

PRODUCT DATA SHEET

SikaTile®-250 Fracture Guard UCM

UNCOUPLING, CRACK ISOLATION AND WATERPROOFING MEMBRANE FOR CERAMIC TILE AND STONE



PRODUCT DESCRIPTION

SikaTile®-250 Fracture Guard UCM is a high-performing, premium, thin, lightweight, durable, 3-ply, polyethylene sheet membrane with two different outer bonding layers of non-woven, polypropylene fabric on both sides to embed the membrane into the tile adhesive for maximum adhesion. It is used for crack prevention, waterproofing and vapor control in interior and exterior residential and commercial applications. It is designed to perform over challenging substrates, such as young concrete and single-layer 3/4" (19 mm) plywood subfloors with joist spacing of up to 19.2" (49 cm). The unique 3-ply design of SikaTile®-250 Fracture Guard UCM is rated heavy duty on concrete floors and absorbs lateral stress from the substrate without transferring through to the surface of the tile or stone.

USES

- As an uncoupling membrane under tile and stone for interior and exterior floors preserving the integrity of the surface of the tile and stone installation
- Both commercial and residential applications
- As a replacement for cement backer board on plywood or oriented strand board (OSB) floors in dry areas
- Over green or young concrete slabs before the full 28-day cure when installing tile or stone
- Isolate stresses beneath the flooring associated with expansion and contraction of substrate materials, and address existing in-plane cracks in the subfloor
- Combine with SikaTile®-150 Moisture Guard Fabric seam tape, inside/outside corners and Sikaflex®-11FC to use as a vapor retarder and waterproofing assembly

SUITABLE SUBSTRATES

SikaTile®-250 Fracture Guard UCM can be installed in most interior and exterior residential and commercial installations on floors over the following recommended substrates:

Cement Backer Units¹ • Cement Mortar Beds (cured) • Cement Terrazzo² • Ceramic Tile and Stone² • Concrete • Exterior Grade Plywood² • Gypsum Underlayment¹ • Gypsum Mortar Bed • Oriented Strand Board² • SikaLevel® Products • Young Concrete

¹ Consult manufacturer for installation recommendations and to verify acceptability for use.

² Interior Use Only.

CHARACTERISTICS / ADVANTAGES

- Lightweight, polyethylene sheet membrane with 2 different non-woven, polypropylene fabric layers
- Uniquely designed membrane prevents transmission of in-plane substrate cracks up to 1/8" (3 mm)
- Uniform thickness with a thin profile and lay-flat technology
- Uncoupling, waterproofing and water vapor membrane up to 25 lb (11.3 kg) MVER and 100% relative humidity (RH) when combined with SikaTile®-150 Moisture Guard Fabric seam tape and inside/outside corners
- Easy handling, easy to cut and fast installation allow for immediate tile installation using SikaTile® polymer-modified mortars
- Recommended for use with polymer-modified mortars
- Can be used with any size tile including mosaics.
- For residential and commercial interior and exterior use
- Approved for use over young (green) concrete and mortar beds
- Extra heavy rating with compression resistance to support rolling loads
- Easily conforms to substrate

ENVIRONMENTAL INFORMATION

Environmental Consideration

Sika® is committed to environmental responsibility in both products produced and in manufacturing practices. Complete the LEED Product Data Request Form at SikaTile.com for detailed information based on project location. Use of this product can contribute toward LEED® v4.1 certification:

- Up to 2 points toward MR Credit 5, Regional Materials

APPROVALS / STANDARDS

American National Standards Institute (ANSI) — ANSI A108.01, A108.17, A118.10, and A118.12 of the American National Standards for the Installation of Ceramic Tile ASTM International (ASTM)

- Resilient Floor Covering Institute - (RFCI) Recommended Work Practices for Removal of Resilient Floor Coverings
- ANSI: Meets A118.10 standard (Waterproofing Membranes for Thin-Set Ceramic Tile)
- ANSI: Meets A118.12 standard (Crack-Isolation Membranes for Thin-Set Ceramic Tile)
- ASTM: E96, Method E, meeting requirements of < 0.5 perms (suitable for steam rooms/steam showers)
- ASTM: C627 (Robinson) service rating of "Extra Heavy" (over concrete)
- Tile Council of North America (TCNA) - TCNA Handbook for Ceramic Tile Installation, TCNA F125, F125A and EJ171 Movement Joint Guidelines.

PRODUCT INFORMATION

Chemical Base	Two outer layers of polypropylene non-woven bonded with one inner layer of polyethylene sheet membrane.
Packaging	39.4" x 32.8' (1 m x 10 m) roll (108 sq. ft. / 10m²) 39.4" x 98.4' (1 m x 30 m) roll (323 sq. ft. / 30 m²)
Shelf Life	24 months from date of production when stored in original, unopened package
Storage Conditions	Store in undamaged, original, unopened package, in dry conditions

SYSTEM INFORMATION

Property	Test Method	Results
Thickness	--	0.035 in
Width	--	3' 3.4" (1 m)
Weight	--	.076 lbs/sf (375 g/m ²)
Mold Growth	ANSI A118.10 Section 4.1	No mold growth
Seam Strength	ANSI A118.10 Section 4.2	45 lbf
Breaking Strength: Longitudinal Transverse	ANSI A118.10 Section 4.3	1,640 PSI 1,753 PSI
Dimensional Stability: Longitudinal (158°F) Longitudinal (-15°F) Transverse (158°F) Transverse (-15°F)	ANSI A118.10 Section 4.4	-0.47% 0.10% -0.57% 0.04%
Waterproofness	ANSI A118.10 Section 4.5	Pass
Shear Strength to Ceramic Tile and Cement Mortar: 7 Day shear strength 7 Day water immersion shear strength 4 Week shear strength 4 Week shear strength @ 0.125" deflection 12 Week shear strength 100 Day water immersion shear strength	ANSI A118.10 Section 5.3 ANSI A118.10 Section 5.4 ANSI A118.10 Section 5.5 ANSI A118.12 Section 5.1.5 ANSI A118.10 Section 5.6 ANSI A118.10 Section 5.7	100 psi 99 psi 107 psi 103 psi (high perf) 73 psi 101 psi
Accelerated aging shear strength Shear strength @ 0.125" deflection	ANSI A118.12 Section 5.1.6	109 psi 102 psi (high perf)
Point load test	ANSI A118.12 Section 5.2	1,170 lbf 1,356 lbf 1,175 lbf
System crack resistance test	ANSI A118.12 Section 5.4	High Performance
Robinson Floor (with appropriate materials)	ASTM C627	Extra Heavy
Water Vapor Transmission	ASTM E96 Method E	0.05 Perms
Water Vapor Transmission	ASTM E96 Method A	0.03 Perms
Resistance to Temperature (Min/Max)	--	23°F / +194°F -5°C / +90°C

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

ENVIRONMENTAL, HEALTH AND SAFETY

APPLICATION INSTRUCTIONS

INSTALLATION

SikaTile® membranes, when properly installed in accordance with the following installation guidelines, provide years of protection for finished flooring

installations. In addition to these instructions, installers shall also reference the most current edition of American National Standards Institute (ANSI), Tile Council of North America (TCNA) Handbook for Ceramic Tile Installations, The Marble Institute of America (MIA) Dimension Stone Design Manual, NWFA (National Wood Flooring Association) and manufacturers' instructions of selected setting materials, substrates, sub-floors, or other materials being used in total, or any part of, an installed floor system with SikaTile®. Consult your selected manufacturer of these previously mentioned components to ensure selected products are compatible with SikaTile® membranes.

SURFACE PREPARATION

All surfaces must be between 40°F (4°C) and 90°F (32°C)

and structurally sound (deflection not to exceed L/360 for ceramic and porcelain tiles and L/720 for natural stone), dry, clean, and free from oil, grease, wax, paint, old adhesives, sealers, and curing compounds. Any contaminants that inhibit proper bond must be removed. Substrate preparation should be completed following ANSI A108 AN-2 "General Requirements for Sub-surfaces." All substrates should be plumb and true; surface deviation should not exceed 1/4" in 10' or 1/8" in 10' for large format tiles. Patching, leveling or areas requiring a mortar bed should be prepared using Sika® underlayments. Movement (expansion) joints should be provided to comply with TCNA method EJ171. Concrete must be free of any negative hydrostatic pressure and/or excessive moisture. For waterproofing applications refer to TCNA Handbook, ANSI Standards and local codes for requirements. All exterior applications must be properly and uniformly sloped away from structures or to drains.

SUBSTRATES

Concrete (Regular and Young/Green) Substrates: All concrete substrates should be cured a minimum of 7 days and able to support construction traffic and tile installation. Smooth steel troweled floors should be roughed up using mechanical grinding or shot blasting. Dampen porous or dry concrete before starting the installation. Do not leave puddles or standing water. Rough or uneven surfaces should be made smooth with a latex Portland cement underlayment to provide a wood float or better finish. Do not level with asphalt-based products. Existing joint openings larger than 3/16" must be prepared and filled with an approved caulking or sealant before application of SikaTile®-250 Fracture Guard UCM (refer to EJ-171 details in the TCNA Handbook).

Patching, Self-Leveling Compounds, Lightweight Gypsum Concrete: Should be cured to the minimum manufacturer's requirement for moisture-sensitive installations. Gypsum should be primed and wiped down with damp sponge before thin set being applied.

Plywood and OSB Substrates: Must be a minimum of one-layer 5/8" exterior grade plywood (EGP). Plywood shall be securely fastened in accordance with industry standards. Maintain a 1/8" gap between plywood sheets and all surfaces they abut. Joints in the top layer should be offset from the joints on the bottom layer. Maximum joist spacing should be 19.2" on center and the deflection of the floor structure and sub-floor must not exceed L/360 for ceramic and porcelain tiles and L/720 for natural stone under combined live or dead loads.

Other Substrates: All other substrates and or sub-flooring systems shall be installed in a manner approved by both the product manufacturer and using appropriate installation method.

Cracks & Joints: Treat all cracks and joints by filling

substrate cracks, cold joints, and control joints to a smooth finish using Sikaflex 11-FC or approved urethane sealant prior to the application of SikaTile®-250 Fracture Guard UCM.

MEMBRANE APPLICATION

Read all installation instructions thoroughly prior to installation.

- Measure, cut and dry-fit SikaTile®-250 Fracture Guard UCM sections before mixing the appropriate SikaTile® mortar.
- Mix a suitable SikaTile® polymer-modified mortar meeting at least ANSI A118.4 or ANSI 118.11 to a consistency using 10% to 20% additional water than the recommended water range, and able to hold a notched ridge while allowing for wetting out of the fabric layer backing of the membrane.
- Key SikaTile® mortar into the substrate with pressure by using the flat side of the trowel.
- Apply additional mortar, combing it in a single direction using a 1/4" x 3/16" (6 x 5 mm) V-notched trowel. Spread only as much mortar as can be covered with SikaTile®-250 Fracture Guard UCM before the mortar skins over. Rougher surfaces may require a larger notched trowel. Open times vary by mortar and jobsite conditions.
- Embed SikaTile®-250 Fracture Guard UCM into the mortar. Using a rubber or wooden float or hand roller, move slowly and apply pressure and ensure proper embedding of the membrane. Work from the middle to the outside edges to ensure that air is not trapped underneath the membrane. Occasionally lift membrane to verify coverage and ensure full contact between the fabric membrane and mortar.
- Ensure all sides and/or ends are abutted to the side and ends of the adjacent sections without leaving gaps. Do not overlap edges. Leave a ¼" (6 mm) space between the membrane and walls or other protrusions such as columns or other objects for movement.
- Use a damp sponge to clean excess mortar from areas on the SikaTile®-250 Fracture Guard UCM.

For Vapor Management/Waterproofing Floors:

- After SikaTile®-250 Fracture Guard UCM is installed on the floor as directed, use SikaTile®-150 Moisture Guard Fabric ST sealing tape and accessories to waterproof the membrane seams with a SikaTile® polymer-modified mortar meeting ANSI A118.4/A118.11 or better.
- Mix a suitable SikaTile® polymer-modified mortar meeting at least ANSI A118.4 or ANSI 118.11 to a consistency using 10% to 20% additional water than the recommended water range, and able to hold a notched ridge while allowing for wetting out of the fabric layer backing of the membrane.
- Key SikaTile® mortar into the substrate with pressure by using the flat side of the trowel.
- Apply mortar on top of the seams, combing it in a single direction using a 1/4" x 3/16" (6 x 5 mm) V-notched trowel. Embed SikaTile®-150 Moisture Guard Fabric ST sealing tape into the mortar with at least 2"

(5 cm) on each side of the seam. Using a rubber or wooden float or plastic taping knife, move slowly and apply pressure and ensure proper embedding of the seam tape.

- Use a damp sponge to clean excess mortar from areas on the SikaTile®-250 Fracture Guard UCM, seam tape and accessories.
- Fill any gaps or openings with Sikaflex®-11 FC Sealant for a watertight seal.

Floor and Wall Connections:

- To waterproof around the walls of the installation area, take a pre-measured length of SikaTile®-150 Moisture Guard Fabric ST 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. Embed the seam tape into the mortar with a grout float or the trowel's flat side, taking care not to puncture the membrane using the steps above.
- For inside and outside corners, adhere SikaTile®-150 Moisture Guard Fabric IC pre-formed inside corners and SikaTile®-150 Moisture Guard Fabric OC pre-formed outside corners using appropriate SikaTile® mortar.
- Use a damp sponge to clean excess mortar from areas on the SikaTile®-250 Fracture Guard UCM, seam tape and accessories.
- Fill any gaps or openings with Sikaflex®-11 FC Sealant for a watertight seal.

TILE INSTALLATION

Interior tile or stone installations can take place immediately after the installation of SikaTile®-250 Fracture Guard UCM.

Ceramic, porcelain and stone tile:

- Using a SikaTile® polymer-modified mortar suitable for the tile being installed, in accordance with the TCNA Handbook for Ceramic Tile Installation and with porcelain tile manufacturers' instructions, skim the surfaces of SikaTile®-250 Fracture Guard UCM using the flat side of the trowel, ensuring that the mortar is embedded into the fabric.
- Apply additional mortar and comb over the membrane in a single direction using the recommended notched trowel suited to the size and type of tile being installed. Install tile in accordance with industry guidelines.

Moisture-sensitive stone tile:

- Use SikaTile®-825 Epoxy Grout, 100%-solids epoxy setting mortar and grout, according to the Product Data Sheet instructions pertaining to the installation of moisture-sensitive stone or call Sika® Technical Service for installation information.

Wood and LVT/LVP Flooring Installations:

- After SikaTile®-250 Fracture Guard UCM is installed on the floor as directed, apply SikaLevel® Self Leveling Underlayment or equivalent per manufacturers' instructions. Once cured, SikaTile®-250 Fracture Guard

UCM is approved for use under finished floor coverings such as solid wood, engineered wood, resilient sheet vinyl, luxury vinyl tile and planks, and laminate flooring, in interior residential applications.

PROTECTION

Protect from traffic, dirt, or dust from other trades until the final installation of the floor covering.

LIMITATIONS

- Do not use as a final wear surface.
- Do not use below 40°F (4°C); do not allow membrane or substrate to be below 40°F (4°C) for the first 72 hours after application.
- Do not install over substrates containing asbestos.
- Do not apply over self-stick tile, particleboard, or similar types of dimensionally unstable substrates.
- Do not use over cracks or control joints subject to out-of-plane movement or in-plane movement greater than 3/8" (10 mm).
- Do not use when hydrostatic pressure exists.
- Avoid exposure to sharp objects that could cut or puncture the material.
- Not for use over occupied space in exterior applications.
- Do not use as primary roofing membrane.

Product Data Sheet

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LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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