BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

SikaTile®-560 LFT Rapid

Premium grade, rapid setting, polymer-modified large format tile mortar

PRODUCT DESCRIPTION

SikaTile®-560 LFT Rapid is a 1-component premium grade rapid setting, polymer-modified mortar for interior and exterior setting of large format tile, gauged porcelain slabs and natural stone. It may be applied from at 2.4 mm to 12.7 mm (3/32 in to 1/2 in) thickness.

SikaTile®-560 LFT Rapid is developed with Sika's latest generation of polymers and Sika's Fibermesh® technology for excellent adhesion performances and flexibility, SikaTile®-560 LFT Rapid is formulated to provide the user with a very creamy tile-setting mortar to spread.

WHERE TO USE

For setting the following types of tiles:
- Ceramic and porcelain tiles, quarry tile, mosaic tile and most cement body tile
- Moisture-insensitive stone tile A)
- Large format tile, gauged porcelain tile and guauged procelain panel B)
- Gauged porcelain slab (for interior application only and on floors)
- Manufactured stone (''Faux Stone'') and thin brick
- Cement or terrazzo tiles

For the following applications:
- Residential and commercial interior and exterior floors and walls
- Heated floor (water and electric systems) interior only
- Wet areas, tub surrounds, showers, gang showers, steam showers and steam rooms (refer to Sikalastic®-260 Stop Aqua liquid applied waterproofing membrane)
- Shopping malls
- Airport terminals

On the following substrates:
- Concrete
- Cement mortar bed
- Concrete masonry
- Cement backer units, coated glass mat water-resistant backer boards and cementitious-coated extruded foam boards C)
- Exterior grade plywood D)
- Existing ceramic and natural stone
- Gypsum wallboard D) and E)
- Sika® Level underlayments and toppings
- Over existing ceramic, cement terrazzo and natural stone F)
- Concrete substrates with old layers of carpet adhesive, vinyl flooring or vinyl composition tile (dry interior areas only) F)

A) Refer to **LIMITATIONS**
B) Large format tile is define as having at least one edge longer than 380 mm (15 in)
C) Consult cement backer board manufacturer for installation recommendations and to verify acceptability for exterior use. Moreover, refer to TTMAC Detail 305W for important information.
D) Interior dry areas only
E) The surface must be primed with diluted SikaLevel®-03 Primer Plus
F) Refer to **SURFACE PREPARATION**

CHARACTERISTICS / ADVANTAGES

Time saving features

- By performing a more rigourous control of the aggregate size in the formula:
  - SikaTile®-560 LFT Rapid does not require any slake time. Just mix, trowel and install. Remixing is only necessary after about 30 to 45 minutes, without having to add water, which helps maintain its performances.
  - It also provides easier removal of the tile setting mortar between the tiles before grouting compared to most other tile setting mortars in the market
- Very creamy and very easy to spread
- Enhanced web grab making cleaning off tile-setting mortar on the surface of the tile much easier with little to no deplacement at all
- Flexible and excellent adhesion. Moreover, SikaTile®-560 LFT Rapid requires only 3 hours of cure time before allowing light traffic and/or grouting of the tilework.
- Excellent handling characteristics through extended open and adjustment times
- Sag resistant
- Water resistant once cured
- For installations that will continually be in immersion conditions such as swimming pools, fountains or in long exposure to water such as gang showers and steam showers.

Note: For exterior wall installations, Sika® is also pleased to offer its SikaTile®-580 LG Extreme showcasing highly deformable characteristic for your consideration.

APPROVALS / CERTIFICATES

- SikaTile®-560 LFT Rapid meets ISO 13007 international standard for the C2FTS1P1 classification
- SikaTile®-560 LFT Rapid meets ANSI A118.4F and A118.15F standards

PRODUCT INFORMATION

Composition / Manufacturing	Portland cement, selected aggregates, water retention additives, redispersible polymer
Packaging	20 kg (44 lb) bag
Appearance / Colour	White
Shelf Life	6 months from date of production when stored in original, sealed package
Storage Conditions	Store in undamaged, unopened, original sealed packaging in dry conditions at temperatures between 5 °C (41 °F) and 35 °C (95 °F). Protect from direct sunlight, heat and moisture.
CSC MasterFormat®	**09 30 00 | TILING**

Pull-Out Resistance

ISO 13007 Classification

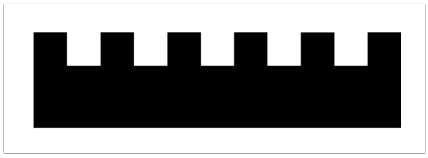
Classification code	Classification requirements	Results
C2 (cementitious, improved adhesion)	≥ 1 MPa (145 psi) after standard aging, heat aging, water immersion and freeze/thaw cycles	Pass
S1 (deformable adhesive)	≥ 2.5 mm and < 5 mm (≥ 0.1 in and < 0.2 in)	Pass
T (vertical slip resistance)	≤ 0.5 mm (0.02 in) after 20 minutes	Pass
F (fast setting adhesive)	≥ ≥ 0.5 MPa (72.5 psi) for tensile adhesion strength after 6 hours, and open time after 10 min	Pass
P1 (normal adhesion to plywood)	≥ 0.5 MPa (72.5 psi)	Pass

Shear Adhesion Strength

ANSI Method / 4 Week Shear Bond Strength

Test Method	Requirements	Results
ANSI A118.4 - shear strength, glazed wall tile	≥ 1.38 MPa (200 psi)	Pass
ANSI A118.4 - shear strength, quarry tile to quarry tile	≥ 2.07 MPa (300 psi)	Pass
ANSI A118.4 - shear strength, impervious ceramic (porcelain) mosaics	≥ 1.03 MPa (150 psi)	Pass
ANSI A118.15T - sag resistance (after 20 minutes)	≤ 0.5 mm (0.02 in)	Pass
ANSI A118.15F - shear strength, impervious ceramic (porcelain) mosaics (at 4 hours)	≥ 0.34 MPa (50 psi)	Pass

APPLICATION INFORMATION

Mixing Ratio	4.2 to 4.5 L (1.11 to 1.19 US gal) of clean potable water per 20 kg (44 lb) bag
Yield	**RECOMMENDED TROWEL SIZE** **Trowel** — **Coverage*** 6 x 6 x 6 mm (1/4 x 1/4 x 1/4 in) — 7 m² to 7.5 m² (75 ft² to 81 ft²)  6 x 9 x 6 mm (1/4 x 3/8 x 1/4 in) — 4.2 m² to 4.6 m² (45 ft² to 49 ft²) 13 x 13 x 13 mm (1/2 x 1/2 x 1/2 in) — 3.3 m² to 3.8 m² (37 ft² to 41 ft²) * The consumption depends on the surface profile and roughness of the substrate and on the size of the tiles and the placing technique
Pot Life	Up to 1 ½ hour
Open Time	≥ 10 minutes SikaTile®-560 LFT Rapid meets A118.4TF and ISO 13007 adhesion performance requirement for fast setting adhesives
Curing Time	Product curing time is affected by ambient and surface temperatures and humidity.

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.
Properties tested at 23 °C (73 °F) / 50 % r.h. unless stated otherwise.

LIMITATIONS

- Do not use where high moisture or hydrostatic conditions or recurring moisture problems exist.
- Do not install over moving control joints (with active cracks) or over expansion joints.
- Do not use SikaTile®-560 LFT Rapid below 5 °C (41 °F) or above 30 °C (86 °F).
- Do not bond directly to hardwood, Lauan plywood, particle board, strip wood floors, parquet, rubber, cushioned-back vinyl flooring, metal, fiberglass, plastic, OSB panels, or other unstable substrates.
- Do not use for setting resin-backed tiles. Instead, use Sika's epoxy or urethane adhesives.
- Spot bonding is not an approved installation method.
- The Uniform Building Code requires mechanical fasteners for individual tiles larger than 0.46 m2 (4.95 ft²) or weighing more than 6.8 kg per 0.09 m² (15 ft²).
  - Tiles or tile panels weighing less than 1.36 kg per 0.09 m² (3 lb/ft²) may not be limited by dimensions, however, restrictions may apply; consult provincial and local building codes.

As well, Sika® recommends:

- To protect stored material from exposure to rain, condensation and high humidity as moisture may penetrate packaging, causing lumps.
- That for best results, condition product to 18 °C (64 °F)

to 27 °C (81 °F) prior to mixing and installation.
- That during Pot Life. If remixing is necessary (generally around 30 to 45 minutes). To simply remix with drill for 30 to 45 seconds, without the need to add water.
- Cement mortar bed to which SikaTile®-560 LFT Rapid is to be applied shall be sound and solid with a direct tensile strength of not less than 0.5 MPa (72.5 psi).
- To wipe the backs of all stone tiles, cement or terrazzo tiles with a clean damp cloth to remove the dusty film that can prevent the adhesive from bonding to the tile.
- Cement tiles and terrazzo tiles need to be completed cured and dimensionally stable.
- That when setting moisture sensitive natural stone (such as green marble, some limestone and granite) or agglomerate tiles. First, prime the back side back of the tile using SikaLevel®-02 EZ Primer CA and let the primer dry at least 60 minutes.
- That flat back trowelling marble, granite and natural stone during installation is mandatory.
- That when using large gauged porcelain tile and panels (GPT/P) on walls. “The final installation must be able to withstand all design loadings in accordance with the national and local building codes. Direct bonding of tile to a solid substrate should be approached with caution when cladding height exceeds 3 m (9.8 ft) since bond failure could endanger pedestrians. Installation systems above 3 m (9.8 ft) must be consulted, designed and guaranteed by the manufacturer. Proper design, workmanship and proven materials are required for successful installations” (ref. TTMAC 09 30 00 Tile Installation Manual). Sika® recommends limiting bonding of GPT/P to 1 m x 1 m (3.3 ft x 3.3 ft) when using SikaTile®-560 LFT Rapid.

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

JOB SITE CONDITIONS

Maintain environmental conditions and protect work during and after installation. Comply with trade and industry standards and manufacturer's printed recommendations.

When tiling in cold conditions, turn off all forced ventilation and radiant heating systems and protect the work against drafts during installation and for at least 72 hours after completion. When necessary, use indirect auxiliary heaters to maintain an adequate temperature level in the working area (ambient and surface temperatures). Exhaust temporary heaters to the exterior potential harmfulness to the personal and/or to prevent damage to the work from carbon monoxide emissions. Maintain work area at a temperature no lower than 5 °C (40 °F) for at least 72 hours before and after installation.

For tiling jobs in hot conditions (with temperatures exceeding 30 °C (86 °F), which can be defined as any combination of high air temperature, low relative humidity and wind velocity that can affect the performance of surface preparation, tile setting and grouting materials), consider adjusting the time of application to a cooler or at least shaded time of the day. Protect from adverse weather conditions (such as but not limited to rain) for at least three (3) days.

SUBSTRATE QUALITY (for concrete or for cement mortar bed)

Surface treatments or any friable areas of the substrate must be mechanically eliminated. Aggressive mechanical preparation (such as but not limited to using a scarifier or a chipping hammer may invite micro bruising of the substrate) Contact Sika’s Technical Services for additional information.

Resurfacing, patching, levelling or areas requiring a mortar bed should be prepared using appropriate Sika®Level self-levelling, patching, or SikaScreed®-40 screed mortar. Expansion joints should comply with detail 301MJ Movement joint guidelines per TTMAC.

Warning: Refer to the Regulations Made Under the Canada Labour Code for additional information regarding requirements for handling surface containing or suspected of containing lead-based paints or any flooring, substrate or substances that may contain asbestos.

SURFACE PREPARATION

All supporting surfaces should be structurally sound, solid, stable. Surfaces shall be flat, plumb and true with a maximum permissible variation of 6 mm (1/4 in) in 3.05 m (10 ft) or no more than 3 mm (1/8 in) in 600 mm (24 in) from the required plane. However, any tile or stone with at least one edge greater than 380 mm (15 in) requires more stringent tolerances of the substrate with a maximum permissible variation of 3 mm (1/8 in) in 3.05 m (10 ft) or more than 1.5 mm (1/16 in) in 600 mm (24 in). Surfaces should be clean and free of dust, oil, grease, paint, tar, wax, curing agent, primer, sealer, form release agent and any deleterious substance or conditions that may prevent, reduce or inhibit adhesion or performance.

Before work commences, examine the areas to be covered and report any improper condition(s) in writing to the general contractor, architect or engineer (or otherwise, the owner). User shall not proceed with the

work until surfaces and conditions comply with the requirements indicated in this document; applicable industry standards; federal, provincial and local regulations, as well as good trade practices. By starting work, the Applicator/User acknowledges that the conditions are acceptable.

Localized substrate repair variations of 5 mm (13/64 in) or less can be levelled with SikaTile®-560 LFT Rapid and ready for the next step as soon as 3 hours.

Concrete (and cement mortar bed)

Concrete must be cured for a minimum of 28 days (up to 14 days for cement mortar bed or only 5 hours when using SikaScreed®-40 screed mortar). On grade or below grade concrete slabs must be installed over an effective and continuous vapour barrier. On a clean and dust-free substrate, place a single drop of portable water (quarter size) on the substrate using a pipette. The concrete should turn dark. If the drop is absorbed within 60 seconds, the substrate can be considered porous (or absorptive) and acceptable for using SikaTile®-560 LFT Rapid. Otherwise, a bond test should be performed to confirm an adequate bond. If an adequate bond cannot be achieved, the concrete surface should be abraded, and additional bond tests should be conducted. If an adequate bond cannot be achieved or in doubt, contact Sika's Technical Services.

Note: As per TTMAC (Tile Terrazzo Marble Association of Canada) 09 30 00 guide. Concrete should have a steel trowel and fine broom finish for thin-set applications. Indeed, although not mandatory, a light surface profile can positively impact bond performances of cementitious tile setting adhesives.

Plywood floors (interior residential floor in dry areas only)

Wooden substrates should consist of two layers of wood panels. A suitable Subfloor (immediately over joists) shall be a minimum 16 mm (5/8 in) thick Douglas Fir plywood (CSA 0121), Canadian Softwood plywood 0151), Poplar plywood (CSA 0153), Construction sheathing or APA Sturd-I-Floor, Exposure 1 OSB. Joists to be spaced 406 mm (16 in) on center. Subfloor sheet ends end edges should be gapped 3 mm (1/8 in). The subfloor should be attached with 30 mm (1 3/16) screws placed 150 mm (6 in) o.c. around the perimeter and 200 mm (8 in) o.c. throughout the body of the panel. All sheet ends and edges must be supported by a framing member.

Suitable Underlayments (over the subfloor) shall be a minimum 16 mm (5/8 in) thick Group 1 exterior grade plywood, Select (SEL) or Select Tight Face (SEL TF) CANPLY classified exterior grade plywood conforming to CSA 0121 standard for Douglas Fir (DFP) for direct bond applications. Before purchasing/ordering plywood, note that the certification information (such as but not limited to CSA standard) can generally be found on the underside of the plywood. Offset underlayment joints from joints in subfloor and stagger joints between sheet ends. Underlayment should be attached with 30 mm (1 3/16 in) screws placed 150 mm (6 in) o.c. around the perimeter and 200 mm (8 in) on center, throughout the body of the panel. Underlayment screws to go through the total thickness of the assembly but should not penetrate the joists or cross bridging/solid blocking. Underlayment sheet edges should be gapped 6 mm (1/4 mm) to any abutting surfaces (ex: walls, counter, etc.).

Note on deflection: The general rule for ceramic is that the maximum allowable deflection criterion is L/360 when exposed to live and dead loads (such as but not limited to kitchen islands for example) unless, if any one side is longer than 380 mm (15 in) then use the following recommendation for stone. For stone, the maximum allowable deflection criterion is L/720 (which, in essence, requires the substrate to be twice as rigid).

Over existing ceramic, cement terrazzo and natural stone (interior dry or wet areas only)

Existing ceramic and natural stones should be sound and firmly laid, thoroughly cleaned the surface to eliminate the accumulation of soap (cleaner) residues which can build up to an inconspicuous film. Follow preparation by abrading the surface sanding by hand. For larger flooring jobs, a light shot blasting may be considered. Finish preparing by eliminating any residues on the surface and apply SikaLevel®-02 EZ Primer (CA) (consult product data sheet for additional information) before using SikaTile®-560 LFT Rapid.

Old layers of carpet, vinyl flooring, or vinyl composition tile (VCT) adhesives on a concrete substrate (interior in dry locations only)

SikaTile®-560 LFT Rapid is compatible with good quality adhesives. As this cannot be confirmed just by observation. Testing and documenting that the layers of old adhesives are not water-soluble is part of good trade practice in order to achieve a successful installation. Testing consists of pouring approximately 100 ml of clean potable water to the adhesive layer and verify that it doesn't start to break down when using a steel scraper. Otherwise the adhesive has to be mechanically removed. Before beginning the overall installation, Sika® recommends conducting tests in several small areas using SikaLevel®-02 EZ Primer and SikaTile®-560 LFT Rapid to determine the constraints associated with primer application and the acceptability of the final product performance (refer to SikaLevel®-02 EZ Primer product data sheet).

Note: Contact Sika's Technical Service for installation recommendations in writing concerning substrates or

conditions not listed.

MIXING

In a clean container, add between 4.2 to 4.5 L (1.11 to 1.19 US gal) of clean potable water. Then add 1⁄2 bag of SikaTile®-560 LFT Rapid and mix at slow speed until a wet slurry is obtained. Add 1⁄4 bag and mix between 200-300 rpm until powder comes to a loose paste consistency. Add final 1⁄4 bag and mix thoroughly to a smooth and homogeneous consistency. SikaTile®-560 LFT Rapid consistency shall be such that when applied with the recommended notched trowel to the substrate, the ridges formed by the mortar do not flow or slump.

Note: No Slake Technology - No wait, just mix, trowel and install.

APPLICATION

Choose a notched trowel with sufficient depth to achieve more than 80 % coverage of SikaTile®-560 LFT Rapid and transfer to the substrate and the back of tile for all interior applications. For exterior, commercial floor, in applications in wet areas, for tiles that are going to be subjected to heavy traffic or exposed to high impact or for tiles with any edge longer than 380 mm (15 in), a minimum of 95 % coverage must be achieved. "Flat back trowelling" the tile which consists of applying a thin layer of the tile-setting mortar to the back of each tile before setting it in place may be necessary to meet these requirements and it may also help improve adhesion to tiles with bond breakers such kiln release agents.

With pressure, apply a coat of SikaTile®-560 LFT Rapid 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.

Place the tiles firmly into the freshly applied SikaTile®-560 LFT Rapid. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the ridges. This practice from the industry helps achieving better coverage with edges and corners fully supported. Ensure proper contact of the mortar to the back of the tile and to the substrate by periodically lifting a few tiles to check for acceptable coverage and verify that corner and edges are fully supported. Open time can vary with job site conditions. Remove excess SikaTile®-560 LFT Rapid from the joint areas so that at least 2/3 of the tile depth is available for grouting. Always allow SikaTile®-560 LFT Rapid to cure sufficiently before grouting and eventually opening to traffic.

WARNING: Large format tiles and gauged porcelain tile panels/slabs require specific installation procedures and potentially specialized handling equipment. Before starting work, consult the manufacturer recommendations regarding trowel selection and lippage control systems. Sika® recommends that the User consults A108.19, and A108.20 American National Standard Specifications for Gauged Porcelain Tiles and Tile Panels/Slabs Specifications for important information.

ANSI A108.19 provides procedures and requirements for interior installation of gauged porcelain tiles and gauged porcelain tile panels/slabs. These products require unique installation and workmanship considerations, and some of the key issues addressed by this standard include:

- Substrate requirements
- Lippage criteria and use of lippage control systems
- Unique coverage criteria and evaluation procedures
- Special floor setting provisions that involve embedding by walking

ANSI A108.20 provides procedures and requirements for exterior installation of gauged porcelain tiles and gauged porcelain tile panels/slabs. These products require unique installation and workmanship considerations, and some of the key issues addressed by this standard addresses include:

- Substrate requirements
- Lippage criteria and use of lippage control systems
- Unique coverage criteria and evaluation procedures
- Specific embedding instruction

IMPORTANT: In accordance with the limitations of the Uniform Building Code, installations involving Gauged Porcelain Slabs with SikaTile®-560 LFT Rapid (or with SikaTile®-460 LHT) are restricted to floor applications only.

MOVEMENT JOINT

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 TTMAC's Specification Guide 09 30 00 Tile Installation Manual, Detail 301MJ. Do not cover movement joints with mortar. Use a suitable sealant instead (following manufacturer's written instructions). Always test a small inconspicuous area for staining or leaching before use to ensure compatibility on natural stones.

GROUTING AND PROTECTION

Protect from impact and vibration for at least 24 hours. Allow at least 3 hours before grouting. When using SikaTile®-815 Secure Grout (CA) protect grouted area at least 3 hours before allowing foot traffic and light traffic depending on temperatures and humidity conditions. Protect from heavy traffic for at least 72 hours. When using SikaTile®-800 (CA) or SikaTile®-850 Ultima, protect from general traffic for at least three (3) days. As

necessary, use load distributing protection over the installation when moving heavy equipment across tiled assembly. Protect from rain or temperature below 5 °C (41 °F) for at least 72 hours.

Note: Extended protection and downtime requirements before grouting may be required depending on temperature and humidity conditions and on the porosity and size of the tile or stone being installed.

PROTECTING NEW TILED FLOOR

Upon completion of tiled floor, it is the responsibility of the owner/agent or general contractor to protect the floor from damages (TTMAC's Specification Guide 09 30 00 Tile Installation Manual).

CLEAN UP

Clean all tools and equipment after use with water. Once hardened, the product can only be removed mechanically.

LEGAL NOTES

The information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: www.sika.ca

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