



# USG DUROCK™ BRAND UNCOUPLING MAT

**A waterproof underlayment membrane that helps suppress the transfer of lateral movement in a subfloor to preserve the integrity of the tile installation.**

- Provides uncoupling, waterproofing, and vapor management of the substrate
- Lighter, thinner alternative to 1/4" tile underlayment panels
- Low density core helps keep the membrane flat during installation
- Rot-proof and resistant to solvents and alkalis
- Ceramic tile installation can take place immediately after the membrane is installed
- Approved for use with modified and unmodified mortars

## DESCRIPTION

The USG Durock™ Brand Uncoupling Mat is a lightweight, high performance crack isolation, waterproofing and vapor management underlayment membrane for use with ceramic tile and natural stone installations in both residential and commercial applications. The membrane features a low-density polyethylene (LDPE) core to reduce roll-back memory during installation and a reinforced fleece backing keys into mortar providing a secure mechanical bond to the substrate. Its unique dimple design and non-woven fabric allows for minimal passes to fill cavities with mortar. When exposed to stresses from in-plane lateral movement of the substrate, the USG Durock™ Uncoupling Mat absorbs and prevents the transfer of those stresses (up to 1/8"), preserving the integrity of the tile installation.

## PRODUCT DATA

Sizes and Packaging: 43 in. x 98 ft. (1.1 m x 30 m) roll

Product conforms to ANSI A118.10 American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimensional Stone Installation and ANSI A118.12 American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation.

## COMPOSITION AND MATERIALS

USG Durock™ Uncoupling Mat is an LDPE film with a spun bond polypropylene non-woven fabric on the top side and a needle punched polypropylene fleece on the bottom side.

## APPLICATIONS

### Use:

- In interior and exterior\* applications for both residential and commercial floors.
- To renovate older floors to address existing in-plane cracks in the subfloor.
- To diminish the transfer of stresses beneath the flooring associated with expansion and contraction between different substrate materials.
- To protect in-plane lateral movement in industry-approved plywood or oriented strand board (OSB) floors from transferring to the finished floor.
- To accelerate construction timelines require installing tile over green concrete slabs before the recommended 28-day cure.

*\* Contact a USG sales representative for appropriate prep and installation recommendations.*

## APPROVED SUBSTRATES

- Concrete, lightweight concrete\*
- Green concrete
- Exterior-grade plywood and APA Sturd-I-Floor, Exposure 1 OSB (interior use only)
- Tile backerboards such as USG Durock® Brand Cement Board and Fiberock® Brand Tile Backerboard
- Gypsum underlayments such as USG Levelrock® Brand\*
- Cement mortar beds, self-leveling underlayment and leveling coats
- Properly prepared cement terrazzo (interior only)
- Properly prepared existing ceramic tile or stone (interior only)
- Properly prepared existing vinyl flooring such as VCT, LVT/LVP, and non-cushioned paper backed/ felt-backed sheet vinyl
- Radiant-heat systems

*\* Follow manufacturer's recommendation regarding priming and/or special surface preparation before installing USG Durock™ Brand Uncoupling Mat.*

## SURFACE PREPARATION

1. All suitable substrates should be structurally sound, stable, dry, clean and free of any contaminants that may reduce or prevent proper bonding of the mortar to the substrate.
2. Substrate and ambient temperature must be between 40°F and 95°F during installation and after, until the mortar is set.
3. Mechanically clean and prepare concrete substrates by grinding or shot blasting to obtain the minimum International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of 1. When concrete requires more mechanical preparation than CSP 1 to remove contaminants in the concrete, the final surface must be smoothed by applying either a USG self-leveling underlayment or patch/skim coat.
4. USG Durock™ Brand LSP™ Liquid Surface Profiler can be used to achieve required CSP and remove contaminants in concrete instead of mechanical methods. Review specified USG Durock™ LSP Liquid Surface Profiler Submittal Sheet (CB5246) at usg.com for more information.

### CONCRETE/GREEN CONCRETE

All concrete substrates must be structurally sound, stable, dry, clean and free of any contaminants that may reduce or prevent bonding. The surface should be free of voids, sharp protrusions, loose aggregate, cement laitance, concrete sealers and curing compounds. As per Tile Council of North America (TCNA) F128, concrete must be cured sufficiently to support tile installation traffic as determined by the project design professional, construction manager, or general contractor. Slabs subject to excessive moisture, vapor transmission and/or alkalinity should have all seams sealed or treated using USG Durock™ Brand Waterproofing Membrane Band or equivalent.

All exterior applications must be appropriately sloped to drains.

### EXTERIOR RATED PLYWOOD AND OSB

1. Wood-framed floor systems over which the tile will be installed using the appropriate TCNA method, according to the Floor Tiling Installation Guide, must conform with the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications, or applicable building codes.
2. For ceramic tile installations, the maximum allowable floor member live load and concentrated load deflection for framed floor systems must not exceed  $L/360$ , where "L" is the clear span length of the supporting member per applicable building code. For natural-stone tile installations, maximum allowable floor member live load and concentrated load deflection for wood-framed floor systems shall not exceed  $L/720$ , where "L" is the clear span length of the supporting member, per applicable building code.
3. For other specialty flooring products, including marble and slate, refer to the manufacturer's recommendations for the finished flooring. Enhanced structural performance may be required for ceramic and natural-stone floor products. See the TCNA Handbook for Ceramic Tile Installation.
4. Verify that the deflection under all live, dead and impact loads of interior plywood or OSB APA Sturd-I-Floor Exposure 1 floors complies with industry standards for ceramic tile or stone installations per ANSI A108.01, Section 2.3; TCNA's "Maximum Allowable Deflection for Floor Systems and Substrates" under Substrate Requirements; or Terrazzo Tile and Marble Association of Canada's (TTMAC) installation notes for the specifier/section deflection.

### EXISTING SURFACING MATERIAL

Resilient flooring and laminates must be well-bonded, clean and free of all contaminants. Abrade the surface by sanding or scarifying, rinse away debris and allow to dry. Check for asbestos prior to use. Do not use over flooring containing asbestos. Contact remediation expert if asbestos is present. For existing well-bonded ceramic tile, mechanically abrade with a low grit sandpaper (60-80 grit), rinse away debris and allow to dry.

### EXPANSION/MOVEMENT JOINTS

1. Honor expansion joints through USG Durock™ Uncoupling Mat, tiles and grout per industry standards.
2. Expansion joints, as described in ANSI A108.01 section 3.7, should never be bridged with setting material. They must be brought through the tile work and filled with an appropriate elastomeric sealant.
3. If necessary, cut tiles along both sides of the expansion joints. Do not allow tiles and mortar to overlap the expansion joints.
4. Provide for movement as required by TCNA Method EJ171 or TTMAC Specification Guide 09 30 00, Detail 301MJ.

## INSTALLATION

- A. Inspect the subfloor before installing USG Durock™ Uncoupling Mat to confirm that the substrate is acceptable for tile or stone installation. Honor construction joints and fill all substrate cracks, cold joints, control joints with suitable materials.
- B. Pre-cut and dry-fit USG Durock™ Uncoupling Mat in place.
- C. Mix mortar for the substrate to a consistency on the high end of the recommended water range. The mortar should be able to wet out the fleece backing of USG Durock™ Uncoupling Mat and still be able to hold a notched ridge.

## INSTALLATION, CONT.

- 
- D. With pressure, apply mortar by using the trowel's flat side to key mortar into the substrate.
  - E. Apply additional mortar, combing it in a single direction using a 1/4" x 1/4" square-notched trowel.
  - F. Spread only as much thin-set mortar that can be covered with the uncoupling mat before the mortar skins over.
  - G. Embed USG Durock™ Uncoupling Mat into the mortar with the dimpled side facing up using a wood or rubber float, hand roller or steel roller (max. 75-lbs.), applying consistent pressure to ensure proper embedding of the mat into the mortar.
  - H. Lift the mat occasionally to verify proper coverage. Correct installation results in full contact between the fleece backing and the mortar.
  - I. Ensure that all edges or ends of each roll butt the edges or ends of other rolls without leaving gaps. Leave 1/4" gap between the uncoupling mat and the edge of walls, columns, etc. for movement. To ensure a flat surface, do not overlap edges or ends from one roll onto another.
- 

## FOR WATERPROOF APPLICATIONS

- A. Using the flat side of a trowel or a joint knife, key in the mortar to the adjoining seams, being sure to fill in all the dimples and any holes or voids within 3 inches of each side of the seam. Apply additional mortar over the seam using a 1/4" x 3/16" V-notched trowel in parallel ridges within 3 inches of each side of the seam.
  - B. Center USG Durock™ Waterproofing Membrane Band over the seams, allowing at least 2" of band on each side of the seam. Embed USG Durock™ Waterproofing Membrane Band. Work the band into the thin-set with a grout float or the trowel's flat side while the mortar is still workable.
  - C. To waterproof around the walls of the installation area, take a pre-measured length of USG Durock™ Waterproofing Membrane Band and fold it in half along its length. One side of the fold will be adhered to the floor and the other side will be adhered up the wall. Follow first two steps for applying mortar and embedding USG Durock™ Waterproofing Membrane Band.
  - D. To ensure proper installation flood test the floor to check for leaks before installing tiles.
- 

## TILE INSTALLATION

- A. In accordance with the TCNA Handbook for Ceramic Tile Installation and with porcelain tile manufacturers, use an unmodified or polymer-modified mortar suitable for the tile being installed. The mortar should meet the ANSI A118.1, A118.4, A118.11 or A118.15 standard; or be classified as ISO 13007 C2E or better.
- B. For fast-track and exterior installations, use a rapid-setting polymer-modified mortar.
- C. First, skim coat the surfaces of the USG Durock™ Uncoupling Mat using the flat side of the trowel, making sure that the dimples and fabric are completely filled with mortar.
- D. Immediately apply additional mortar and comb in one direction over the membrane using the recommended notched trowel size and shape suitable for the size and type of tile being installed.
- E. Check frequently for adequate mortar coverage under the tile. Interior tile or stone installations can take place immediately after the USG Durock™ Uncoupling Mat installation. Exterior tile or stone installations must wait until the mortar under the USG Durock™ Uncoupling Mat has reached a sufficient cure.

*\*If installing moisture-sensitive stone tile contact a USG representative*

---

## GROUT INSTALLATION

Select an appropriate cement, ready-to-use, or epoxy grout for the jobsite conditions. For exterior installations, USG recommends using a rapid-setting grout. Longer drying times may be required before grouting when installing large-format tiles greater than 12" x 12".

---

## LIMITATIONS

1. Do not bond directly to hardwood, particle board, parquet, cushion or sponge-back vinyl flooring, plastic, substrates containing asbestos, plank wood flooring, pressure- or oil-treated plywood, Luan/Luan plywood, Masonite, self-stick tile, metal or fiberglass surfaces, epoxy floors or dimensionally unstable materials.
2. Do not use as a wear surface or on vertical surfaces.
3. Allow 24 hours for the USG Durock™ Uncoupling Mat to cure after application before installing large format or natural stone tiles. When installing natural stone or large format tiles always use a mortar meeting ANSI A118.4, A118.11 and A118.15.
4. Do not use over cracks or control joints which are subject to out of-plane movement, or subject to in-plane movement greater than 1/8".
5. Do not use when hydrostatic pressure exists.
6. Do not use as a roof deck membrane or in submerged applications.
7. Do not use in exterior applications over plywood.

## LIMITATIONS, CONT.

8. Do not use mastics or other premixed products to set tile over USG Durock™ Uncoupling Mat.
9. All tile or stone set over USG Durock™ Uncoupling Mat must be a minimum of 2" x 2" (5 x 5 cm).
10. Waterproof installations requiring seam tape should be properly sloped to facilitate drainage and prevent standing water.
11. When using over green concrete, the concrete must be cured sufficiently to support tile installation traffic as determined by the project design professional, construction manager, or general contractor.
12. During construction, if the floor becomes wet, it should be allowed to dry completely before application of finish flooring.

## TECHNICAL DATA

Property	ANSI / ASTM Test	USG Durock™ Uncoupling Mat
Thickness	n/a	1/8" (3mm)
Fungus and microorganism resistance	ANSI A118.10	No mold growth
Seam strength	ANSI A118.10 / ASTM D751	>8 lbs./in.
Breaking strength	ANSI A118.10 / ASTM D751	>170 psi
Dimensional stability	ANSI A118.10 / ASTM D1204	<0.7%
Waterproofness	ANSI A118.10 / ASTM D4068	Pass
Shear strength to ceramic tile and cement mortar	ANSI A118.10 / ASTM C482	>50 psi
Point load	ANSI A118.12	>1000 lbs.
Crack resistance	ANSI A118.12	No failure up to 1/8 in. crack opening
Robinson Service Rating	ASTM C627	Wood substrate, 24" o.c. - Heavy Concrete slab - Extra Heavy

## SUBMITTAL APPROVALS

Job Name	
Contractor	Date

### PRODUCT INFORMATION

See usg.com for the most up-to-date product information.  
Product safety information: 800 507-8899 or usg.com.  
Customer Service: 800 USG.4YOU (874-4968).

KEEP OUT OF REACH OF CHILDREN.

### TRADEMARKS

The trademarks USG, LSP, FIBEROCK, LEVELROCK, DUROCK, IT'S YOUR WORLD.BUILD IT., the USG logo, the design elements and colors, and related marks are trademarks of USG Corporation or its affiliates.

### NOTE

Products described here may not be available in all geographic markets. The information in this document is subject to change without notice. USG and/or its affiliates assume no responsibility for any errors that may inadvertently appear in this document. Consult your USG sales office or representative for information.

### NOTICE

We shall not be liable for consequential, incidental or special 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 or a refund of the purchase price, at USG's option. 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.

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

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

CB900-USA-ENG/rev. 3-20  
© 2020 USG Corporation and/or  
its affiliates. All rights reserved.  
Printed in U.S.A.

**USG**  
IT'S YOUR WORLD. BUILD IT.®