonstrates exceptional surface burning characteristics [ASTM E84 (CAN/ULC-S102) Flame Spread 5, Smoke Developed 0].		
		Moisture and Mold: Uniform water-resistant core ensures excellent moisture and mold resistance. Scored a maximum "10" for mold resistance on ASTM D3273.		
		Versatile: Can be used as a component in single-ply, fluid-applied, built-up, spray foam, metal and modified bitumen roofing.		
		Sustainability: Made from 97% recycled materials and has earned independent certification from Scientific Certification Systems for this achievement.		
	LIMITATIONS	 USG Securock Gypsum-Fiber Roof Board is engineered to perform within a properly designed roof system. The use of USG Securock Gypsum-Fiber Roof Board as a roofing component is the responsibility of the design professional. 		
		 Consult roofing manufacturers for specific instructions on the application of their products to USG Securock Gypsum-Fiber Roof Board. 		
		 Weather conditions, dew, application temperature, installation techniques and moisture drive can have adverse effects on the performance of the roof system and are beyond the control of USG. 		
		 Keep USG Securock Gypsum-Fiber Roof Board panels dry before, during and after installation. USG Securock Gypsum-Fiber Roof Board should not be installed during rain, heavy fog and any other conditions that deposit moisture on the surface of the board. Apply only as much USG Securock Gypsum-Fiber Roof Board that can be covered by final roof membrane system in the same day. Avoid exposure to moisture from leaks or condensation. 		
		 For reroof or re-cover applications, existing roofing system must be dry throughout prior to application of USG Securock Gypsum-Fiber Roof Board. 		
		 Plastic or poly packaging applied at the plant to protect board during rail or other transit should be removed upon receipt to prevent condensation or trapping of moisture, which may cause application problems. 		
		 USG Securock Gypsum-Fiber Roof Board should be stored flat and off the ground with protection from the weather. If stored outdoors, a breathable waterproof covering should be used. 		
		• When applying solvent-based adhesives or primers, allow sufficient time for the solvent to evaporate to avoid damage to roofing components.		



LIMITATIONS CONT.	 USG allows the bonding of cold mastic-modified bitumen and torching directly to the surface. Consult with the system manufacturer for recommendations on this application. USG recommends maximum asphalt application temperature for Type III asphalt of 455°F when using USG Securock Gypsum-Fiber Roof Board. Application temperatures above these recommended temperatures may adversely affect roof system performance.
INSTALLATION	 Refer to roof system manufacturer's written instructions, local code requirements and Factory Mutual Global (FMG) and/or Underwriters Laboratories (UL) requirements for proper installation techniques.
	 Use fasteners specified in accordance with above requirements. Install approved fasteners with plates into the USG Securock Gypsum-Fiber Roof Board, flush with the surface. Fasteners should be installed in strict compliance with the roof system manufacturer's installation recommendations and FMG Loss Prevention Data Sheet 1-29. Proper fastener spacing is essential to achieve wind-uplift performance.
	 Locate edge joints on, and parallel to, deck ribs. Stagger end joints of adjacent lengths of USG Securock Gypsum-Fiber Roof Board. Butt board edges and ends loosely in typical installations. Butt board edges and ends loosely (minimum 1/16" gap on all edges) in typical installations. This gap may need to be larger depending on factors like the roof deck's size, membrane color, ultimate deck surface temperature and time of year the roof assembly is installed. Installations during temperatures below 50°F may require larger spacing. Please refer to USG's published physical properties below to calculate the actual gap needed for your specific project for all thicknesses
	 Roof boards should never be installed frozen.
	 See product data table below for maximum flute span when panels are applied directly over metal decking.
	 For vertical parapet applications, only 1/2" or 5/8" panels should be used. Maximum framing spacing is 24" o.c.
FIRE PERFORMANCE	 UL Classified as to Surface Burning Characteristics and Noncombustibility in accordance with ASTM E84 (CAN/ULC-S102).
	 Flame Spread 5 and Smoke Developed U 1/4" 3/8" 1/2" and 5/8" thickness—Class A in accordance with LII 790 (CAN/LILC-S107)
	See the UL Building Materials Directory for more information.
	 5/8" thickness—Meets requirements of Type X per ASTM C1278 and may be used in P series designs as a thermal barrier.
SYSTEM PERFORMANCE	 FM Approved Complies with requirements of FM 4450 and FM 4470 Meets FM Class 1
	LISG Securock Gypsum-Eiber Roof Board is manufactured to conform to ASTM C1278 "Standard

PHYSICAL PROPERTIES

See 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 Customer Service: 800 USG.4YOU (874-4968) KEEP OUT OF REACH OF CHILDREN.

TRADEMARKS

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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. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read SDS and literature before specification and installation.

	1/4" (6.6 mm)	3/8" (9.5 mm)	1/2" (12.7 mm)	5/8" (15.9 mm)
Width, standard	4' (1220 mm)	4' (1220 mm)	4' (1220 mm)	4' (1220 mm)
Length, standard	4' (1220 mm) and 8' (2440 mm)			
Pieces per unit for 4' x 8' sheets	50	40	30	24
Weight, nominal lbs./unit, 4' x 8' sheet	2,575	2,575	2,725	2,525
Weight, nominal lbs./sq. ft.	1.57	1.96	2.76	3.20
Flexural strength, parallel, lbs. min., per ASTM C473	40	70	110	161
Compressive strength, psi nominal	1800	1800	1800	1800
Flute spanability per ASTM E661	2-5/8"	5″	8″	10″
Permeance, perms, per ASTM E96	30	26	26	24
R Value per ASTM C518	0.2	0.3	0.5	0.6
Coefficient of thermal expansion, inches/inch • °F, per ASTM E831	8.0 x 10 ⁻⁶			
Linear variation with change in moisture, inches/inch • % RH, per ASTM D1037	8.0 x 10 ⁻⁶			
Water absorption, % max, per ASTM C473	10	10	10	10
Surface water absorption, nominal grams, per ASTM C473	1.6	1.6	1.6	1.6
Mold resistance per ASTM D3273*	10	10	10	10
Bending radius	25'	25'	25'	30'

*ASTM D3273 Mold Resistance Testing: In independent lab tests conducted on USG Securock Gypsum-Fiber Roof Board and USG Securock Glass-Mat Roof Board 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, both panels scored a 10. The 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.

SUBMITTAL APPROVALS

Job Name	
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Contractor
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Date

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USG Roofing Solutions

USG SECUROCK® BRAND GLASS-MAT ROOF BOARD

High-performance glass-mat roof board for use in low-slope commercial roofing systems

- Ideal for use as cover board in single-ply mechanically attached systems
- · Moisture- and mold-resistant core and facer
- Provides protection to roof system from hail and foot traffic
- Fire-resistant for use as fire barrier and thermal barrier
- Unmatched mat-to-core tensile bond strength makes facer less likely to delaminate when cutting
- High-quality tight mat makes for easier handling and cutting

USG Securock[®] Brand Glass-Mat Roof Board is a high-performance roof board for use in low-slope commercial roofing systems. It enhances the durability of the entire roofing system when used as cover board in single-ply mechanically attached systems. Its specially treated core and high-performance glass-mat facer provide protection against fire, mold and moisture.

Fire Performance: Meets Factory Mutual (FM) Class 1 and Underwriters Laboratories (UL) Class A fire ratings for unlimited slope in fire barrier applications per UL 790.

Easier to Cut, Handle and Install: High-quality mat produces less itchiness than competitive products. **Moisture and Mold:** Fiberglass face and back with treated core provide moisture and mold resistance. Scored a maximum "10" for mold resistance on ASTM D3273.

LIMITATIONS

DESCRIPTION

ADVANTAGES

INSTALLATION

- USG Securock Glass-Mat Roof Board is engineered to perform within a properly designed roof system. The use of USG Securock Glass-Mat Roof Board as a roofing component is the responsibility of the design professional.
- Consult roofing manufacturers for specific instructions on the application of their products to USG Securock Glass-Mat Roof Board.
- Weather conditions, dew, application temperature, installation techniques and moisture drive can have adverse effects on the performance of the roof system and are beyond the control of USG.
- Keep USG Securock Glass-Mat Roof Board panels dry before, during and after installation. USG Securock Glass-Mat Roof Board should not be installed during rain, heavy fog and any other conditions that deposit moisture on the surface of the board. Apply only as much USG Securock Glass-Mat Roof Board that can be covered by final roof membrane system in the same day. Avoid exposure to moisture from leaks or condensation.
- For reroof or re-cover applications, existing roofing system must be dry throughout prior to application of USG Securock Glass-Mat Roof Board.
- Plastic or poly packaging applied at the plant to protect board during rail or other transit should be removed upon receipt to prevent condensation or trapping of moisture, which may cause application problems.
- USG Securock Glass-Mat Roof Board should be stored flat and off the ground with protection from the weather. If stored outdoors, a breathable waterproof covering should be used.
- For systems not listed, please contact your local USG Securock roofing sales representative.
- Refer to roof system manufacturer's written instructions, local code requirements and Factory Mutual Global (FMG) and/or Underwriters Laboratories (UL) requirements for proper installation techniques.
 - Use fasteners specified in accordance with above requirements. Install approved fasteners with
 plates into the USG Securock Glass-Mat Roof Board, flush with the surface. Fasteners should be
 installed in strict compliance with the roof system manufacturer's installation recommendations
 and FMG Loss Prevention Data Sheet 1-29. Proper fastener spacing is essential to achieve winduplift performance.
 - Locate edge joints on, and parallel to, deck ribs. Stagger end joints of adjacent lengths of USG Securock Glass-Mat Roof Board. Butt board edges and ends loosely in typical installations.





INSTALLATION CONT.	 Butt board edges and ends loosely (minimum 1/16" gap on all edges) in typical installations. This gap may need to be larger depending on factors like the roof deck's size, membrane color, ultimate deck surface temperature and time of year the roof assembly is installed. Installations during temperatures below 50°F may require larger spacing. Please refer to USG's published physical properties below to calculate the actual gap needed for your specific project for all thicknesses.
	Roof boards should never be installed frozen.
	 See product data table below for maximum flute span when panels are applied directly over metal decking.
	 For vertical parapet applications, only 1/2" or 5/8" panels should be used. Maximum framing spacing is 24" o.c.
PERFORMANCE	 UL Classified as to Surface Burning Characteristics and Noncombustibility in accordance with ASTM E84 & E136 (CAN/ULC-S102 & S114).
	 Flame Spread 0 and Smoke Developed 0
	 Noncombustible Core
	• 1/4", 1/2" and 5/8" thickness—Class A unlimited slope in accordance with UL790 (CAN/ULC-S107).
	 5/8" thickness—Meets requirements of Type X per ASTM C1177 and may be used in P series designs as a thermal barrier.
SYSTEM PERFORMANCE	FM Approved
	Complies with requirements of FM 4450 and FM 4470
	comples with requirements of the 4400 and the 4400

Meets FM Class 1

STANDARDS COMPLIANCE

PHYSICAL PROPERTIES

PRODUCT INFORMATION

See 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, fluxh immediately with water for 30 minutes. If ingested, call a physician. Product safety information: 800 S07-8899 or usg.com Customer Service: 800 USG.4YOU (874-4968). KEEP OUT OF REACH OF CHILDREN.

TRADEMARKS

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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. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read SDS and literature before specification and installation.

800 USG.4YOU 800 (874-4968) usg.com USG Securock Glass-Mat Roof Board is manufactured to conform to ASTM C1177.

	1/4″ (7.4 mm)	1/2" (12.7 mm)	5/8" (15.9 mm)
Width, standard	4' (1,220 mm)	4' (1,220 mm)	4' (1,220 mm)
Length, standard	8' (2,440 mm)	8' (2,440 mm)	8' (2,440 mm)
Pieces per unit for 4' x 8' sheet	42	30	30
Weight, nominal Ibs./unit 4′ x 8′ sheet	1,688	1,995	2,667
Weight, nominal Ibs./sq. ft.	1.2	2.0	2.7
Flexural strength, parallel, lbs. min. per ASTM C473	40	80	100
Compressive strength, psi nominal	700-1,000	700-1,000	700-1,000
Flute spannability per ASTM E661	2-5/8″	5″	8"
Permeance, perms per ASTM E96	18	18	16
R Value per ASTM C518	0.36	0.53	0.54
Coefficient of thermal expansion, inches/inch • °F, per ASTM E831	8.5 x 10 ⁻⁶	8.5 x 10 ⁻⁶	8.5 x 10-6
Linear variation with change in moisture, inches/inch • %RH, per ASTM D1037	6.3 x 10 ⁻⁶	6.3 x 10 ⁻⁶	6.3 x 10 ⁻⁶
Water absorption, % max, per ASTM C473	10	10	10
Mold resistance per ASTM D3273*	10	10	10
Bending radius	4'	6'	9'

ASTM D3273 Mold Resistance Testing: In independent lab tests conducted on USG Securock Brand Gypsum-Fiber Roof Board and Glass-Mat Roof Board 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, both panels scored a 10. The 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.

SUBMITTAL APPROVALS

Job Name

Contractor

Date

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USG Roofing Solutions



USG SECUROCK[®] BRAND CEMENT ROOF BOARD

- Ideal for use as a cover board in system applications such as liquid-applied membranes or as a parapet, fire or thermal barrier roof board
- Lightest cement board in the industry
- Environmentally sustainable product—lower weight reduces embodied energy and embodied emissions
- Water-durable, mold-resistant substrate
- Will not rot, warp, delaminate or disintegrate
- Easy to cut and fasten
- Noncombustible

DESCRIPTION USG Securock® Brand Cement Roof Board is a high-performance roof board for use in low-slope roofing systems. As the lightest and easiest-to-use cement board in the industry, it enhances the entire roofing system as both a cover board and as a parapet, fire or thermal barrier roof board. As a cover board, USG Securock Cement Roof Board can be used with a variety of membranes and systems including fully adhered and mechanically attached systems, but it is ideal for applications such as liquid-applied membranes and cold mastic-modified bitumen. As a parapet, fire or thermal barrier roof board, USG Securock Cement Roof Board has an unlimited slope classification and is noncombustible. Because this product is cement-based, it provides superior compressive strength, water durability and mold resistance. **ADVANTAGES** Engineered to provide superior wind-uplift performance for a wide variety of roof assemblies. USG Securock Cement Roof Board is formed in a continuous process using an aggregated Portland EXCEPTIONAL STRENGTH cement slurry with polymer-coated, glass-fiber mesh completely encompassing edges and both surfaces, which enhances bond strength of membrane systems and gives excellent resistance to delamination. Meets Factory Mutual (FM) Class 1 and Underwriters Laboratories (UL) Class A fire ratings for FIRE PERFORMANCE unlimited slope in fire-barrier applications per UL 790. Scored a maximum "10" for mold resistance on ASTM D3273 and is highly water durable. MOISTURE AND MOLD Can be used as a component in single-ply, fluid-applied, spray foam, metal and cold-applied VERSATILE modified bitumen roofing. Comes in both 4' x 8' and 4' x 4' sizes. LIMITATIONS • USG Securock Cement Roof Board is engineered to perform within a properly designed roof system. The use of USG Securock Cement Roof Board as a roofing component is the responsibility of the design professional. Consult roofing manufacturers for specific instructions on the application of their products to USG Securock Cement Roof Board. Weather conditions, dew. application temperature, installation techniques and moisture drive can have adverse effects on the performance of the roof system and are beyond the control of USG. Keep USG Securock Cement Roof Board panels dry before, during and after installation. USG Securock Cement Roof Board should not be installed during rains, heavy fogs and any other conditions that deposit moisture on the surface of the board. Apply only as much USG Securock Cement Roof Board that can be covered by final roof membrane system in the same day. Avoid exposure to moisture from leaks or condensation. For reroof or re-cover applications, existing roofing system must be dry throughout prior to application of USG Securock Cement Roof Board.



LIMITATIONS CONT.	 Plastic or poly packaging applied at the plant to protect board during rail or other transit should be removed upon receipt to prevent condensation or trapping of moisture, which may cause application problems.
	 USG Securock Cement Roof Board should be stored flat and off the ground with protection from the weather. Preferred storage location is an enclosed shelter providing protection from the elements. However, if stored outdoors, a breathable waterproof covering should be used.
	 When applying solvent-based adhesives or primers, allow sufficient time for the solvent to evaporate to avoid damage to roofing components.
	 Consult with the system manufacturer for recommendations on all applications.
	 USG Securock Cement Roof Board is formulated to develop fine microcracking (also known as multiple cracking) in the panel. The micro-cracking process helps to evenly relieve the stored strain energy in the product due to handling and installation, external loads and/or panel restrained movement. The presence of micro-cracks in the panel should not be considered a product defect.
	 USG recommends maximum asphalt application temperature for Type III asphalt of 450°F when using USG Securock Cement Roof Board. Application temperatures above these recommended temperatures may adversely affect roof system performance.
INSTALLATION	 Refer to roof system manufacturer's written instructions, local code requirements and Factory Mutual Global (FMG) and/or Underwriters Laboratories (UL) requirements for proper installation techniques.
	 Use fasteners specified in accordance with above requirements. Install approved fasteners with plates into the USG Securock Cement Roof Board, flush with the surface. Fasteners should be installed in strict compliance with the roof system manufacturer's installation recommendations and FMG Loss Prevention Data Sheet 1-29. Proper fastener spacing is essential to achieve wind- uplift performance.
	 Locate edge joints on, and parallel to, deck ribs. Stagger end joints of adjacent lengths of USG Securock Cement Roof Board.
	 Butt board edges and ends loosely (minimum 1/16" gap on all edges) in typical installations. This gap may need to be larger depending on factors like the roof deck's size, membrane color, ultimate deck surface temperature and time of year the roof assembly is installed. Installations during temperatures below 50°F may require larger spacing. Please refer to USG's published physical properties below to calculate the actual gap needed for your specific project for all thicknesses.
	Roof boards should never be installed frozen.
	 For vertical parapet applications—maximum stud spacing: 16" o.c., maximum fastener spacing: 8" o.c. for wood and steel framing. Always consult a design professional for actual spacing.
	 Only use corrosion-resistant fasteners that are compatible with concrete. Approved fasteners include: USG Durock™ Brand Tile Backer Screws for steel framing (or equivalent), 1-1/4" and 1-5/8" for 14- to 20-gauge steel framing; USG Durock Tile Backer Screws for wood framing (or equivalent), 1-1/4", 1-5/8" and 2-1/4" for wood framing; and nails (1-1/2" hot-dipped galvanized roofing nails).
FIRE PERFORMANCE	 UL Classified as to Surface Burning Characteristics and Noncombustibility in accordance with ASTM E84 & E136 (CAN/ULC-S102 & S114). — Flame Spread 0 and Smoke Developed 0 — Noncombustible
	 Class A unlimited slope in accordance with UL790 (CAN/ULC-S107). See the UL Building Materials Directory for more information.
SYSTEM PERFORMANCE	FM Approved
	 Complies with requirements of FM 4450 and FM 4470 Meets FM Class 1
STANDARDS COMPLIANCE	USG Securock Cement Roof Board is manufactured to conform to ASTM C1325, "Standard for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units."

PHYSICAL PROPERTIES

Thickness, nominal	1/2 in. (12.7 mm)
Width, standard	4 ft. (1220 mm)
Length, standard	4' (1220 mm) and 8' (2440 mm)
Pieces per unit for 4' x 8' sheets	30
Weight, nominal lbs./unit, 4' x 8' sheet	2375
Weight, nominal lbs./sq. ft.	2.4
Flexural strength, parallel, psi, per ASTM C947	>750
Compressive strength, psi nominal	>1000
Flute spanability per ASTM E661	12 in.
Permeance, perms, per ASTM E96	5.84
R Value, °F.ft².h/Btu, per ASTM C518	0.39
Coefficient of thermal expansion, inches/inch/°F, per ASTM E831	4.5 x 10 ⁻⁶
Linear variation with change in moisture, %, per ASTM D1037	<0.07
Water absorption, % max, per ASTM C473	<15
Mold resistance, per ASTM D3273*	10
Minimum bending radius	6 ft. (1.83 m)

*ASTM D3273 Mold Resistance Testing: In independent lab tests conducted on USG Securock Cement Roof Board 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, scored a 10. The 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.

SUBMITTAL APPROVALS

PRODUCT INFORMATION

See 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, fluxh immediately with water for 30 minutes. If ingested, call a physician. Product safety information: 800 S07-8899 or usg.com Customer Service: 800 USG.4YOU (874-4968) KEEP OUT OF REACH OF CHILDREN.

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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 SDS and literature before specification and installation.

Job Name

Contractor

Date

800 USG.4YOU 800 (874-4968) usg.com

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USG Roofing Solutions



USG SECUROCK[™] BRAND GYPSUM-CONCRETE PATCH (FORMERLY PYROFILL[®])

Great for repairing poured-in-place roof decks such as gypsum roof decks and lightweight insulating concrete surfaces.

- Durable: over 500 psi compressive strength
- Fast installation
- Noncombustible
- Feather-edge where needed

DESCRIPTION USG Securock™ Brand Gypsum-Concrete Patch is mill formulated and composed of specially calcined gypsum and wood chips or shavings. It is mixed at the jobsite with clean water only and poured in place as a patch for existing gypsum decks. USG Securock Gypsum-Concrete Patch is noncombustible and used in several UL-approved roof deck systems. **ADVANTAGES** Exceptional Strength: Engineered to provide over 500 psi of compressive strength that will accept foot traffic and fasteners within four hours of application. Fire Performance: USG Securock Gypsum-Concrete Patch is a noncombustible material that provides excellent fire performance and is used in several UL-approved roof deck systems. Versatile: Can be used as a patch in many roof decks such as gypsum, vermiculite concrete, perlite concrete and cellular foam concrete. LIMITATIONS • Protect from moisture in storage and on the job. • Close open bags as tightly as possible; discard compromised or old open bags. · Not to be applied over moist or wet surfaces. • Must be protected from direct exposure to moisture after installed. · Shelf life of six months under protected storage conditions. INSTALLATION Keep all equipment clean. Use only clean water for mixing: do not add sand, aggregate or any other material. Deck must be structurally sound and free from debris or contaminants that might prevent proper bonding of USG Securock Gypsum-Concrete Patch. Weak or deteriorated material must be removed from the deck to provide a solid base. Add USG Securock Gypsum-Concrete Patch to water. • Spread slurry at once after mixing and screed to desired thickness. • DO NOT retemper USG Securock Gypsum-Concrete Patch. Machine mixing: Use 5-5.6 gals. (18.9-21.2 L) of clean water per 50 lbs. (22.6 kg) of USG Securock Gypsum-Concrete Patch; do not overwater. Mixing can be accomplished with mortar mixer or pail and drill with a mortar mixer attachment. This product provides a minimum dry density of 50 lbs./cu. ft. (801 kg/m³). • Sets in 30-60 minutes. • Mechanically attach base sheet to surface after material has set. **FIRE PERFORMANCE** Noncombustibility in accordance with ASTM E136. • Fire-rated and approved for use in UL Roof Deck Systems (P676, P503, P207, P229, P505, P507). STANDARDS COMPLIANCE USG Securock Gypsum-Concrete Patch is manufactured to conform to ASTM C317, "Standard Specification for Gypsum Concrete."



PHYSICAL PROPERTIES

63
3,200
50
>500 psi
30–60 minutes
50-52 pcf
0.67 °F.ft².h/Btu/inch, per ASTM C518

SUBMITTAL APPROVALS

Job Name

Contractor

Date

PRODUCT INFORMATION

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

WARNING

When mixed with water, this material hardens and then slowly becomes hot. DO NOT attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions may cause severe burns that may require surgical removal of affected tissue. When applying or sanding, wear safety glasses or goggles for eye protection. If eye contact occurs, flush thoroughly with water for 15 minutes to remove particles. If irritation continues, consult a physician. Use wet-sanding technique to avoid creating dust. While mixing or dry sanding or if dusty conditions exist, wear a NIOSH/MSHA-approved respirator. Dust created when dry sanding or mixing may cause eye, nose, throat or upper respiratory irritation. If irritation continues, consult physician. Do not ingest,

Dust may cause irritation to eyes, skin, nose, throat and upper respiratory tract. Avoid irritation by reducing exposure to dust. Wood dust, depending on species, may cause respiratory sensitization. IARC classifies certain types cause respiratory sensitization. FARC classifies certain types of wood fiber as a carcinogens to humans (Group) I. Use in a well-ventilated area or provide sufficient local ventilation. If dusty, wear a NIOSH/MSHA-approved dust respirator. Wear eye protection. If eye contact occurs, flush thoroughly with water for 15 minutes. If irritation persists, call a physician. Wash with soap and water after use. Do not ingest. If ingested, call a physician. Product safety information: 800 507-8899 KEEP OUT OF REACH OF CHILDREN.

TRADEMARKS

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USG Structural Solutions



DESCRIPTION

LIMITATION

INSTALLATION

USG STRUCTURAL PANEL CONCRETE ROOF DECK

A concrete roof deck that can be combined with other noncombustible materials to create one- and two-hour fire-rated roof-ceiling assemblies.

- Strong, durable concrete panel; great uplift ratings
- Dimensionally stable; panel will not buckle or warp like wood sheathing; no moisture issues like structural concrete
- Installs fast and easy: circular saw for cutting; screws for fastening
- Meets the criteria of ASTM E136-12 for use in all types of noncombustible construction

USG Structural Panel Concrete Roof Decks are mechanically fastened to cold-formed steel joists or framing members. This roof system is designed to carry gravity and lateral loads. Roof membranes may be applied directly over USG Structural Panel Concrete Roof Decks.

USG Structural Panel Concrete Roof Decks can carry a total load, live and dead, of 150 psf on cold-formed steel framing spaced 48" (1220mm) o.c.

USG Structural Panel Concrete Roof Decks have a linear variation with change in moisture content of less than 0.10%. This means that the panels will not buckle or warp like wood sheathing.

Cutting USG Structural Panel Concrete Roof Decks require a carbide-tipped saw blade and a circular saw equipped with dust collection or suppression to lessen airborne dust. Fastening is also conventional, using a screw gun and self-drilling No. 8-gauge screws. Because these panels are so durable, they may be installed in most weather conditions, including mild precipitation (rain or snow) and temperatures from 0°F to 125°F (-18°C to 52°C).

USG Structural Panel Concrete Roof Decks should not be left in service without an appropriate roof membrane covering.

To perform in the expected manner, USG Structural Panel Concrete Roof Decks must be installed according to USG specifications, using only the listed materials and components. For a complete set of specifications, email usgstructural@usg.com.

As with all types of construction, appropriate safety procedures must be followed to protect installers from personal injuries resulting from lifting incorrectly, falling, and eye, hand and lung irritation.

Care must be taken when placing pallets of USG Structural Panel Concrete Roof Decks on roof framing. A pallet of USG Structural Panel Concrete Roof Decks, 20 sheets, $3/4'' \times 4' \times 8'$ (19mm x 1220mm x 2440mm) weighs approximately 3,400 lbs. (1542 kg). Do not exceed limits when loading pallets or panels on open framing or completed roof assemblies. Store units next to structural walls where the joists meet the wall.

Use a structural concrete panel screw $\#8 \times 1-5/8"$ (41mm) (minimum length) with a thin wafer head (or bugle) and GrabberGard[®] finish to attach the USG Structural Panel Concrete Roof Decks to the cold-formed steel. For mechanically attaching the roof system, use only corrosion-resistant fasteners that are compatible with concrete.



FASTENERS FOR COLD-FORMED STEEL

USG recommends either of the following Grabber screws for fastening our Structural Panel Concrete Roof Decks to cold-formed steel:

	Structural Concrete Pa	anel Screw 8 x 1-5/8" with GrabberGard—Collated	
	Item Numbers	CGH8158LG, CHS8158JBWG2	
	Size	#8 (do not use a larger size unless specifically specified by the structural engineer)	
	Minimum Length	1-5/8 in. (41mm)	
	Finish	GrabberGard (required)	
	Extras	Winged drill, "reamer nibs" under head (for countersink)	
	Note: In accordance wi inches (305 mm) o.c. in	th PER-14076, the minimum screw pattern is 6 inches (153 mm) o.c. along the perimeter of the panels and 12 the field of the panels. The structural engineer should specify the recommended pattern for each application.	
FRAMING	The steel roof framing must be designed to meet the strength and deflection criteria specified in the contract documents. The attachment flange or bearing edge must be a minimum 1-5/8" (41mm) wide with at least 3/4" (19mm) of the panel bearing on the supporting flange. Metal framing must be a minimum 16 gauge and spaced no greater than 48" (1220mm) o.c. Follow the contract documents and the steel framing manufacturer's recommendations for the proper installation and bracing of the framing.		
TRAFFIC PROTECTION	Place sheathing r high traffic areas	naterials (i.e. additional layer of USG Structural Panel or plywood) on the roof in to protect newly installed concrete roof decks.	
APPLICATION	Cut panels to size device or a water and a NIOSH-app manner and in co	e with a circular saw equipped with carbide-tipped blade and a dry dust collection -dispensing device that limits the amount of airborne dust. Wear safety glasses proved N95 dust mask when cutting this panel. Dispose of collected dust in a safe impliance with local, state and federal ordinances.	
	Install USG Struct framing. Apply th after it has been panels in a runnir are staggered by and groove joints than 24" (610mm from steel comply metal thickness (bearing edge mu on the supporting	tural Panel Concrete Roof Decks with the long edges perpendicular to the ne panel with the print markings facing up toward the installer. Fasten each panel placed following the fastening schedule listed in the contract documents. Installing bond pattern so that end joints fall over the center of the framing members and at least two supports from where the end joints fall in the adjacent rows. Tongue should be free of debris and fitted tightly without any gapping . For all panels less) wide, all edges must be supported by blocking. Blocking must be cold-formed ying with AISI General, with a minimum 54 mils (0.0538 inch or 1.36mm) base no. 16 gauge) and a minimum G60 galvanized coating. The attachment flange or st be at least 1-5/8" (41mm) wide and at least 3/4" (19mm) of the panel must bear g flange or edge.	
	Installed panels s avoid accumulati removal wheneve	hall not be exposed to weather for more than 90 days. Care must be taken to on of snow and/or ice on installed panels. Brooms should be used for snow er possible. Excessive shoveling or scraping may damage installed panel surface.	
	In the event of sig space heaters to Roof Decks, neve deicing efforts. A anti-icing and/or	gnificant accumulations of snow and/or ice, use indirect heat from temporary melt the affected areas. To prevent damage to USG Structural Panel Concrete r expose the panels to direct flame for the purpose of snow removal and/or t no time should salts, fertilizers or other chemicals be used on the panels for deicing purposes.	
ROOFING SYSTEM	Follow the contra application of roc properly fastened	act documents and the roof system manufacturer's recommendations for the of materials. Before the application of roof materials, ensure that all panels are d, with the fastener head driven flush or slightly below the surface of the panels.	
PRODUCT DATA	Sizes and Packagi approximately 17 Concrete Roof De	ing: 3/4" x 4' x 8' (19mm x 1220mm x 2440mm) panels. Each panel weighs 0 lbs. (77kg) and is intended to be handled by two people. USG Structural Panel ecks are packaged in 20-piece units.	
	Availability: USG usgstructural@us	Structural Panel Concrete Roof Decks are sold through any USG distributor. Email sq.com for information on availability and a dealer in your area.	
	Storage: USG Stru be stored in a hou unprotected area	uctural Panel Concrete Roof Decks are shipped in 20-piece units. Panels should rizontal position and uniformly supported. Panels must be covered when stored in is.	

PRODUCT DATA CONT.

Excessive moisture and freezing temperatures may result in panels sticking together within the units. Therefore, care should be taken to ensure units of USG Structural Panel Concrete Roof Decks are not exposed to excessive moisture, ice and snow. In the event that panels do become frozen together within a unit, the unit needs to be brought to a temperature above 32°F (0°C) to allow the ice to melt naturally. Never physically pry panels apart. Salt, fertilizer or other deicing agents should not be used at any time. Covering the units completely with tarps or similar coverings is an easy way to avoid panels freezing together.

Maintenance: USG Structural Panel Concrete Roof Decks do not require any regular maintenance except to remove standing water and repair damage from abuse. Any cracked or broken panels should be replaced with sound USG Structural Panel Concrete Roof Decks that are secured following the fastening schedule prescribed in the original installation documents. The replacement panels must be a minimum of 24" (610mm) wide and must span a minimum of two supports. If not, the replacement panel must be fully blocked on all sides.

TEST DATA

Physical and Mechanical Properties	Test Standard	Typical Values Standard (Metric)	
Moment capacity (3/4" (19mm) thick panel)	ASTM C1185, Sec. 5	1,800 lbin./ft. (685 N-m/m)	
Bending stiffness (3/4" (19mm) thick panel)	ASTM C1185, Sec. 5	315,000 lbin.²/ft. (3 kN-m²/m)	
Concentrated load	ASTM E661	550 lbs. (2.45 kN) static 0.108″ (2.7mm) max. deflection @ 200 lbs. (0.89 kN)	
Fastener lateral resistance ^a	ASTM D1761, Sec. 10.2	>210 lbs. (0.93 kN) dry >160 lbs. (0.71 kN) wet	
Density ^b	ASTM C1185	75 lbs./ft. ³ (1,201 kg/m ³)	
Weight at 3/4" (19 mm) thickness	ASTM D1037	5.3 lbs./ft.² (26 kg/m²)	
pH value	ASTM D1293	10.5	
Linear variation with change in moisture (25% to 90% relative humidity)	ASTM C1185, Sec. 8	<0.10%	
Thickness swell	ASTM D1037, B	Max. 3.0%	
Freeze/thaw resistance	ASTM C1185	Passed (50 cycles)	
Mold resistance	ASTM D3273 ASTM G21	10 0	
Water absorption ^c	ASTM C1185, Sec. 5.2.3.1	<15.0%	
Noncombustibility	ASTM E136 -12 (unmodified) CAN/ULC-S114	Passed Passed	
Surface-burning characteristics (flame spread/smoke developed)	ASTM E84 CAN/ULC-S102	0/0	
Long-term durability	ASTM C1185, Sec. 13	Min. 75% retention of physical properties	
Water durability	ASTM C1185, Sec. 5	Min. 70% retention of physical properties	

(a) Fastener lateral resistance measured with #81-5/8" (41mm) Hi-Low screw.

(b) Density measured at equilibrium conditioning per Section 5.2.3.1., 28 days after manufacturing.

(c) Absorption measured from equilibrium conditioning followed by immersion in water for 48 hours.

SYSTEM PERFORMANCE

Description	Reference
Code Reports	PER-14076
Ultimate Uniform Load	150 psf @ 32" o.c. (813mm). See Table
Shear Diaphragm Ratings	>1,300 plf ^b (19.2 kNm ^b)
UL 1-, 1.5-, 2-Hour Fire Resistance Designs	P561, P562
UL Roofing System, Uplift Resistance	TGIK.R25352

(a) On steel framing.
(b) Joists spaced 32" (813mm) o.c. and fasteners spaced 8" (203mm) o.c. at the perimeter and 12" (305mm) o.c. in field, fully blocked. See the Progressive Engineering Inc. Product Evaluation Report PER-14076.

LOAD TABLE

The following table represents the load-carrying capacity of USG Structural Panel Concrete Roof Decks. For the most up-to-date load tables, see the Progressive Engineering Inc. report, PER-14076. For technical questions, email usgstructural@usg.com. A qualified architect or engineer should review and approve calculations, framing and fastener spacing for all projects.

Ultimate Uniform Load for USG Structural Panel Concrete Roof Deck

Joist Spacing - inches (millimeters)	12" (305mm)	16" (406mm)	24" (610mm)	32" (813mm)	48" (1220 mm)
Uniform Load - psf (kPa)	1,320 psf	744 psf	330 psf	240 psf	150 psf
	(63.2 kPa)	(35.6 kPa)	(15.8 kPa)	(11.5 kPa)	(7.2 kPa)

For SI: 1 inch = 25.4mm, 1 psf = 47.88 Pa.

(1) Ultimate Load Values have no safety factor included.

(2) Two framing spans minimum per panel piece

(3) Ultimate Uniform Load Table for general reference only.

For complete load capacities, consult Progressive Engineering Inc. Product Evaluation Report PER-14076

SUBMITTAL APPROVALS

Contractor

Job Name

Date

PRODUCT INFORMATION

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

DANGER

Causes skin irritation. Causes serious eve damage. May cause an allergic skin reaction. May cause respiratory irritation. May cause cancer by inhalation of respirable crystalline silica. Do not handle until all safety precautions have been read and understood. Avoid breathing dust. Use only in a well-ventilated area, wear a NIOSH/MSHAapproved respirator. Wear protective gloves/protective clothing/eye protection. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. If skin irritation or rash occurs, or otherwise exposed or concerned: Get medical attention. Store locked up. Dispose of in accordance with local, state, and federal regulations. For more information call Product Safety: 800 507-8899 or see the SDS at usg.com. KEEP OUT OF REACH OF CHILDREN.

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USG SECUROCK® BRAND HIGH-PERFORMANCE ROOF BOARDS

USG has a full range of high-performance roof board products, giving consumers a choice in the roof board industry.

USG Securock® Brand Gypsum-Fiber Roof Board outperforms the competition and is made from 95 percent recycled material. USG Securock® Brand Glass-Mat Roof Board meets the stringent performance requirements and specifications of competitive glass-mat roof boards while being easier to handle. Plus, both boards come with the customer service, flexibility and responsiveness that only USG can deliver. All of this adds up to a roof board portfolio that goes above and beyond the competition.

USG SECUROCK®
GLASS-MAT
ROOF BOARD

USG SECUROCK[®] GYPSUM-FIBER ROOF BOARD

Performance	1/4" USG Securock* Brand Glass-Mat	1/4" GP DensDeck*1	1/2" USG Securock* Brand Glass-Mat	1/2" GP DensDeck*1	5/8" USG Securock* Brand Glass-Mat	5/8" GP DensDeck ^{*1}
Compressive strength, psi	700-1,000	900	700-1,000	900	700-1,000	900
Flute span	2-5/8″	2-5/8"	5″	5″	8″	8″
Bending radius	4'	5′	6'	8′	9'	12'
Flexural strength, Method B, parallel, lbf. min. per ASTM C473	40	40	80	80	100	100
Permeance, perms	18	50	18	35	16	32
Water absorption, % max, per ASTM C473	10	10	10	10	10	10
Mold resistance per ASTM D3273*	10	10	10	10	10	10
ASTM Standard	C1177	C1177	C1177	C1177	C1177	C1177

Performance	1/4" USG Securock® Brand Gypsum-Fiber	1/4″ GP DensDeck® Prime¹	3/8" USG Securock® Brand Gypsum-Fiber	1/2" GP DensDeck* Prime ¹	1/2" USG Securock*Brand Gypsum-Fiber	5/8″ GP DensDeck* Prime¹	5/8" USG Securock® Brand Gypsum-Fiber
Compressive strength, psi	1,800	900	1,800	900	1,800	900	1,800
Flute span	2-5/8"	2-5/8″	5″	5″	8"	8"	10"
Flexural strength, Method B, parallel, lbf. min. per ASTM C473	40	40	70	80	110	100	155
Nail-pull resistance, min. lbs./ft.	80	40 ²	110	80 ²	120	90²	145
Water absorption, % max, per ASTM C473	10	10	10	10	10	10	10
Mold resistance per ASTM D3273*	10	N/A ¹	10	N/A ¹	10	N/A ¹	10
ASTM Standard	C1278	C1177	C1278	C1177	C1278	C1177	C1278

*ASTM D3273 Mold Resistance Testing: In independent lab tests conducted on USG Securock Gypsum-Fiber Roof Board and USG Securock Glass-Mat Roof Board 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, both panels scored a 10. The 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.

A MORE ECONOMICAL PRODUCT

When compared to GP DensDeck® products, USG Securock Gypsum-Fiber Roof Board has better compressive strength and flute spanability. Testing confirms that you can substitute a 3/8" USG Securock Gypsum-Fiber Roof Board for other 1/2" products and still achieve superior performance.

Compressive Strength, (psi)	0	450	900	1,350	1,800
3/8" USG Securock® Brand Gypsum-Fiber Roof Board					1,800
1/2" GP DensDeck [®] Prime ¹			900		



RODUCT CONT.			1	2	3	4	5
	3/8" USG Securock® Brand Gypsum-F	iber Roof Board					5
	1/2" GP DensDeck® Prime ¹						5
SIER HANDLING	USG Securock Glass-Mat Roc mat-to-core tensile bond stre	of Board has a ength also ma	high quality gl kes mat less lik	lass-mat, making ely to delaminate	it less itchy ar when cutting	nd easier to wo g.	ork with. The
	USG Securock Gypsum-Fiber glass-mat facer for strength.	Roof Board, This makes th	with its uniforn ne panel easy to	n composition of o handle with no	gypsum and c itchiness.	ellulose fibers	, does not red
	USG Securock Gypsum-Fiber the use of an additional prim and materials.	^r Roof Board is er. It also has	s ideal for fully very low surfac	adhered applica ce absorption, giv	tions. It achiev ring additiona	ves high bond s I installed cost	strength with savings on la
	USG Securock Cement Roof I applications such as liquid-ap fasten and is noncombustible	Board is the lig oplied membr e.	ghtest cement anes or as a pa	board in the indu trapet, fire or the	istry. Ideal for rmal barrier rc	use as a cover oof board. It's e	r board in sys easy to cut ar
HOICE FOR ALL APPLICATIONS	USG Securock high-performa	ance roof boar	rds go above a	nd beyond to me	et your needs	for all applica	tions.
	Applications	USG Securock Gypsum-Fibe	(* Brand r Roof Board	USG Securock Glass-Mat Roo	Brand f Board	USG Secure Cement Ro	ock® Brand of Board
	Single ply mechanically attached	Acceptable		Recommende	d	Acceptable	9
	Single ply fully adhered	Recommende	ed	Not Recomme	nded	Acceptable	e
	Modified Bitumen torch applied	Recommende	ed	Not Recomme	nded	Recommer	nded
	Modified Bitumen torch applied Modified Bitumen cold applied	Recommende	ed ed	Not Recomme Not Recomme	nded nded	Recommer Recommer	nded nded
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	Modified Bitumen torch applied Modified Bitumen cold applied Modified Bitumen hot mopped Built-up roof Built-up roof hybrid Self adhered Spray foam	Recommenda Recommenda Recommenda Recommenda Recommenda Recommenda	ed ed ed ed ed ed ed ed	Not Recomme Not Recomme	nded nded nded nded nded nded nded	Recommer Recommer Recommer Recommer Acceptable Recommer	nded nded nded nded nded nded
	Modified Bitumen torch applied Modified Bitumen cold applied Modified Bitumen hot mopped Built-up roof Built-up roof hybrid Self adhered Spray foam Thermal barrier	Recommende Recommende Recommende Recommende Recommende Recommende Acceptable	ed ed ed ed ed ed ed ed	Not Recomme Recomme	nded nded nded nded nded nded nded d	Recommer Recommer Recommer Recommer Acceptable Recommer Recommer	nded nded nded nded nded nded nded nded
	Modified Bitumen torch applied Modified Bitumen cold applied Modified Bitumen hot mopped Built-up roof Built-up roof hybrid Self adhered Spray foam Thermal barrier Fire barrier	Recommende Recommende Recommende Recommende Recommende Recommende Acceptable Acceptable	ed ed ed ed ed ed ed	Not Recomme Recommede Recommende	nded nded nded nded nded nded nded d d	Recommer Recommer Recommer Recommer Acceptable Recommer Recommer Recommer	nded nded nded nded nded e nded nded nd

PRODUCT INFORMATION

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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 material safety data sheets and related literature on products before specification and/or installation.



USG SECUROCK® BRAND HIGH-PERFORMANCE ROOF BOARD APPLICATIONS

There are four basic components in a low-slope commercial roof assembly:

- A structural deck and joists, which can be formed of steel, wood or concrete
- Insulation, including polyisocyanurate (ISO), extruded polystyrene (XPS) or expanded polystyrene (EPS)
- Roof cover board installed between the insulation and the roofing membrane to protect the insulation and support the membrane, improving fire protection, traffic and hail resistance, and wind-uplift performance
- A membrane or membrane system, which can be built-up roofing (BUR), single-ply or modified bitumen

The following are for illustration purposes only. USG Securock® Brand high-performance roof boards are engineered to perform within a properly designed roof system. The use of USG Securock high-performance roof boards as a roofing component is the responsibility of the design professional. Consult roofing manufacturers for specific instructions on the application of their products to USG Securock high-performance roof boards.

COVER BOARD

USG Securock high-performance roof board is placed directly below the roofing membrane, providing primary support for the membrane and protecting the underlying insulation layer from damage during installation and for the service life of the roof. Cover boards are used as impact protection for insulation boards (foot traffic, hail, etc.), to insulation protection from EPDM heat transfer, a surface to which asphalt can be mopped, and as a fire barrier for external fire.



ROOF RECOVER BOARD

USG Securock high-performance roof board is placed over the existing membrane surface, where it functions as a separator and a support layer between the old roof and the new roofing membrane. Roof recover boards provide a flat substrate for new roofs and have all of the benefits of a cover board.



USG Securock Glass-Mat Roof Board recommended for mechanically attached membrane.





HOT ASPHALT SUBSTRATE (HOT MOP) USG Securock Gypsum-Fiber Roof Board can be mechanically fastened, bonded with mastic or adhesives, or hot mopped to foam insulation. All hot-applied roofing systems can then be mopped directly onto the unprimed roof board without concern for blistering or delamination. USG Securock Gypsum-Fiber Roof Board is your best option for hot mopping.

USG Securock Gypsum-Fiber Roof Board.



SUBSTRATE FOR VAPOR RETARDERS

USG Securock high-performance roof board is placed over the roof deck to provide support for the vapor barrier. The membrane may be loose laid; attached with cold mastics, hot asphalt or adhesives; or mechanically fastened, depending on the roof assembly. The roof board is used as a substrate for retarder adhesion to reduce condensation.



METAL OR TILE ROOF THERMAL BARRIER

USG Securock high-performance roof board provides a thermal barrier in conjunction with a standing-seam metal or tile roofing system. It also provides noise reduction and hail resistance. Thermal barriers reduce thermal "shock" and slow heat escape from building and act as a fire barrier for internal fire.



THERMAL BARRIER

USG Securock high-performance roof board provides a thermal barrier installed directly to metal deck for both expanded and extruded polystyrene insulation. Thermal barriers reduce thermal "shock" and slow heat escape from building and act as a fire barrier for internal fire.



USG Securock Glass-Mat Roof Board recommended for mechanically attached membrane.



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

800 USG.4YOU 800 (874-4968) usg.com/securock PRODUCT INFORMATION See usg.com for the most up-to-date product information.

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PROJECT PROFILE

Application/Building Type: Stadium Retractable Roof Project Name: Marlins Park Location: Miami, Florida Contractor: Petersen Dean Roofing and Solar Systems, Inc. Featured Products: USG Securock* Brand Gypsum-Fiber Roof Board

usg.com/securock

USG SECUROCK® BRAND HITS IT OUT OF THE PARK FOR MARLINS STADIUM

With an eye on performance, aesthetics, sustainable design and the fan experience, Miami-Dade County and the Florida Marlins had their bases covered when their new ballpark opened for the 2012 season.

USG Securock Gypsum-Fiber Roof Board... far exceeded the building's performance requirements. The products came out on top. No one else could meet both the wind uplift and Class A fire test requirements.

Bernie Abrami Manufacturer's Representative ProRep for USG Securock® Brand and Carlisle SynTec Performance expectations were high—literally—for the new Marlins Park, especially when it came to the stadium's retractable roof. Consisting of three metal-decked operable panels, the lower east and west panels cover the stands while the highest elevated center panel rises 200 feet over second base to allow for pop flies.

That elevation puts the roof in one of the area's highest wind zones, requiring the assembly to withstand 140-mileper-hour winds. The roof system includes 18- and 20-gauge metal steel decking with 11-foot joist spacing. Carlisle HP-H Polyiso insulation board, 2.0" thick, and 5/8" USG Securock® Brand Gypsum-Fiber Roof Board were mechanically fastened to the decking.

A 60-mil Carlisle Sure-Weld® TPO membrane was then fully adhered to the USG Securock Gypsum-Fiber Roof Board. "The building's elevation, design and the owner's plans for a Factory Mutual Global insured property, combined with the stringent Miami-Dade County and UL Class A building criteria, all drove the wind-uplift design pressure," said Dave Wikel, vice president of Petersen Dean Roofing and Solar Systems, Inc., the park's roofing contractor. "There are very high uplift requirements with this application. Yet at the time drawings were prepared, there wasn't a system yet approved in Miami-Dade County to meet the stadium's requirements."

That changed when United States Gypsum Company and Carlisle SynTec stepped up to bat to perform extensive testing for a USG Securock roof board and Carlisle membrane assembly.

"USG Securock Gypsum-Fiber Roof Board and Carlisle far exceeded the building's performance requirements. The products came out on top. No one else could meet both the wind uplift and Class A fire test requirements," said Bernie Abrami, manufacturer's representative with ProRep for USG Securock[®] Brand and Carlisle. "The superior compressive strength of USG Securock also resists membrane puncture from flying debris during south Florida's severe weather."

USG Securock Gypsum-Fiber Roof Board is fire resistant and ideal for use in all types of commercial low-slope

roofing systems. The board is engineered to provide superior wind-uplift performance for a wide variety of roof assemblies. Its fiber-reinforced, uniform composition gives the panel strength and water resistance through to the core.

"We didn't have any problems with blistering or bubbling that we do with other cover boards," Wikel noted. "It was easy to contour if we had inconsistencies in the deck substrate. And, because a single-ply membrane fully adheres to the smooth board surface, you get a nicelooking, uniform and clean finished product. The owner not only demanded a high-performance system, but also one that was pleasing to the eye."

We feel appreciated by USG and USG Securock." "We get great support that we don't get with other providers.

Dave Wikel Vice President Petersen Dean Roofing and Solar Systems, Inc.

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Sustainable design was another project priority. The Marlins Park planned to become the first LEED® Silvercertified retractable-roof baseball stadium. Green design initiatives included a goal that ultimately more than 20 percent of the project's total material would come from recycled content.

USG Securock Gypsum-Fiber Roof Board is made from 95 percent recycled materials and has earned independent certification from Scientific Certification Systems for this achievement.

A Double Play: Fan and Contractor Comfort

The ballpark's retractable roof provides relief from south Florida's almost daily summer rains and high heat with average summer temperatures of 87°F—weather conditions that made a demanding project even more so for the contractors installing the roof. "It's hot and sweaty. The guys are tied up on cable for fall protection. Anything that makes moving materials easier and more efficient is a big benefit for comfort, safety and production," Abrami said.

That was the experience the crew from Petersen Dean, the nation's third largest roofing contractor, had as they installed USG Securock. Because the gypsum-fiber roof board's composition of gypsum and cellulose fibers does not require a glass-mat facer for strength, the panel is easy to handle with no itchiness.

"We like it because it's user-friendly. The ease of working with USG Securock allowed us to install the board in a timely manner in a very difficult application where the sides and end of the roof are at a steep vertical slope of 18/12. Some of the roof panels are straight up and down," Wikel explained.

Another benefit project team members cited was the gypsum-fiber board's low surface absorption, which increases the ability to predict adhesive usage and find additional material cost savings.

- Petersen Dean has installed approximately two million square feet of USG Securock roof board in projects in Florida and Puerto Rico during the past three years.
- "We feel appreciated by USG and USG Securock," Wikel said. "We get great support that we don't get with other providers. The quality of the material and service is what makes USG Securock our preferred roof board."

The new Marlins Park is owned by Miami-Dade County. Architect Earl Santee of POPULOUS is one of the most experienced ballpark architects in the world, working on nearly 20 Major League Baseball parks.

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CASE STUDY

Apartment complex under construction in South Jordan, Utah

New Construction Using New Roofing Products in Utah

by Rich Willett, USG product manager

Despite a slowly recovering economy, construction of new apartment complexes continues in Utah. Western National Contractors, Irvine, Calif., is in the process of building the first phase of "The Daybreak Apartments" in South Jordan, Utah, just outside of Salt Lake City. When completed, a multitude of new families in the area's westward expansion will call the project home. The first phase has more than 185,000sq.ft. of roof area covering eight apartment buildings with 320 new luxury apartments, a clubhouse, and numerous support buildings.

Noorda Architectural Metals, Salt Lake City, Utah, is the roofing contractor on the project. Chris Noorda, owner of the company, and Aaron Howe, who manages the roofing division, together selected the complex's roofing system and chose a GAF Materials Corporation's mechanically attached 60 mil TPO membrane over USG Corporation's new 1/4" Securock glass-mat roof board. "We needed a total roof system that could stand up to our cold winters and hot summers, and we wanted to work with manufacturers who have proven track records to give the owner the best possible value for his money," Noorda explained.

Noorda Architectural is a GAF Master Select Contractor and has installed many thousands of square feet of GAF's TPO roof membrane. Additionally Noorda recently installed 3/8" Securock gypsum-fiber roof board on a LEED project called "Art Space Commons." The gypsum-fiber roof board's 95% recycled content helped support the environmental goals of MJSA Architecture, Salt Lake City, Utah, the architect for Art Space Commons. "We knew that USG was going to produce a roof board with glassmat facer and we were eager to try the new board based on our experience with the quality and service the company has always provided us," Howe added.

Working with Jim Sheltmire and Paul Schnieders of D7 Weather Protection System, Park City, Utah, representatives for GAF and USG roofing products in Utah, Howe was able to secure the initial production run of the new glass-mat roof board for the Daybreak project which arrived just in time to start the roofing work. "We were excited to work with Noorda and that Daybreak Apartments was the first project for our new glass-mat roof board," said Sid Teachey, USG Securock national sales manager.

Given this project's wood framed construction, a fire barrier was required. Securock glass-mat roof board meets Factory Mutual (FM) class 1 and Underwriters Laboratories (UL) Class A fire ratings for unlimited slope in fire barrier applications per UL 790 making it a perfect match for the project requirements.

The glass-mat roof board is ideal for use in low-slope commercial roofing systems. In addition to providing fire protection, building professionals can enhance the durability of the entire roofing system when they use the glassmat roof board as a cover board in single-ply mechanically attached systems. Also, with its specially treated core and high-performance glass-mat facer, the product is moisture and mold resistant scoring a ten, the highest score for mold resistance on ASTM D3273.

"Our workmen are very pleased with the way the board handles and the ease of cutting," said Howe. "We are satisfied with the performance qualities of the product. The way it works in the hands of the men installing it is paramount to us."

So next time you fly in to Salt Lake City International Airport keep an eye to the west valley and when you see that huge apartment complex with the gleaming white Energy Star roof, know that it is protected for many years to come through the combined efforts of Noorda Architectural Metals, USG Corporation, and GAF Material Corporation. The first phase of Daybreak Apartments is expected to open soon.

USG SECUROCK[°] BRAND ROOF BOARD SAMPLES AND LITERATURE

DESCRIPTION	FORM #	COMMODITY CODE
USG Securock® Brand Gypsum-Fiber Roof Board 1/4" sample	RF2A	051155
USG Securock® Brand Gypsum-Fiber Roof Board 3/8" sample	RF2B	051156
USG Securock® Brand Gypsum-Fiber Roof Board 1/2" sample	RF2C	051157
USG Securock® Brand Gypsum-Fiber Roof Board 5/8" sample	RF2D	051158
USG Securock® Brand Glass-Mat Roof Board 1/4" sample	RF29A	051162
USG Securock® Brand Glass-Mat Roof Board 1/2" sample	RF29B	051163
USG Securock® Brand Glass-Mat Roof Board 5/8" sample	RF29C	051164
USG Securock® Brand Cement Roof Board 1/2" sample	RF50	050545
USG Securock [®] Brand Concrete Roof Deck Panel 3/4" sample	RF56	050546
USG Securock® Brand Gypsum-Fiber Roof Board Submittal Sheet	RF5	-
USG Securock® Brand Glass-Mat Roof Board Submittal Sheet	RF32	_
USG Securock® Brand Cement Roof Board Submittal Sheet	RF51	-
USG Securock™ Brand Gypsum-Concrete Patch Submittal Sheet	RF53	_
USG Structural Panel Concrete Roof Deck Submittal Sheet	SCP35	_
USG Securock® Brand High-Performance Roof Boards— Product Comparison Guide	RF3	430198
USG Securock® Brand Gypsum-Fiber Roof Board Tip Sheet	RF18	900118
USG Securock [®] Brand Roof Boards Portfolio Brochure	RF39	438271
USG Securock® Brand High-Performance Roof Boards— Product Binder	RF16	900074
USG Securock® Brand Gypsum-Fiber Roof Board Installation DVD —English/Spanish	RF21	437957
USG Securock® Brand High-Performance Roof Boards— Fastener Patterns	RF41	438335
USG Securock [®] Brand High-Performance Roof Boards— Architectural Specifications	RF43	438336
USG Securock® Brand High-Performance Roof Boards— Applications	RF44	438337

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