

Fiberock®



Aqua-Tough™

Underlayment and
Tile Backerboard

Installation Guide

Interior Floors, Walls and
Countertops.

USG FIBEROCK® Brand
Tile Backerboard AQUA-TOUGH



FIBEROCK® Underlayment and Tile Backerboard

FIBEROCK® brand underlayment and tile backerboard are all-purpose substrates engineered to meet every floor underlayment and wall tile-backing need throughout a home. Behind and under ceramic tile, FIBEROCK tile backerboard provides the resistance to water and mold required in bathrooms, kitchens, and entryways. Under flooring, FIBEROCK underlayment provides a hard surface that's smooth and flat with no bumps or ridges to show through or affect ceramic, vinyl, laminate, carpeting or hardwood. With FIBEROCK panels, you can rely on a single family of products to back all types of tile and flooring everywhere in the home.

Integral water resistance

This remarkable family of products is completely different from wood-based substrates. Manufactured with a unique, patented technology, FIBEROCK panels feature a durable, water-resistant composition that resists the swelling and warping often experienced with plywood, oriented strand board (OSB), lauan and other wood-based underlayments.

Easy to install

FIBEROCK panels score easily and snap with minimal effort. In fact, the International Certified Floorcovering Installer Association awarded FIBEROCK underlayment the "Installer Friendly Seal."

Proven performance

FIBEROCK panels are warranted for 20 years against buckling, warping, delamination, cracking, and splitting upon fastening. They have been tested by the Tile Council of North America (using the Robinson Floor Method) and are approved for residential and light commercial use (as defined by TCNA).

Environmentally friendly

While conventional wood-based underlayments may use endangered, old-growth trees, FIBEROCK panels are made from 95 percent recycled material. In recognition of the environmentally sound alternative these panels provide, United States Gypsum Company earned the Green Cross certificate from Scientific Certification Systems, a leading testing company that evaluates environmental claims.

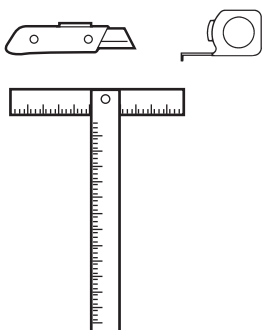
Introduction

Installing FIBEROCK panels is quick and easy. Just follow the simple installation steps in this booklet to create a perfect base for tile or floor coverings.

Note: Do not use FIBEROCK panels over concrete subfloors or over existing vinyl flooring with heavy cushioning or thick foam backing.

Tools

Common tools like those shown below are typically all that are needed to install FIBEROCK panels, though additional, specialized tools may be required with some finish materials, such as ceramic tile.



Materials

Underlayment

- **FIBEROCK Underlayment**
1/4" x 3' x 5', 1/4" x 4' x 4',
3/8" x 3' x 5', 3/8" x 4' x 4',
or 3/8" x 4' x 8'.
- **Joint Reinforcement**
DUROCK® brand interior tape
(alkali-resistant), 2" x 50',
or 2" x 250'.
- **Fasteners**
Length should equal the
combined thickness of the
underlayment and subfloor.
Appropriate choices include:
1/4"-crown (or larger) chisel-
point staples, corrosion-resis-
tant wood screws, hot-dipped

galvanized ring-shank under-
layment nails or hot-dipped
galvanized roofing nails.

- **Patching Compound**
Use a high-quality patching
compound approved by the
resilient-flooring manufacturer.
- **Subfloor**
System should be designed
for a deflection limit of L/360
for the span. The subfloor
should be APA Span-Rated
Plywood or OSB with an
Exposure 1 classification
or better with T&G or back-
blocked at the unsupported
edges.

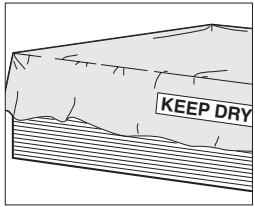
Tile Backerboard

- **FIBEROCK Tile Backerboard**
1/2" x 3' x 5', 1/2" x 4' x 4',
or 1/2" x 4' x 8'.
- **Joint Reinforcement**
Behind ceramic tile, use
DUROCK alkali-resistant joint
tape and latex-based Type I
mastic or latex portland
cement mortar. For sections
that will be painted, use paper
tape and setting-type joint
compound.
- **Fasteners**
Corrosion-resistant TYPE W
buglehead screws for wood
framing.
Hot-dipped galvanized roofing
nails for wood framing.
Corrosion-resistant TYPE S
buglehead screws for 25-20
ga. framing.
Corrosion-resistant TYPE S-12
buglehead screws for
20-14 ga. All fasteners must
be of sufficient length to
ensure a minimum 3/4"
penetration into framing.

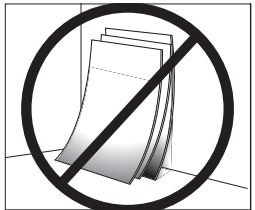
Handling

- Adhesive/Mortar
Meeting ANSI A136.1: Type I ceramic tile adhesive.
Meeting ANSI A118.1: dry-set mortar.
Meeting ANSI A118.4: latex portland cement mortar.
- Grout meeting ANSI A118.7.
- Ceramic tile meeting ANSI A137.1.
- Waterproof membrane: follow membrane manufacturer's installation recommendations.
- Protect panels from the elements with adequate covering during delivery and storage.
- Store panels flat on an even, dry surface. Allow panels to acclimate to temperature and humidity at job site prior to installation.
- Handle panels in an upright position to prevent breakage.

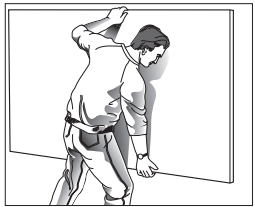
Correct



Incorrect



Correct



Incorrect



Preparation

Crawl Space Requirements

Crawl-space requirements may vary based on geographic location. Consult local building codes for more specific information.

Subfloor Requirements

The subfloor system should be designed for a deflection limit of $L/360$ for the span. The subfloor should be APA Span-Rated Plywood or OSB with an Exposure 1 classification or better with T&G or back-blocked at the unsupported edges.

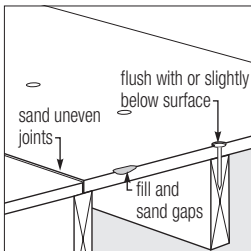
Resilient Flooring

Joist Spacing	Minimum Subfloor Thickness
16", 19.2", and 24" o.c.	23/32"

Ceramic Tile

Joist Spacing	Minimum Subfloor Thickness
16" o.c.	19/32"
19.2" o.c.	23/32"
24" o.c.	23/32"

Wood Subfloor



Clean subfloor and leave free of dust, dirt and debris. Ensure that subfloor is completely dry (no more than 12% moisture in subfloor prior to installation). Verify that fasteners are flush with, or slightly below, subfloor surface.

Ensure that subfloor and structure are within tolerances specified by floor covering manufacturer. Inspect subfloor for even, flat surface before installing underlayment. Uneven end edge joints and variations in subfloor panel thickness may telegraph through underlayment in vinyl applications. Sand uneven joints, if necessary.

Ensure that subfloor is flat between framing elements. If subfloor panels appear to buckle, correct by adding blocking or cleats under floor. Fasten cleats to subfloor to flatten panels. Repair voids, large gaps, and penetrations through subfloor using a manufacturer-approved floor leveler prior to installing FIBEROCK underlayment.

Over Existing Vinyl Floor

CAUTION: Do not install FIBEROCK underlayment over heavily cushioned, thick-foam-backed floor coverings.

- Ensure that existing floor is level and meets appropriate design requirements.
- Repair any missing or broken vinyl tiles, curling seams, severe gouges, or protrusions by filling with floor leveler.

If floor will be finished with ceramic tile, make sure that the existing vinyl covering is fully adhered and bonded to the floor.

Cutting and Laying Out Panels

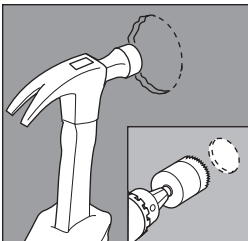
1 Cutting Panels

Maintain temperature and humidity in space approximate that of normal occupancy prior to, during, and after installation. Install underlayment, fastener marks up. Cut underlayment or tile backerboard from one side using score-and-snap method.



2 Cutouts

For difficult cuts, combine the score-and-snap method with use of a handsaw or low-RPM power saw. Cut holes for plumbing with a hole saw, keyhole saw or variable-speed jigsaw. A power saw should be used only if equipped with dust-collection device. Always wear an OSHA-approved dust mask when cutting FIBEROCK panels with a power saw.

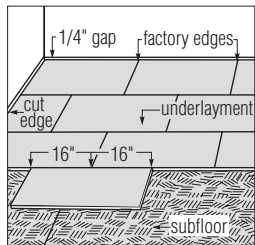


For more cutting techniques, consult your USG FIBEROCK representative.

3 Panel Layout

Lay cut edges against the wall; only factory edges should be joined. Begin laying panels at one corner. Maintain 1/4" space between panels and perimeter walls. Stagger joints a minimum of 16" o.c. so that four panel corners never meet, and offset end and edge joints of panels a minimum of 12" - 16" from subfloor panel joints. Butt panel edges and ends lightly together. A maximum 1/32" gap is allowed.

Preparation for resilient flooring: Consider critical lighting when determining panel layout. Run continuous panel joints in the direction of the dominant source of natural light, when possible.



Prior to installation of final floor covering, avoid heavy traffic and moving heavy items across panels. If necessary, items such as refrigerators or other appliances with wheels (or on wheeled dollies) may be rolled over underlayment surface; using strips of hard wood or scrap underlayment to bear the wheel traffic is recommended. Allow a minimum of 24 hours after floor covering installation before placing heavy appliances or furniture on floor.

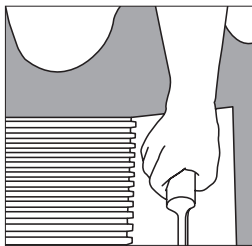
Floor Application

Ceramic Tile

Underlayment or Tile Backerboard

1 Lamination

Laminate FIBEROCK underlayment or tile backerboard to minimum 5/8"-thick exterior-grade plywood/OSB with Type I organic adhesive, latex portland cement mortar, or dry-set mortar. Apply adhesive with a V-notched trowel, mortar with square-notched trowel.

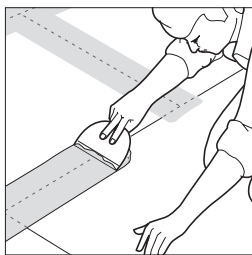


2 Fastening

Fasten panels to subfloor with staples, screws or nails, spaced 8" o.c., with perimeter fasteners 1/2" from ends and edges.

Sweep all debris from underlayment and vacuum carefully to eliminate dust and dirt.

3 Finishing Joints

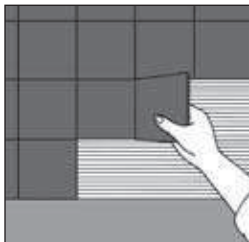


Prefill all joints with tile-setting mortar or adhesive, then immediately embed DUROCK interior tape over joints. Strike joints flush.

4 Priming

Key-in mortar or adhesive to prime surface of underlayment.

5 Ceramic Tile Installation



Sweep all debris from underlayment and vacuum carefully to eliminate dust and dirt.

To set tile, apply adhesive or mortar to underlayment or tile backerboard with notched trowel. Working a small area at a time, set tile with a slight twisting motion and press into place. Avoid adhesive buildup on tile edge and in grout space. Keep tiles aligned so joints are straight and uniform. Use tile spacers if desired.

Note: Refer to ANSI A108.4 or A108.5 for complete tile installation instructions. Refer to mortar, tile, and grout manufacturer's recommendations for proper tile type and size, mixing instructions, and set and cure times.

Floor Application

Resilient Flooring

Underlayment

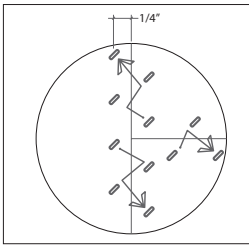
1 Selecting Fasteners

Fasten FIBEROCK underlayment to subfloor with 1/4"-crown staples. Do not use screws or nails.

Fastener length should be approximately equal to combined thickness of underlayment and subfloor. Do not allow fasteners to penetrate through subfloor.

2 Fastening Panels

Lay panels flat and press tightly onto subfloor while fastening. Begin fastening where three panels intersect. Affix staples along joints in a zipper pattern at 1" o.c., 1/4" from panel edge. Install staples at 4" o.c. in the field of panels.



Consult your USG FIBEROCK representative for additional fastening techniques.

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" below surface.

Fasten one panel at a time. Begin at one end and fan out across the floor.

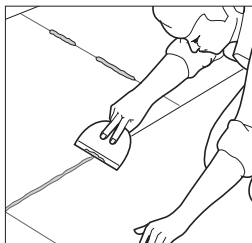
Installing FIBEROCK Panels Over Existing Vinyl Floor Coverings—

Do not install underlayment over heavily cushioned, thick-foam-backed vinyl. Ensure that existing floor is level, is 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.

3 Correcting Joint Imperfections

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" 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 all debris from panel surfaces; vacuum carefully to eliminate excess dust and dirt.



4 Applying Floor Covering

Refer to floor-covering manufacturer's recommendations for proper procedures. For proper trowel selection, refer to adhesive manufacturer's recommendation for non-porous 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.

Perimeter-Bonded, Felt-Backed Resilient Floor Covering—

Joint patching is not required with this type of floor covering in new construction unless joint spaces or lippage exceed $1/32''$. Carefully fill joints wider than $1/32''$ 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. Remove dust, dirt, and debris from underlayment surface before application of floor covering.

Wood Flooring

Underlayment

Mechanically Fastened Wood Flooring

Fasteners must be long enough to penetrate through FIBEROCK underlayment and into subfloor. To determine proper fastener length, add thickness of underlayment to length of fastener recommended by the flooring manufacturer. Follow recommendations on pages 6 and 8 for underlayment installation.

Glued-Down Wood Flooring

Installation of engineered or solid hardwood glued-down flooring must strictly follow manufacturer's instructions. Follow recommendations above for underlayment installation.

Wall Application

Ceramic Tile

Tile Backerboard

1 Framing Requirements

Steel or wood wall framing shall be structurally sound and in compliance with local building code requirements. Damaged and excessively bowed studs shall be replaced before installation of tile backerboard panels.

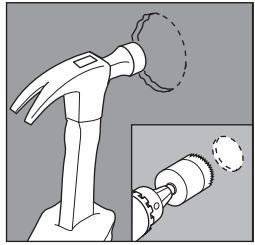
Space wood or steel framing 24" o.c., maximum. Framing shall be designed to meet L/360 deflection for tile and L/240 deflection for flexible finishes such as paint.

2 Cutting Tile Backerboard

Panels may be cut by scoring and snapping with a utility knife and straight edge, or by sawing, working from the face side. With score-and-snap method, score panel twice and snap away from cut face, then snap panel in reverse direction to break back. Where necessary, use a rasp or surform to smooth the cut edges. If a power saw is used, a low-RPM, carbide-blade portable saw is recommended. A power saw should be used only if equipped with dust-collection device. Always wear an OSHA-approved dust mask when cutting FIBEROCK panels with a power saw.

3 Cutouts

Holes for pipes, fixtures, and other small openings can be cut with a saw, or a drywall router equipped with a purpose-made bit available from ROTOZIP Tool Corporation. Always wear an OSHA-approved dust mask when cutting FIBEROCK panels with a power tool.

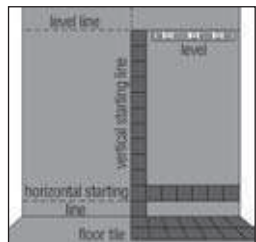
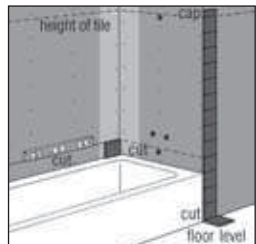


4 Priming

Key-in mortar or adhesive to prime surface of underlayment.

5 Measuring and Planning Tile Installation

In installations such as tub surrounds where tile will be installed on only a portion of the wall surface, establish desired height of tile and draw a level line along tile backerboard at this location. Be sure to allow for height of tile cap, if applicable.

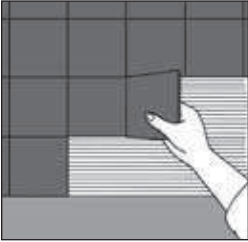


Determine whether floor is level by measuring distance to desired tile height on both sides of area to be tiled. If there is a difference (i.e., the floor is lower on one side), lay one vertical row of tile from

desired tile height to low point of floor. Affix tiles with tile-setting materials. Use this first row as a guide to keep tiles and grout lines level and even throughout installation.

If new flooring will be installed, allow for thickness of new flooring where the wall meets the floor.

6 Installing Ceramic Tile



Always follow current ANSI specifications and TCNA guidelines for installing tile.

Apply tile-setting material to tile backerboard with notched trowel; hold trowel at min. 45° angle to maintain uniform thickness.

Working a small area at a time, set tile with a slight twisting motion and press into place. Keep tiles aligned so joints are straight and uniform. Use tile spacers if desired. If excess adhesive squeezes from under tile, remove before it dries.

Behind ceramic tile, use DUROCK alkali-resistant joint tape and latex-based Type I mastic or latex-fortified mortar.

For sections that will be painted, use paper tape and setting-type joint compound.

Ceramic Tile

Underlayment

1 Base Layer

Install minimum 3/4" exterior-grade plywood or OSB base across cabinet supports. Position ends and edges over supports and secure with suitable screws or nails, spaced 12" o.c. max.

2 Installing FIBEROCK Underlayment

Position underlayment with joints staggered from base joints. Fit ends and edges closely but do not force together. Fasten panels with corrosion-resistant wood screws, hot-dipped galvanized ring-shank underlayment nails, or roofing nails, spaced 8" o.c. in both directions with perimeter fasteners 1/2" from ends and edges.



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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.



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