



# USG FIBEROCK® BRAND AQUASmart™ TILE BACKERBOARD AND UNDERLAYMENT

## A high-performing waterproof\* panel for interior tile backer needs

- Integrated waterproof<sup>1</sup> performance
- Mold and mildew resistant
- Lighter and easy to cut, carry, and install
- Uniform composition provides strength
- Use in both wet and dry areas throughout the home
- Ideal under tile, stone, vinyl, hardwood flooring, laminate flooring, carpeting and countertops
- Superior tile bond
- Suitable for walls, floors and countertops
- Provides a smooth, flat, paintable surface for wall applications

### Note

1. Waterproof in accordance with ANSI 118.10 (Section 4.5).

## DESCRIPTION

USG Fiberock® AquaSmart™ Tile Backerboard and Underlayment panels feature a homogenous waterproof composition, engineered to perform using proprietary waterproof technology. The panels provide added durability and superior performance (vs. traditional tile backerboards) and are manufactured to meet ANSI 118.10 (Section 4.5) for waterproofness. With enhanced performance, USG Fiberock® AquaSmart™ panels combine the benefits of waterproof technology in a lighter weight solution (our 1/2 in. panel transitioned to .42 in. thickness in 2023) that makes installation easier – and backed by USG warranted performance. USG Fiberock® AquaSmart™ panels are also an ideal substrate for painted wall surfaces, when transitioning from tile to paint.

USG Fiberock® AquaSmart™ panels provide a smooth, flat surface that resists swelling and warping often seen with wood-based underlayments, and contain none of the resins, adhesives or solvents that can stain floor covering materials. It also offers greater resistance to indentation than other underlayment products and can be used throughout a home—in both wet and dry areas—regardless of the flooring material chosen.

## APPLICATIONS

Wood framing shall approximate the moisture content it will reach in service by allowing the enclosed building to stand as long as possible prior to the application of the USG Fiberock® AquaSmart™ panels. It is the responsibility of the installer to verify and follow the installation requirements of all the components in an assembly.

## INSTALLATION

### PANEL LAYOUT

- A. Panels are cut to size by scoring both sides and snapping using a knife and straight edge.
- B. Install board with ends and edges closely abutted, but not forced together. Stagger end joints in successive courses.
- C. For wall application, fasten USG Fiberock® AquaSmart™ panels to framing with specified fasteners. Drive fasteners into field of panels first, working toward ends and edges. Hold panels in firm contact with framing while driving fasteners. Space fasteners maximum 8 in. o.c. for walls. Do not overdrive fasteners.

### TILE AND STONE APPLICATION

- A. For flooring applications over a wood-based substrate, laminate USG Fiberock® Underlayment to subfloor using Type 1 organic adhesive or latex-modified thin-set mortar or dry-set mortar. Fasten to subfloor with 1-1/4 in. USG Durock™ Brand Tile Backer Screws for wood framing (or equivalent) or 1-1/2 in. hot-dipped galvanized roofing nails spaced 8 in. o.c. in both directions with perimeter fasteners at least 3/8 in. and less than 5/8 in. from ends and edges. Drive nails and screws so that bottoms of heads are flush with panel surface to ensure firm panel contact with subfloor. Do not overdrive fasteners.
- B. For wall applications, fasten panels to framing with specified fasteners. Drive fasteners into field of panels first, working toward ends and edges. Hold panels in firm contact with framing while driving fasteners. Space fasteners a maximum 8 in. o.c. for walls, 6 in. o.c. for ceilings, with perimeter fasteners at least 3/8 in. and less than 5/8 in. from ends and edges. Drive nails and screws so that bottoms of heads are flush with panel surface to ensure firm panel contact with framing. Do not overdrive fasteners past panel surface. For steel stud applications (20 ga. or equivalent) use 1-1/4 in. or 1-5/8 in. USG Durock™ Tile Backer Screws for steel framing (or equivalent). For wood stud applications, use 1-1/4 in., 1-5/8 in., or 2-1/4 in. USG Durock™ Tile Backer Screws for wood framing (or equivalent) or 1-1/2 in. hot-dipped galvanized roofing nails.
- C. For countertop applications, install minimum 3/4 in. exterior grade plywood or OSB base across cabinet supports. Fit ends and edges of USG Fiberock® underlayment closely abutted, but not forced together. Stagger panel joints from plywood base joints. Space fasteners 8 in. o.c. around the perimeter and in the field of the board. Treat panel joints and fastener heads per Options 1 or 2 below.
- D. Cut USG Fiberock® AquaSmart™ panels to size with a utility knife and straight edge. Use power saw only if it is equipped with a dust collection device and a NIOSH/MSHA-approved respirator is worn. When using the score-and-snap method, score the panel twice and snap the panel away from the cut face. If a power-operated saw is used, a low-RPM portable saw with a 3-1/2 in. carbide-tipped blade is recommended. When necessary to obtain neatly fitting joints, use a rasp or surform to smooth cut edges. Holes for pipes, fixtures and other small openings can be cut out with a saw or a drywall router equipped with a special bit.

### FINISHING PANEL JOINTS

#### Option 1:

- a. Finish joints with USG Durock™ Brand Waterproofing Membrane Band (5 in. wide) adhered with tile-setting mortar.
- b. Treat fastener penetrations with waterproofing membrane band and tile-setting mortar. Use tile-setting mortar to set tiles.

#### Option 2:

- a. Fill joints with latex-fortified mortar and immediately embed alkali-resistant, fiberglass mesh joint tape. Treat joints with two coats of USG Durock™ Brand Liquid Waterproofing Membrane.
- b. Treat fasteners with one coat of USG Durock™ Brand Liquid Waterproofing Membrane.

Treat all horizontal surfaces where water can pool with a liquid or sheet applied waterproofing membrane, for example shower benches and niches.

## INSTALLATION CONT.

### RESILIENT FLOORING APPLICATIONS

- A. Fasten panels to wood-based subfloor with minimum 1/4 in. crown chisel point staples, hot-dipped galvanized ring shank nails or corrosion-resistant screws. Fastener length should be approximately equal to combined thickness of underlayment and subfloor. Fasteners should not penetrate through subfloor; long fasteners that penetrate the floor joists may compromise the ability of the subfloor to expand and contract uniformly with natural variations in temperature and humidity. Critical lighting situations should be considered when determining panel layout.
- B. Begin fastening where three panels intersect. Affix fasteners along joints in a zipper pattern at 1 in. o.c., 1/4 in. from panel edge. Install fasteners at 4 in. o.c. in the field of panels. When using pneumatic tools, apply sufficient pressure on gun to prevent the tool from bouncing. Set pneumatic tool pressure to drive fasteners flush or slightly below underlayment surface. To prevent fastener heads from telegraphing through resilient floor covering, do not countersink more than 1/16 in. below surface. Fasten one panel at a time. Begin at one end and fan out across the panel.
- C. Installing Panels Over Existing Vinyl Floor Covering—Do not install underlayment over cushion-backed vinyl. Ensure that existing floor is level, fully-adhered and well-bonded and meets appropriate design requirements. Repair missing or broken tiles, curling seams, severe gouges, protrusions of surface and any other damage with a high-quality floor leveler. Follow floor-covering manufacturer's recommendations for installations over existing floors.
- D. Finishing Panel Joints—Use patching compound sparingly to fill wide joints, repair any surface voids and correct joint lippage (panel edge sitting above or below the floor plane). Carefully fill joints wider than 1/32 in. and any surface imperfections with only enough material to infill void—do not feather. Correct joint lippage by applying patching compound to low side only and feathering to level. Allow compound to dry completely (90 min. minimum), then lightly sand or scrape, taking care not to scuff panel surface; use a flat blade to scrape away any excess material. Remove dust, dirt and debris from underlayment surface before application of floor covering.
- E. Applying Floor Covering—Refer to floor-covering manufacturer's recommendations for proper procedures. For proper trowel selection, refer to adhesive manufacturer's recommendation for nonporous substrates. Follow floor-covering and/or adhesive manufacturer's guidelines for setting times before allowing traffic on the finished floor. Follow floor-covering manufacturer's recommendations for preventive maintenance, cautions and procedures.

## LIMITATIONS

1. For interior use only. USG Fiberock® AquaSmart™ panels should not be used in exterior applications.
2. Do not use in areas subject to prolonged exposure to standing water; for instance, gang showers, saunas, hot tub decks, and enclosed pool areas.
3. Wall applications: Maximum stud spacing: 16 in. o.c. Framing shall be designed (based on stud properties alone) not to exceed L/360 deflection for tile, L/240 for surfaces that will be painted. Maximum fastener spacing: 8 in. o.c. for wood and steel framing; 6 in. o.c. for ceiling applications.
4. Maximum dead load for ceiling system is 7.5 psf.
5. Steel framing must be 20-gauge equivalent or heavier.
6. Do not use drywall screws or drywall nails.
7. Do not use drywall joint tape where tile or stone will be installed.
8. Floor tile applications: Maximum joist spacing 24 in. o.c. The subfloor system should be designed with a minimum deflection limit of L/360 for the span. Some finish materials may require a more rigid subassembly (such as large format tile and natural stone products). In these cases, follow the manufacturer's minimum requirements. The subfloor should be APA Span-Rated Plywood or OSB with an Exposure 1 classification or better with tongue and groove or back blocked at the unsupported edges.
9. Do not install over poured in place or slab on grade installations. Installation over USG Structural Panels is permitted. Where there is a more stringent specification follow those requirements.
10. USG Fiberock® AquaSmart™ panels are not designed for use as a structural panel.
11. USG Fiberock® AquaSmart™ panels must be finished—tiled or painted—not used as a finished surface.
12. USG Fiberock® AquaSmart™ panels should not be exposed to sustained temperatures above 125°F (51.6°C).
13. Tile only the front face of the product.
14. Maximum installed weight of the finished system should not exceed 15 psf.

## PRODUCT DATA

### SIZES AND PACKAGING

Size (thickness x width x length)	Units (pcs.)
0.42 in. x 3 ft. x 5 ft.	60
0.42 in. x 4 ft. x 8 ft.	35

### STANDARDS

USG Fiberock® AquaSmart™ Tile Backerboard and Underlayment panels meet or exceed the 3/8 in. thickness mechanical property requirements in accordance with ASTM C1278. Residential and light-commercial performance rating based on Robinson Floor Test (ASTM C627), conducted by The Tile Council of North America (TCNA).

### AVAILABILITY

USG Fiberock® AquaSmart™ panels are distributed throughout the United States. Contact a United States Gypsum Company sales office or sales person for additional information.

### DELIVERY AND STORAGE OF MATERIALS

All materials should be delivered and stored in their original unopened package and stored in an enclosed shelter providing protection from damage and exposure to the elements. Store all USG Fiberock® AquaSmart™ panels flat.

## TECHNICAL DATA

Property	Unit of Measure	ASTM Test Method	0.42 in. USG Fiberock® AquaSmart™ Panels*
<b>Flexural Strength</b>	lbf	C473	> 85
<b>Compressive Strength</b>	psi	n/a	> 500
<b>Shear Bond Strength</b>	psi	n/a	> 50
<b>Water Absorption</b>	% by wt. 2 hrs.	C473	< 5
<b>Surface Water Absorption</b>	grams	C473	1.6
<b>Nail-Pull Resistance</b>	lbf	C473	> 100
<b>Weight</b>	psf	C473	2.2
<b>Mold Resistance</b>	—	D3273	10 (no growth)
<b>Surface Burning Characteristics</b>	flame/smoke	E84	5/0
<b>Thermal</b>	"R"/k value	C518	0.294
<b>Standard Method for Evaluating Ceramic Floor Tile Installation Systems</b>	Passes cycles 1-6	C627	Light Commercial

\*0.42 in. Fiberock® AquaSmart™ panels meet or exceeds the 3/8 in. thickness mechanical property requirements in accordance with ASTM C1278 Standard Specification for Fiber-Reinforced Gypsum Panel.

### PRODUCT INFORMATION

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

### CAUTION

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

### KEEP OUT OF REACH OF CHILDREN.

### TRADEMARKS

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### SAFETY FIRST!

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

## SUBMITTAL APPROVALS

<b>Job Name</b>	
<b>Contractor</b>	<b>Date</b>

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