



# ONE STEP™

## POLYMER-MODIFIED THINSET MORTAR

For ceramic, porcelain, quarry, marble, pavers and other natural stone tile installations. The original one component thinset mortar designed for bonding tile to properly prepared wood subflooring.

- Higher bond strengths for tile and stone installations
- Bonds to cement and exterior-grade plywood surfaces
- Exceeds ANSI A118.4 and A118.11



### 1. Product Name

Merkrete One Step™

### 2. Manufacturer

Sika Corporation  
2150 Eastridge Ave, Riverside, CA 92507  
866-516-0061 • [www.merkrete.com](http://www.merkrete.com)

### 3. Product Description

One Step is a single-component, high-performance, polymer-modified thin-set mortar for interior and exterior installations of ceramic, porcelain and dimensional natural-stone tile. This mortar contains a high blend of dry polymers, resulting in excellent adhesion to the substrate and tile. It can be used for both interior and exterior installations of tile in most residential and commercial floor and wall applications. One Step exceeds ANSI A118.4 and ANSI A118.11 requirements when mixed with water.

#### Uses

- Most interior and exterior residential and commercial installations on floors and walls
- Installation of ceramic and porcelain tile, quarry tile, pavers, Saltillo tile, and most types of marble, granite and natural stone

#### Suitable Tile Types

- Brick and thin brick
- Cement-based precast terrazzo
- Impervious porcelain and glass tile
- Natural stone tile
- Vitreous, semi-vitreous or non-vitreous tile:  
Ceramic, mosaic, quarry, cement body tile

#### Suitable Substrates

- Brick masonry
- Cement backer board<sup>1</sup>
- Cement mortar beds
- Cement plaster
- Cement terrazzo
- Ceramic tile and stone
- Concrete
- Concrete masonry
- Exterior grade plywood<sup>2</sup>
- Gypsum wallboard<sup>2</sup>
- Merkrete waterproofing and crack isolation membranes
- Merkrete Fracture Guard Uncoupling Mat

<sup>1</sup> Consult cement backer board manufacturer for installation recommendations and to verify acceptability for exterior use

<sup>2</sup> Interior use only

#### Packaging

50 lb. bag (22.7 kg.) 48 bags per pallet



**Colors**

Gray and White

**Shelf Life**

Maximum 15 months from date of manufacture in unopened package.

**Limitations**

- Do not use One Step below 40° F (4° C) or above 95° F (35° C) and do not allow mortar to freeze for the first 72 hours.
- Do not bond directly to hardwood, lauan plywood, particle board, parquet, cushioned-back vinyl flooring, metal, fiberglass, plastic, OSB panels or other unstable substrates.
- When setting moisture sensitive natural stone cement or agglomerate tile use Merkrete Pro Epoxy Grout.
- Do not use to install resin-backed stone, moisture sensitive natural stone, cement or agglomerate tile; use Merkrete Pro Epoxy Grout and Mortar.
- When setting dimensional stone larger than 12" x 12" (30 x 30 cm), contact Merkrete Technical Services for recommendations regarding subfloor deflection requirements.
- Installations that will be continuously wet such as swimming pools, fountains and gang showers, the completed installation should be cured a minimum of 14 days and allowed to dry before exposure to water.

**4. Technical Data**

**Applicable Standards**

American National Standards Institute (ANSI) — ANSI A108.5, A118.4 and A118.11 of the American National Standards for the Installation of Ceramic Tile ASTM International (ASTM)

- ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in or [50-mm] Cube Specimens)
- ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester
- Resilient Floor Covering Institute - (RFCI) Recommended Work Practices for Removal of Resilient Floor Coverings
- Tile Council of North America (TCNA) - TCNA Handbook for Ceramic Tile Installation, TCNA Method EJ171
- ISO 13007-2

Property	Test Method	Requirement	Typical Results
Pot Life	---	---	2-3 Hours
Open Time	A118.4 Section 5.3	E=30 Minutes	Pass
<b>4 Week Shear Bond Strength</b>			
Glazed Wall Tile	A118.4 Section 5.1.5	> 300 psi	525 - 600
Porcelain Tile	A118.6 Section 5.2.4	> 200 psi	325 - 375
Quarry Tile to Plywood	A118.11 Section 4.1.2	> 150 psi	200 - 225
<b>LEED v3NC VOC (EQ Credit 4.1)</b>			
VOC		< 65g/l	0 g/l

**Environmental Consideration**

Merkrete is committed to environmental responsibility in both products produced and in manufacturing practices. Use of this product can contribute towards LEED® v4.1 certification:

- Up to 2 points towards MR Credit 5, Regional Materials
- Up to 2 points towards MR Credit 4, Recycled Content
- Up to 1 point towards IEQ Credit 4.1, Low-Emitting Materials – Adhesives & Sealants

**5. Installation**

**Surface Preparation**

All surfaces must be between 40° F (4° C) to 95° F (35° C) and structurally sound (deflection not to exceed 1/360 of the span), 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'. Patching, leveling or areas requiring a mortar bed should be prepared using Merkrete's Underlayments. Movement (expansion) joints should be provided to comply with TCNA method EJ 171.

**Substrates:**

**Plywood Substrates:** Maximum joist spacing should be 16" on center. Plywood should be exterior grade only. Maintain a gap of 3/16" between plywood underlayment sheets edges and all that abut walls, columns, posts and adjacent sheets. All plywood installations should be interior areas only and protected from exposure to moisture.

**Cement Substrates:** All concrete substrates should be cured a minimum of 28 days. Smooth steel troweled floors should be roughed up using mechanical chipping, scraping or shot blasting. Dampen porous or dry concrete prior to the installation of tile. Do not leave puddles or standing water.

**Cement Backer Board:** Follow cement board manufacturer's instructions.

**Mixing**

In a clean container, add approximately 6 quarts (5.68 liters) of clean potable water. Then add the contents of the 50 lb. (22.7 kg.) One Step mortar. Mix thoroughly by hand or with a slow speed mixer to a smooth, thick, trowelable consistency. Mortar consistency shall be such that when applied with the recommended notched trowel to the substrate, the ridges formed in the mortar do not flow or slump. During use, stir mortar mix occasionally. Do not temper with additional water. Do not add latex liquid to One Step.



**Application**

Apply mortar to the substrate with the flat side of the trowel, with enough pressure to firmly work into the surface. With a notched trowel, immediately follow with a heavier coat of material using the appropriate trowel and enough mortar to provide 100% coverage to the back of the tile. For some extruded or lug-back tiles, back-buttering of tiles may be required. Do not spread more mortar than can be covered in 20 minutes or before the mortar skins over. It is advised that during the installation, remove a tile to ensure the mortar has not skinned over and check the tile and substrate mortar coverage. Comb the mortar using an appropriate notched trowel in one direction. Place tiles in mortar, slide back and forth perpendicular to the ridges (NTCA "Trowel and Error" method) to ensure proper coverage. Do not adjust tiles set in mortar after 15 minutes.

**6. Availability and Cost**

Merkrete One Step is available at most leading tile distributors and installation shops. Contact Merkrete or visit our web site for the name of the nearest dealer at [www.merkrete.com](http://www.merkrete.com).

**Cost**

Contact your local Merkrete distributor or dealer in your area.

**7. Warranty**

5 year, 10 year and Limited Lifetime warranties are available. Contact Merkrete Technical Services or visit our website for specific warranty information. Merkrete warrants that this product meets applicable ANSI standards in force at the time of manufacture.

**8. Maintenance**

Properly installed product requires no special maintenance.

**9. Technical Services**

Merkrete technical field representatives are available throughout the country. Call Technical Services at 800-226-2424 for the nearest representative.

**10. Filing Systems**

Merkrete architectural product information is available either in catalog form, or electronically on our website at [www.merkrete.com](http://www.merkrete.com). Additional product information is available from the manufacturer upon request.

**Coverage:**

RECOMMENDED NOTCH SIZE		
1/4" x 1/4" 6mm x 6mm	1/4" x 3/8" 6mm x 10mm	1/2" x 1/2" 12mm x 12mm
Ceramics	Quarry Tile, Rough Stone	Large Tile, Marble, Stone
APPROXIMATE COVERAGES		
65-75 Ft <sup>2</sup> 6.0-6.9m <sup>2</sup>	55-65 Ft <sup>2</sup> 5.1-6.0m <sup>2</sup>	35-45 Ft <sup>2</sup> 3.2-4.2m <sup>2</sup>

Coverage depends on trowel notch size, substrate and job conditions.

For more information visit [www.merkrete.com/grout\\_calculator.shtml](http://www.merkrete.com/grout_calculator.shtml).



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