



# CRACK PREVENTION

## SIKATILE®-250

### FRACTURE GUARD UCM

### INSTALLATION GUIDE

# CRACK PREVENTION USING UNCOUPLING MEMBRANE SYSTEM

## SikaTile®-250 Fracture Guard UCM System instructions

### OVERVIEW

This manual provides detailed instructions for the installation of Sika® materials, including SikaTile®-250 Fracture Guard UCM and related accessories. Proper surface preparation, application techniques, and maintenance are essential for ensuring a durable finish.

### MATERIALS COVERED



SIKATILE®-250  
FRACTURE GUARD  
UCM

Available in:

- 54-sq. ft. roll
- 323-sq. ft. roll



SIKATILE®-150 MOISTURE GUARD ST

Available in:

- 5" x 5m-roll
- 5" x 30m-roll



SIKATILE®-150 MOISTURE GUARD IC



SIKATILE®-150 MOISTURE GUARD OC

### INTRODUCTION

SikaTile®-250 Fracture Guard UCM is a high-performance, premium, thin, lightweight, and durable 3-ply polyethylene uncoupling sheet membrane designed for crack prevention, waterproofing, and vapor control in ceramic tile and stone installations. It is ideal for both interior and exterior residential and commercial applications. The membrane features two non-woven, polypropylene fabric layers on both sides, ensuring maximum adhesion by embedding into the tile adhesive. It is especially suited for use over challenging substrates like young concrete and plywood subfloors.

#### Product Features:

- **Lightweight & Durable:** The 3-ply design provides a lightweight yet robust solution for uncoupling, crack isolation, and waterproofing
- **Versatile Use:** Suitable for interior and exterior applications and for use with any tile size, including mosaics
- **Crack Isolation:** Prevents the transmission of in-plane cracks up to 1/8" (3 mm)
- **Waterproof & Vapor Control:** When combined with SikaTile®-150 Moisture Guard Fabric seam tape and inside/outside corners, the system offers effective waterproofing and vapor control up to 25 lb (11.3 kg) MVER and 100% RH
- **Compression Resistance:** Rated for extra-heavy use with compression resistance to support rolling loads
- **Fast Installation:** The membrane is easy to handle, cut, and install, allowing for immediate tile placement using polymer-modified mortars

#### Intended Uses:

- **Crack Prevention:** Ideal for preventing cracks in tile and stone installations
- **Waterproofing:** Provides waterproofing protection for interior and exterior floors
- **Vapor Control:** Can be used as a vapor retarder in high-moisture environments
- **Residential & Commercial Use:** Suitable for both commercial and residential applications, including installation over plywood, OSB, young concrete, and more

#### Suitable Substrates:

SikaTile®-250 Fracture Guard UCM can be installed on the following substrates:

- Concrete (cured and young/green)
- Cement backer units
- Cement mortar beds (cured)
- Ceramic tile and stone
- Gypsum underlayment
- Oriented Strand Board (OSB)
- Exterior grade plywood (EGP)
- SikaLevel® Products

#### SURFACE PREPARATION

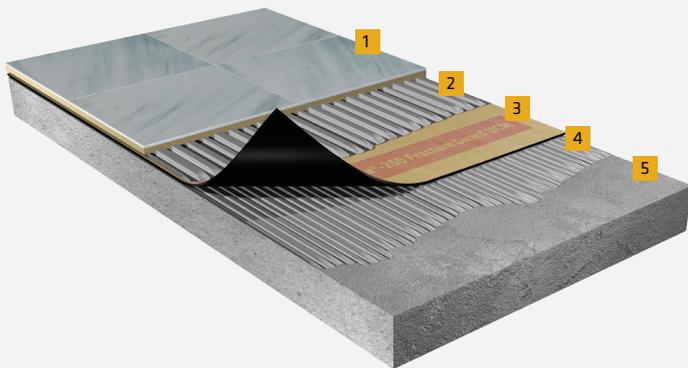
##### General Requirements:

- All surfaces must be structurally sound, dry, clean, and free from contaminants such as oil, grease, wax, paint, old adhesives, sealers, and curing compounds.
- **Temperature Range:** Surfaces should be between 40°F (4°C) and 90°F (32°C).
- **Deflection:** Substrate deflection should not exceed L/360 for ceramic and porcelain tiles and L/720 for natural stone.
- **Ensure surfaces are plumb and true,** with deviations no greater than 1/4" in 10' (for large format tiles, 1/8" in 10').
- **Patching/Leveling:** Use Sika underlayments where necessary.
- **Expansion Joints:** Expansion and control joints must be carried through the floor and tile, perimeter joints can be left open or caulked. Ensure joints are followed according to TCNA method EJ171
- Concrete must be free from hydrostatic pressure and excessive moisture.



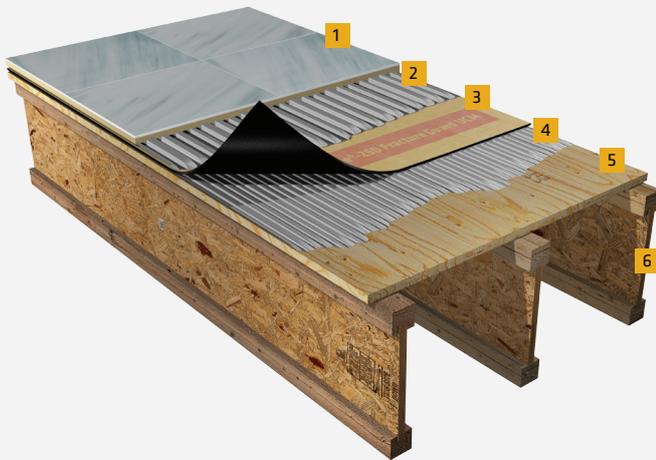
# SUBSTRATE TYPES

## INTERIOR INSTALLATION OVER CONCRETE, CERAMIC, PORCELAIN OR NATURAL STONE



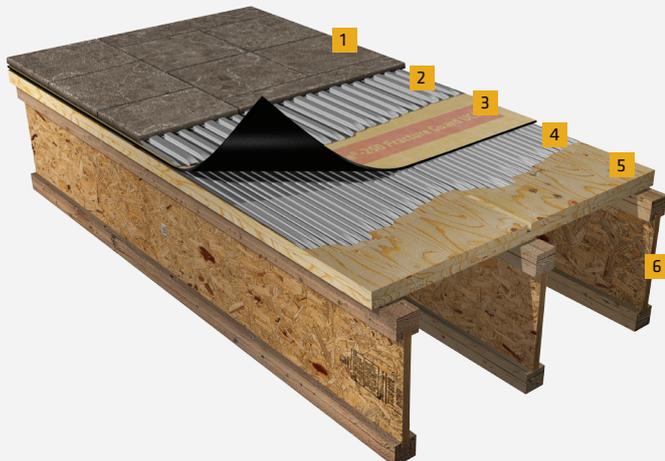
1. Ceramic Tile, Porcelain Tile or Natural Stone
2. SikaTile® Mortar (ANSI A118.4 or Better)
3. SikaTile®-250 Fracture Guard UCM
4. SikaTile® Mortar (ANSI A118.4 or Better)
5. Concrete Substrate

## 16-INCH OR 19.2-INCH ON-CENTER WOOD SUBSTRATE



1. Ceramic or Porcelain Tile
2. SikaTile® Mortar (ANSI A118.4 or Better)
3. SikaTile®-250 Fracture Guard UCM
4. SikaTile® Mortar (ANSI A118.4 or Better)
5. Plywood or OSB (Meeting Industry Deflection Requirements)
6. Joists, I-Joists or Trusses

## 16-INCH OR 19.2-INCH ON-CENTER WOOD SUBSTRATE FOR NATURAL STONE



1. Natural Stone
2. SikaTile® Mortar (ANSI A118.4 or Better)
3. SikaTile®-250 Fracture Guard UCM
4. SikaTile® Mortar (ANSI A118.4 or Better)
5. Plywood or OSB (Meeting Industry Deflection Requirements)
6. Joists, I-Joists or Trusses

1. **Concrete:** Must be cured a minimum of 7 days before tile installation. Roughen smooth, steel-troweled floors.
  - Concrete
  - Young/Green on grade concrete (cured for at least 7 days)
  - Lightweight concrete
  - Post-tension and pre-stressed concrete
  - Older in-plane cracked slabs
  - Cured cement mortar beds
  - Cementitious and primed gypsum-based underlayments
2. **Plywood and OSB:** Should be a minimum of 5/8" exterior-grade plywood, securely fastened, and with proper joist spacing (max. 19.2" OC).
  - Plywood – Industry-approved Exterior-grade T&G
  - Plywood must be installed with smooth side facing up
    - ▲ Wood panels must be properly fastened to joists or beams per manufacturer's instructions
    - ▲ Adjacent edges of wood sheets should not be more than 1/32" out of plane
    - ▲ Any leveling or skim coating of subfloor must be done before installation of SikaTile®-250 Fracture Guard UCM
    - ▲ When a single layer subfloor is specified, it must meet the industry requirement of L/360. When a Double-layer wood underlayment over subfloor is specified, it must meet industry requirement of L/720
  - Oriented Strand Board (OSB) – APA Sturd-I-Floor, Exposure 1 industry-approved exterior-grade T&G
3. **Gypsum:** Must be primed and wiped down with a damp sponge before applying thin-set.

### Crack Treatment:

- Fill and smooth out cracks, cold joints, and control joints in the substrate using Sikaflex® 11-FC or an approved urethane sealant prior to applying SikaTile®-250 Fracture Guard UCM.

### MEMBRANE APPLICATION:

#### 1. Substrate Preparation:

- Clean the surface of any dust or debris.
- Dampen porous or dry substrates with a damp sponge to avoid premature drying of the mortar.
- Fill cracks, cold joints, and control joints with SikaTile polymer-modified mortar to ensure a smooth finish.

#### 2. Cutting Membrane:

- Measure and cut the membrane to size, allowing for a 1/4" (or 6 mm) space between the membrane and walls or protrusions.



#### 3. Mortar Preparation:

- Mix a SikaTile polymer-modified mortar that meets at least ANSI A118.4 or A118.11. Add 10-20% more water than recommended to achieve a mortar that holds a notched ridge and allows adequate transfer to the fabric backing.

#### 4. Applying Mortar:

- Key the mortar into the substrate with the flat side of the trowel.
- Apply Additional Mortar: Comb the mortar with a 1/4" x 3/16" V-notched trowel in a single direction.
- If the mortar skins over, remove it and apply fresh mortar.



#### 5. Embedding the Membrane:

- Apply the SikaTile®-250 Fracture Guard UCM into the mortar using a wood float, plastic/metal taping knife, or hand roller. Work from the middle to the outside edges to avoid air pockets under the membrane.
- Occasionally lift the membrane to check for complete coverage.
- Clean Excess Mortar: Use a damp sponge to remove excess mortar from the membrane surface.



#### 6. Seam & Edge Alignment:

- Butt edges and seams of adjacent membrane sections without overlapping. Maintain a 1/4" (6 mm) space between the membrane and walls or protrusions.
- Apply mortar over the seams and key it into place with the flat side of the trowel. Apply Additional Mortar: Comb the mortar with a 1/4" x 3/16" V-notched trowel. Ensure at least 2" overlap of the tape and embed it with a wood float or similar tool.



#### 7. Vapor Management & Waterproofing:

- **Apply Sealing Tape:** After installing SikaTile®-250 Fracture Guard UCM, use SikaTile®-150 Moisture Guard Fabric ST sealing tape to waterproof the seams. Embed the tape in mortar, ensuring at least 2" (5 cm) coverage on each side of the seam.

- **Seal Gaps:** Fill any gaps or openings in the membrane or seams with Sikaflex®-11 FC Sealant for a watertight seal.
- **Corners:** Install SikaTile®-150 Moisture Guard Fabric IC (inside corners) and SikaTile®-150 Moisture Guard Fabric OC (outside corners) in the same manner.



#### 8. Cleaning:

- Clean excess mortar off the membrane using a damp sponge.

#### BEST PRACTICES

- If bulges or creases appear during installation, peel away and reapply the membrane carefully.
- If the membrane is damaged after installation, patch with a new section overlapping the damaged area by 2" with 150 Moisture Guard Fabric ST.
- Install Seam Tape last for change of plane, and inside and outside corners.



- **Consultation:** Always consult manufacturer guidelines and current ANSI/TCNA standards for the most up-to-date installation methods and requirements.
- **Curing Time:** Ensure the subfloor and underlayment have been adequately cured before proceeding with installation.

#### TILE INSTALLATION:

1. **Tile Mortar Application:** For ceramic, porcelain, and stone tiles, skim the surface of the membrane with a thin layer of suitable SikaTile® polymer-modified mortar. Comb additional mortar with a notched trowel.
2. **Install Tiles:** Set the tiles as per industry guidelines, ensuring proper bonding and alignment.

**Note:** For moisture-sensitive stone tiles, use SikaTile®-825 Epoxy Grout as the setting material.

#### WOOD & LVT/LVP FLOORING:

1. **Self-Leveling Underlayment:** After installing the membrane, apply SikaLevel® Self Leveling Underlayment or equivalent, according to the manufacturer's instructions.
2. **Finished Flooring:** Once cured, the self leveler over SikaTile®-250 Fracture Guard UCM is suitable for use under wood, engineered wood, vinyl, and laminate flooring in residential interior applications.

#### LIMITATIONS

- Do not use over cracks or control joints subject to out-of-plane movement.
- Do not use over in-plane cracks >1/8".
- Do not use over substrates containing asbestos, plank wood flooring, presswood, particleboard, pressure- or oil-treated plywood, Lauan plywood, Masonite, self-stick tile, metal or fiberglass surfaces, epoxy flooring or dimensionally unstable materials.
- Do not use where negative hydrostatic pressure exists.
- Do not install over a subfloor that is in direct contact with the ground. The plywood or OSB must have at least 18" (46 cm) of cross-ventilated air space between the underside and the ground. Cover the ground surface of crawl spaces with a suitable vapor barrier.
- Do not install on vertical surfaces, as roof deck membrane or a wear surface.
- Do not use for submerged applications.
- Do not install with premixed products such as mastic.
- Do not allow direct contact with solvent-based materials.
- Substrates subject to moisture migration must have all seams taped with SikaTile®-150 Moisture Guard Fabric ST (Seam Tape).

#### PROTECTION

- **Traffic Protection:** Ensure the installation area is protected from dirt, dust, and other trades until the final floor covering installation.

#### CONCLUSION

Following these instructions will ensure the proper installation of SikaTile products, providing a waterproof, durable surface for tile applications. Always follow local codes, industry standards, and best practices for optimal performance.

#### NEED MORE INFORMATION?

Sika's support is available for any SikaTile® tiling and grout situation. For additional assistance, contact Sika's Technical Department at 1-800-933-7452.

# PROTECTION BEYOND THE EXPECTED.



## FOR MORE PRODUCT INFORMATION, VISIT [WWW.SIKATILE.COM](http://WWW.SIKATILE.COM).

### WE ARE SIKA:

The SikaTile® Secure System delivers the best Sika solution to meet project needs and overcome everyday challenges. From moisture mitigation to underlayments, patching and skimming to flooring adhesives and grouts, Sika provides a total system package.

Our most current General Sales Conditions shall apply. Please consult the Product Data Sheets prior to any use and processing.



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