

PRODUCT DATA SHEET

SikaTile®-425 LHT Secure Set Rapid

PREMIUM, RAPID SETTING, POLYMER MODIFIED LHT MORTAR

PRODUCT DESCRIPTION

SikaTile®-425 LHT Secure Set Rapid is a premium-grade, single-component, high-performance, polymer-modified, rapid-setting large and heavy tile mortar for interior and exterior installations of tile. This mortar has a high content of unique dry polymer, resulting in excellent adhesion to the substrate and tile. SikaTile®-425 LHT Secure Set Rapid is a fast setting product, allowing grouting in 3 hours and open for traffic in 4 – 6 hours.

USES

SikaTile®-425 LHT Secure Set Rapid supports large and heavy tile for flat, even installations and is suitable for bonding the following types of tile and stone:

- 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

SikaTile®-425 LHT Secure Set Rapid can be installed in most interior and exterior residential and commercial installations on floors and walls on the following recommended substrates:

- Brick Masonry
- Cement Backer Board¹
- Cement Mortar Beds
- Cement Plaster
- Cement Terrazzo
- Ceramic Tile and Stone
- Concrete
- Concrete Masonry
- Exterior Grade Plywood²
- Gypsum Wallboard²
- SikaLevel®
- SikaTile® Membranes
- Approved SikaLastic® Under Tile Waterproofing

¹ Consult cement backer board manufacturer for installation recommendations and to verify acceptability for exterior use.

² Interior Use Only.

CHARACTERISTICS / ADVANTAGES

- For use with ceramic tile, porcelain tile, and natural stone
- Ideal for time critical residential and commercial applications
- Superior flexibility, high strength, with rapid set time
- Allows for grouting in 3 hours and open for traffic in 4 – 6 hours
- For use with large and heavy tile and natural stone
- Rapid setting formula
- Non-slumping/non-shrinking formula eliminates tile lippage
- May be applied up to 3/4" (19 mm) thick on horizontal applications
- For interior and exterior floors and walls
- Mold and mildew resistant

ENVIRONMENTAL INFORMATION

Sika® is committed to environmental responsibility in both products produced and in manufacturing practices. Complete the LEED Product Data Request Form SikaTile.com for detailed information based on project location. Use of this product can contribute towards LEED® v3 certification:

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

APPROVALS / STANDARDS

American National Standards Institute (ANSI) — ANSI A108.5, A118.4F 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" or 50mm Cube Specimens)
- 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 EJ171 Movement Joint Guidelines.
- ISO 13007-2 C2FP1

PRODUCT INFORMATION

Chemical Base	Portland cement, selected aggregates, water retention additives, re-dispersible polymer
Packaging	25 lb. (11.34 kg.) bag
Shelf Life	6 months from date of production when stored in original, sealed package
Storage Conditions	Store in undamaged, original, sealed package, in dry conditions at 73° F (23° C)
Appearance / Color	Gray and White

TECHNICAL INFORMATION

Slant Shear Strength

4 Week Shear Bond Strength

Property	Test Method	Requirement	Typical Results
Glazed Wall Tile	A118.4 Section 7.1.2	> 300 psi	350 - 450
Porcelain Tile (4h)	A118.4F Section 7.5.1	> 50 psi	150 - 250
Porcelain Tile (28d)	A118.4 Section 7.2.5	> 200 psi	300 - 400
Quarry Tile to Plywood (28d)	A118.11 Section 4.1.2	> 150 psi	150 - 200

ISO 13007 Classification

Classification Code	Classification Requirement	Results
C2 (cementitious, improved adhesion)	≥ 145 psi (1 MPa) after standard aging. Heat aging, water immersion and freeze/thaw cycles	Pass
F (fast setting adhesive)	≥ 72.5 psi (0.5 MPa) for tensile adhesion strength after 6 hours, and open time after 10 min	Pass
P1 (normal adhesion to plywood)	≥ 72.5 psi (0.5 MPa)	Pass

APPLICATION INFORMATION

Mixing Ratio	2.5 quarts (2.4 liters) of clean potable water per 25 lb. bag
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Coverage

RECOMMENDED TROWEL SIZE/ TAMAÑO DE LLANA RECOMENDADO		
Tile/Loseta	Trowel/Llana	Coverage/Cobertura
Ceramic/ Cerámica	1/4" x 1/4" x 1/4" (6 mm x 6 mm x 6 mm) Square Notch 	33 - 38 ft ² per unit. (3.0 - 3.5 m ² por bolsa)
Quarry Tile, Rough Stone/ Loseta Industrial, Piedra áspera	1/4" x 3/8" x 1/4" (6 mm x 10 mm x 6 mm) Square Notch 	28 - 33 ft ² per unit. (2.6 - 3.1 m ² por bolsa)
Large Tile, Marble, Stone/ Azulejo Grande, Mármol, Piedra	1/2" x 1/2" x 1/2" (12 mm x 12 mm x 12 mm) Square Notch 	18 - 23 ft ² per unit. (1.7 - 2.1 m ² por bolsa)

Pot Life	45 Minutes*
Open Time	10 - 20 minutes*
Cure Time	Allow 2-3* hours before grouting, 4 hours before opening to light traffic and protect from heavy or vehicular traffic for 24 hours * Pot life, open time, and time before grouting vary based on ambient temperatures and jobsite conditions.
Applied Product Ready for Use	Grouting may begin 2 to 3 hours after installation of tile, or once tile has reached a firm set. Product curing time is affected by ambient and surface temperatures and humidity. Allow at least 4 hours before opening to light traffic and protect from heavy or vehicular traffic for 24 hours. As necessary, use plywood or other load distributing protection when moving heavy equipment across tiled assembly.

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.

LIMITATIONS

- Do not use SikaTile®-425 LHT Secure Set Rapid Mortar 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, Luan plywood, particle board, parquet, cushioned-back vinyl flooring, metal, fiberglass, plastic, OSB panels, or other unstable substrates.
- Ensure the substrate meets deflection requirements.
- When setting moisture-sensitive natural stone cement or agglomerate tile use SikaTile®-825 Epoxy Grout.
- Do not use to install resin-backed stone, moisture-sensitive natural stone, cement, or agglomerate tile; use SikaTile®-825 Epoxy Grout and Mortar.
- When setting dimensional stone, subfloor deflection requirement is L/720 under live or dead loads as per TCNA.
- Installations that will be continually 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.

ENVIRONMENTAL, HEALTH AND SAFETY

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

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APPLICATION INSTRUCTIONS

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 contaminates which inhibit proper bond must be removed. All substrates should be plumb and true, for large and heavy tile maximum allowable variation is 1/8 in 10' from the required plane, with no more than a 1/16 variation in 24". Patching, leveling, or areas requiring a mortar bed should be prepared using appropriate SikaLevel self-leveling, patching, or SikaTile underlayment products. Expansion joints should comply with EJ171 Movement joint guidelines per TCNA and ANSI requirements using an ASTM C920 sealant such as

SUBSTRATES:

Concrete Substrates: All concrete substrates should be cured a minimum of 28 days and accept water penetration. Test by sprinkling water on various areas of the substrate. If water penetrates, then a good bond can be achieved; if water beads, surface contaminants are present, and loss of adhesion may occur. Contaminants should be mechanically removed before installation. Concrete must be free of efflorescence and not subject to hydrostatic pressure. Smooth steel troweled floors should be roughed up using mechanical chipping, scraping, or shot blasting. Porous dry concrete, and porous backer board must be "SSD" (Surface Saturated with water but, dry to the touch) prior to the application of SikaTile®-450 LHT Secure Set Mortar.

Lightweight Cement and Gypsum Surfaces: Lightweight or gypsum-based underlayment's must obtain a minimum 2000 psi (13.8 MPa) compressive strength. The underlayment must be sufficiently dry and properly cured to the manufacturer's specifications for permanent, non-moisture permeable coverings. Surfaces to be tiled must be structurally sound and subject to deflection not to exceed current industry standards. All lightweight cement or gypsum surfaces should be primed. with a properly applied sealer or a primer coat of SikaTile®-100 Moisture Guard, consisting of 1 part 100 Moisture Guard diluted with 4 parts clean, cool water. Mix in a clean bucket at low speed to obtain a lump free solution. The primer can be brushed, rolled, or sprayed to achieve an even coat. Apply the primer coat to the floor at a rate of 300 ft²/gal (7.5 M²/L). Drying time depends on site conditions but is normally less than 1 hour. Extremely porous surfaces may require 2 coats. At this point, 100 Moisture Guard can be applied to the primed lightweight or gypsum based surface. Refer to the individual product data sheet or packaging directions for application instructions.

Plywood Substrates: Plywood floors, including those under resilient flooring, must be structurally sound and must meet all ANSI A108.01 Part 3.4 requirements. Maximum allowable deflection: L/360 tile L/720 stone. See TCNA F150-21 tile installations, TCNA F141-21 and F250-21 for stone.

Cement Backer Board: Refer to TCNA F144-21 tile installations, TCNA F250-21 stone installations and follow cement board manufacturer's instructions.

MIXING

In a clean container, add approximately 2.5 quarts (2.4 liters) of clean potable water, then add the contents of the 25 lb. (11.34 kg) SikaTile®-425 LHT Secure Set Rapid mortar. Mix thoroughly by hand or with a slow speed mixer to a smooth, thick, trowelable consistency. No need to slake, once mixed the product is ready to use. 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 add additional water. Do not add latex liquid additives to SikaTile®-425 LHT Secure Set Rapid.

APPLICATION

Read all installation instructions before installation. Choose a notched trowel with sufficient depth to achieve more than 80% mortar coverage and transfer to substrate and back of tile to both the tile and substrate for all interior applications, and more than 95% for exterior, commercial floor and wet applications, back-butter the tile to meet these requirements. With pressure, apply a coat of mortar by using the flat side of the trowel to key the mortar into the substrate. With the notched side of the trowel, apply additional mortar by combing it in a single direction parallel to the shortest dimension of the tile. Spread only as much mortar as can be tiled before the product skins over. Open time can vary with jobsite conditions. Set tiles firmly into the wet mortar and push the tiles back and forth in a direction perpendicular to trowel lines to collapse the mortar ridges and to help achieve maximum coverage.

MOVEMENT JOINTS:

All expansion, control, construction, cold, saw-cut, isolation, contraction, and seismic joints in the structure should continue through the tilework, including such joints at vertical surfaces, as specified per TCNA Method EJ171 or TTMAC Specification Guide 09 30 00, Detail 301MJ. Do not cover movement joints with mortar.

CLEANING OF TOOLS

Clean tools and tile with water before the material dries.

OTHER RESTRICTIONS

See Legal Disclaimer.

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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Product Data Sheet

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