USG

FIBEROCK® Underlayment and Tile Backerboard

Installation Guide

FIBEROCK® Underlayment and Tile Backerboard

FIBEROCK® underlayment and tile backerboard are all purpose substrates engineered to meet floor underlayment and wall tile-backing needs throughout a home. Under resilient flooring, FIBEROCK underlayment provides a hard surface that's smooth and flat with no bumps or ridges to show through or affect finished floor covering. Behind and under tile or natural stone, FIBEROCK tile backerboard provides the resistance to water and mold that is required in bathrooms, kitchens and entryways. With FIBEROCK panels, you can rely on a single family of products to back all types of tile and resilient flooring in the home.

Integral Water Resistance
This remarkable family of products is completely different from other substrates. Manufactured with a unique, proprietary technology, FIBEROCK panels feature a durable, water-resistant composition that eliminates the swelling and warping often experienced with fiber cement, 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. They have been tested by the Tile Council of North America (TCNA), using the Robinson Floor Method, and are approved for residential and light commercial use (as defined by TCNA).

Environmentally Friendly
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.

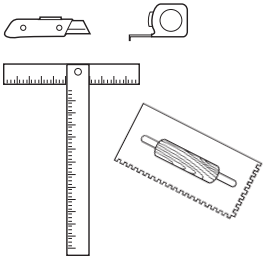
Introduction

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 cushion-backed vinyl.

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 tile and natural stone.



Materials

FIBEROCK Panels

– **Sizes and Packaging**

Size (thick x width x length)	Units (pcs.)
1/4" x 4' x 4'	60
1/4" x 3' x 5'	60
3/8" x 4' x 4'	60
3/8" x 4' x 8'	40
3/8" x 3' x 5'	60
1/2" x 3' x 5'	50
1/2" x 4' x 8'	30
5/8" x 3' x 5'	40
5/8" x 4' x 8'	24

– **Joint Reinforcement**

Behind ceramic tile, use DUROCK™ tile backer tape and latex-based Type I mastic or latex-modified thin-set mortar. For sections that will be painted, use paper tape and setting-type joint compound.

– **Fasteners**

Wall Application: For steel stud applications (20 ga. or equivalent), use 1-1/4" or 1-5/8" DUROCK™ screws for steel framing (or equivalent). For wood stud applications, use 1/4", 1-5/8" or 2-1/4" DUROCK screws for wood framing (or equivalent) or 1-1/2" hot-dipped galvanized ring shank roofing nails.

Floor Application: Use 1-1/4" DUROCK™ tile backer screws for wood framing (or equivalent) or 1-1/2" hot-dipped galvanized ring shank roofing nails. For resilient flooring, use minimum 1/4" 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.

– **Floor and Wall Framing**

Floor Tile Applications: Maximum joist spacing 24" 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 L/720). 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.

Wall Applications: Maximum stud spacing: 16" 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" o.c. for wood and steel framing; 6" o.c. for ceiling applications.

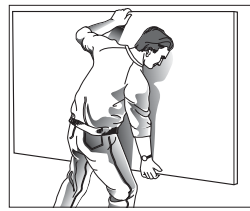
- **Patching Compound**
  Use a high-quality patching compound such as DUROCK Floor Patch or equivalent approved by the resilient-flooring manufacturer.

- **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**
  If waterproofing is desired, use DUROCK™ tile membrane installed with DUROCK™ tile membrane adhesive. See USG literature piece CB492 for DUROCK tile membrane product information.

- 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.

Incorrect

Correct



Incorrect

Crawl-Space Requirements

Crawl-space requirements may vary based on geographic location. Consult local building codes for more specific information regarding vapor barriers and their uses.

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 tongue and groove or back-blocked at the unsupported edges.

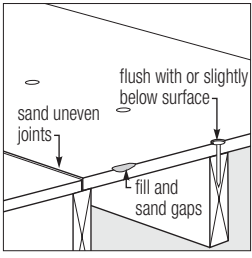
Resilient Flooring

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.

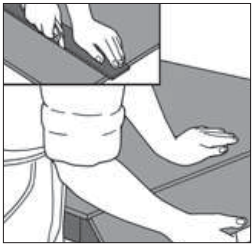
- Ensure that existing floor is level and meets appropriate design requirements.
- Repair any missing or broken vinyl tiles, curling seams, severe gouges, or protrusions by filling with floor leveler.

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

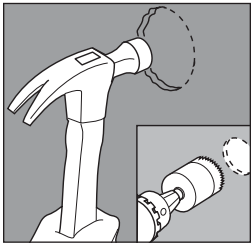
Cutting Panels

Maintain temperature and humidity in space approximate to that of normal occupancy prior to, during and after installation. Install underlayment, with fastener marks up. 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 the back. Where necessary, use a rasp or surform to smooth the cut edges.



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 a dust-collection device. Always wear an OSHA-approved dust mask when cutting FIBEROCK panels with a power saw.

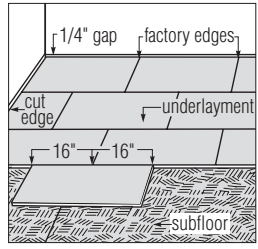


For more cutting techniques, consult your USG FIBEROCK representative.

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" 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.



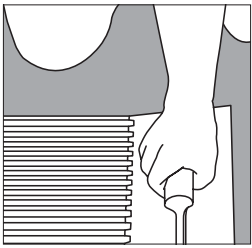
Prior to installation of final floor covering, avoid heavy traffic and moving heavy items across panels. If necessary, items such as refrigerators or other appliances with wheels (or on wheeled dollies) may be rolled over underlayment surface; using strips of hard wood or scrap underlayment to bear the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

Ceramic Tile

Underlayment or Tile Backerboard

Panel Application

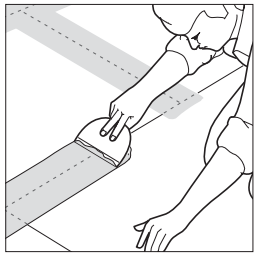
Apply Type 1 organic adhesive with 5/32" v-notched trowel, latex-fortified mortar with 1/4" square-notched trowel. Comb out adhesive or mortar in straight, parallel rows (as shown below) and immediately cover with panel. Adhere panels to subfloor, one panel at a time.



Fastening

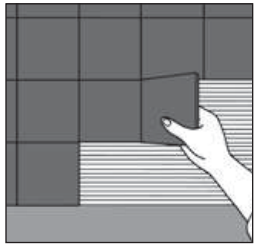
Fasten to subfloor with 1-1/4" DUROCK tile backer screws for wood framing (or equivalent) or 1-1/2" hot-dipped galvanized ring shank roofing nails spaced 8" o.c. in both directions with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges. Drive nails and screws so that bottoms of heads are flush with panel surface to ensure firm panel contact with subfloor. Do not overdrive fasteners.

Finishing Joints



Fill joints with latex-fortified mortar or Type 1 organic adhesive and immediately embed DUROCK tilebacker tape or equivalent alkali-resistant, fiberglass mesh joint tape.

Ceramic Tile Installation



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

To set tile, apply latex-fortified mortar or Type 1 organic adhesive with a notched trowel. Key in mortar or adhesive with flat side of trowel to prime FIBEROCK surface, then comb out adhesive or mortar in straight parallel rows. When combing out adhesive or mortar, hold trowel at an angle to maintain uniform thickness.

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 setting material manufacturer for specific information related to trowel type and size, proper tile type and size, mixing instructions, and set and cure times.

Resilient Flooring

Underlayment

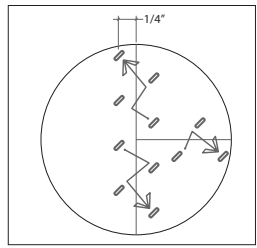
Selecting Fasteners

Fasten FIBEROCK underlayment to subfloor with 1/4" crown chisel point 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.

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.

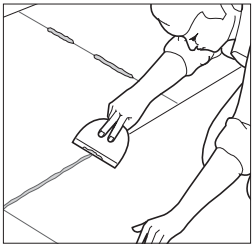
When using pneumatic tools, apply sufficient pressure on gun to prevent the tool from bouncing. Set pneumatic tool pressure to drive fasteners flush or slightly below underlayment surface. To prevent fastener heads from telegraphing through resilient floor covering, do not countersink more than 1/16" 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.

Correcting Joint Imperfections
Use DUROCK patching compound or equivalent 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.

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.

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.

Ceramic Tile

Tile Backerboard

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.

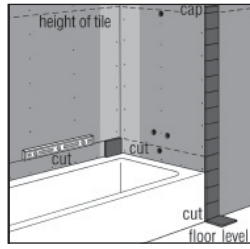
Fastening
Space fasteners 8" o.c. for walls, 6" o.c. for ceilings. Fit ends and edges of panels closely, but not forced together.

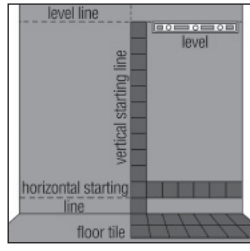
- Wood framing: 1-1/2" hot-dipped galvanized ring shank roofing nails or 1-1/4" DUROCK screws for wood framing or equivalent.
- Steel framing: 1-1/4" DUROCK screws for steel framing or equivalent.
- Joining: Fill joints with latex-fortified mortar or Type 1 organic adhesive and immediately embed DUROCK tape or equivalent alkali-resistant, fiberglass mesh joint tape.

Shim
Place a 1/4" spacer strip or shim around lip of bathtub or shower pan to hold bottom edge of panel off the fixture.

Joint Finishing
In areas that will be tiled, finish joints with DUROCK tile backer tape and latex-fortified mortar or Type I mastic. In areas that will be painted: For taping, use SHEETROCK® brand joint tape with SHEETROCK® DURABOND® setting-type joint compound. For finishing, use SHEETROCK® all purpose joint compound. Do not use PLUS 3® lightweight all purpose or MIDWEIGHT™ joint compounds on FIBEROCK panels.

Planning Your Tile Installation
Where tile will not cover entire wall surface, such as above the tub and shower surrounds, determine where you want the tile to end and draw a level line at this height. Be sure to allow for height of tile cap, if applicable.

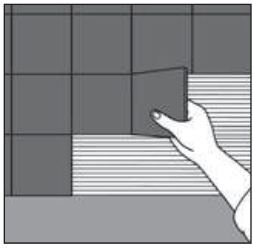




Determine whether floor is level by measuring distance to desired tile height on both sides of area to be tiled. If there is a difference (i.e., the floor is lower on one side), lay one vertical row of tile from desired tile height to low point of floor. Affix tiles with tile-setting materials. Use this 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.

Installing Ceramic Tile

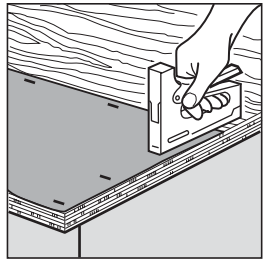


Always follow current ANSI specifications and TCNA guidelines for installing tile.

Apply tile-setting material to tile backerboard with notched trowel; key in mortar or adhesive with smooth side of trowel to prime FIBEROCK surface first, then comb out mortar or adhesive in straight parallel rows, hold trowel at min. 45º 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.

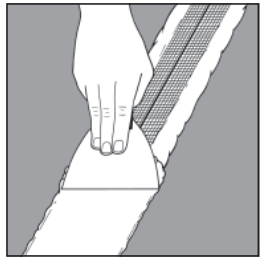
Cover plywood base with DUROCK tile membrane, 15 lb. felt or 4 mil polyethylene and attach with 1/4" galvanized staple.



Position
Fit ends and edges of panels closely, but not forced together. Stagger panel joints from plywood base joints.

Fasten
Space fasteners 8" o.c. around the perimeter and in the field of the board.

Joining
Fill joints with latex-fortified mortar or Type 1 organic adhesive and immediately embed alkali-resistant, fiberglass mesh joint tape.



Finish
Install tile.

Note:
Because cement board fasteners may protrude through the plywood base when 1/4" cement board is used, 1/2" or 5/8" cement board is preferred in this application.

Trademarks
The following trademarks used herein are owned by United States Gypsum Company or a related company: DURABOND, DUROCK, FIBEROCK, MIDWEIGHT, PLUS 3, SHEETROCK, USG, USG in stylized letters.

Note
Products described here may not be available in all geographic markets. Consult your United States Gypsum Company sales office or representative for information.

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

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.

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