



Saturn Materials Concrete Tile Installation Specification



SCOPE

Interior and Exterior installations of Saturn-Materials-Masonry-Large-Veneer Solid-Facing Concrete Tiles, on walls.

NOTES TO SPECIFIER

- LATICRETE® International, Inc. champions the use of Quality Labor for all tile and stone installations, specifically those represented by the NTCA Five Star Contractor Program (www.tile-assn.com/Member/FiveStar), the TCAA Trowel of Excellence Program (www.tcaainc.org/trowel-of-excellence.php), and the LATICRETE® Most Valued Partner (MVP) Program (www.laticrete.com/contractors/mvp_site.aspx).
- Detail and specify HYDRO BAN® in all wet or exterior areas, and over existing, non-structural, hairline cracks ($\leq 1/8"$ or 3mm) in the substrate.
- A LATICRETE® "System" approach to installation is covered by a comprehensive 25 year warranty (Reference LATICRETE DS 025.0APD) for all interior and exterior floor installations. Steel and wood-framed exterior façade installations, installed with LATICRETE Systems, are covered by a comprehensive 15 Year Warranty (LATICRETE DS 230.15). LATICRETE warranties and system recommendations do not supersede International Building Code (IBC) & International Residential Code (IRC) building code requirements. Building code waivers may need to be obtained for large format "adhered veneer" exterior façade installations where panel sizes:
 - Exceed 24 inches (600 mm) in any face dimension
 - Exceed 3 square feet (0.27 square meters) in total facial area, or are less than .25 inches (6 mm) thick Consult with local building code / building code officials as required.
 - Refer to the, architectural guide specification for comprehensive system recommendations for sound attenuation, moisture mitigation, electric radiant floor heating, and uncoupling underlayments.

INSTALLATION MATERIALS

Concrete Tiles: Saturn-Materials-Masonry-Large-Veneer- Concrete Tiles: <https://www.saturnmaterials.com/>.

Interior & Exterior Leveling Latex-Portland Cement Thick Bed Mortar: 3701 Fortified Mortar Bed

Waterproofing and Crack Isolation Membrane: HYDRO BAN®

Rapid Latex-Portland Cement Thinset Mortar: 254R Platinum Rapid

Latex-Portland Cement Thinset Mortar: 254 Platinum

Rapid Latex-Portland Cement Large and Heavy Tile Mortar: 4-XLT Rapid

Latex-Portland Cement Large and Heavy Tile Mortar; 4XLT

Latex-Portland Cement Grout: PERMACOLOR® Grout or PERMACOLOR® Select Grout

100% Silicone Caulk: LATASIL™ and LATASIL 9118 Primer

Installation materials to be supplied by LATICRETE® International, Inc.; Bethany, CT; USA Telephone: 1 (203) 393-0010; Fax: 1 (203) 393-1684; E-mail: technicalservices@laticrete.com; Website: www.laticrete.com.

PREPARATIONS

Prior to commencing the installation, the contractor must examine substrates and advise the General Contractor and Architect of any existing conditions or surface contamination which will require correction before the work commences. Before starting, substrates must be cleaned to remove curing compounds, sealers, soil, mortar, dirt,

dust, etc. Curing compounds or sealers must be removed by bead-blasting, grit / sand blasting, hydro blasting, diamond wheel grinder with dustless vacuum attachment, or equivalent methods of mechanical scarifying. After removal of the curing compounds and sealers, all rough, uneven or "out-of-plumb" surfaces must be made "plumb and true" to within 1/8" in 10' (3 mm in 3 m) using 3701 Fortified Mortar Bed. Dry or dusty concrete or masonry surfaces must be water washed and excess water removed just prior to the application of LATICRETE membranes and mortars.

EXPANSION AND CONTROL JOINTS

Provide control or expansion joints as located in contract drawings and in full conformity, especially in width and depth, with architectural details.

- Substrate joints must carry through, full width, to surface of tiles.
- Install expansion joints in tile work over construction/cold joints or control joints in substrates.
- Install expansion joints where tiles abut restraining surfaces (such as perimeter walls, curbs, columns), changes in plane and corners.
- Joint width and spacing depends on application - follow TCNA "**Handbook for Ceramic, Glass, and Stone Tile Installation**" Detail "EJ-171 Expansion Joints" or consult sealant manufacturer for recommendation based on project parameters.
- Joint width: $\geq \frac{1}{8}$ " (3mm) and ≤ 1 " (25mm).
- Joint width: depth ~2:1 but joint depth must be $\geq \frac{1}{8}$ " (3mm) and $\leq \frac{1}{2}$ " (12mm).

Layout (field defined by joints): 1:1 length: width is optimum but must be $\leq 2:1$. Remove all contaminants and foreign material from joint spaces/surfaces, such as dirt, dust, oil, water, frost, setting/grouting materials, sealers and old sealant/backer. Use LATICRETE® LATASIL™ 9118 Primer for all porous tile installations to increase sealant adhesion. Install appropriate backing material (e.g. closed cell backer rod) based on expansion joint design and as specified in section 07 92 00. Apply masking tape to face of tile, brick or stone veneer. Use caulking gun, or other applicator, to completely fill joints with sealant. Within 5-10 minutes of filling joint, 'tool' sealant surface to a smooth finish. Remove masking tape immediately after tooling joint. Wipe excess sealant off all surfaces immediately.

WATERPROOFING AND CRACK ISOLATION MEMBRANE INSTALLATION

Install waterproofing and crack isolation membrane in compliance with current revisions of ANSI A108.1 (2.7 Waterproofing), ANSI A108.13, and ANSI A108.17. Review the installation and plan the application sequence. Pre-cut LATICRETE Waterproofing/Anti-Fracture Fabric (if required), allowing 2" (50mm) for overlap at ends and sides to fit the areas as required. Roll up the pieces for easy handling and placement. Shake or stir HYDRO BAN® before using.

Pre-Treat Cracks and Joints - Fill all substrate cracks, cold joints and control joints to a smooth finish using a LATICRETE latex-fortified thin-set. Alternatively, a liberal coat* of HYDRO BAN applied with a paint brush or trowel may be used to fill in non-structural joints and cracks. Apply a liberal coat* of HYDRO BAN approximately 8" (200mm) wide over substrate cracks, cold joints, and control joints using a paint brush or heavy napped paint roller.

Pre-Treat Coves and Floor/Wall Intersections - Fill all substrate coves and floor/wall transitions to a smooth finish and changes in plane using a LATICRETE latex-fortified thin-set. Alternatively, a liberal coat* of HYDRO BAN applied with a paint brush or trowel may be used to fill in cove joints and floor/wall transitions $< 1/8$ " (3mm) in width. Apply a liberal coat* of HYDRO BAN approximately 8" (200mm) wide over substrate cracks, cold joints, and control joints using a paint brush or heavy napped paint roller.

Pre-Treat Drains - Drains must be of the clamping ring type, with weepers as per ASME A112.6.3. Apply a liberal coat* of HYDRO BAN around and over the bottom half of drain clamping ring. Cover with a second liberal coat of



LATICRETE INTERNATIONAL, INC. ▪ 1 LATICRETE Park North ▪ Bethany, CT 06524-3423 USA
800.243.4788 ▪ support@laticrete.com ▪ www.laticrete.com

©2014 LATICRETE INTERNATIONAL, INC. All trademarks shown are the intellectual properties of their respective owners.

HYDRO BAN. When the HYDRO BAN dries, apply a bead of LATICRETE LATASIL™ where the HYDRO BAN meets the drain throat. Install the top half of drain clamping ring.

Pre-Treat Penetrations - Allow for a minimum 1/8" (3mm) space between drains, pipes, lights, or other penetrations and surrounding ceramic tile, stone or brick. Pack any gaps around pipes, lights or other penetrations with a LATICRETE latex-fortified thin-set. Apply a liberal coat* of HYDRO BAN around penetration opening. Cover the first coat with a second liberal coat* of LATICRETE® HYDRO BAN®. Bring HYDRO BAN up to level of tile or stone. When HYDRO BAN has dried to the touch seal with LATICRETE LATASIL™

Main Application - Allow any pre-treated areas to dry to the touch. Apply a liberal coat* of HYDRO BAN with a paint brush or heavy napped roller over substrate including pre-treated areas and allow to dry to the touch. Install another liberal coat* of HYDRO BAN over the first coat. Let the top coat of HYDRO BAN dry to the touch approximately 1 – 2 hours at 70°F (21°C) and 50% RH. When the top coat has dried to the touch inspect the surface for pinholes, voids, thin spots or other defects. HYDRO BAN will dry to an olive green color when fully cured. Use additional HYDRO BAN to seal any defects.

Movement Joints - Apply a liberal coat* of HYDRO BAN, approximately 8" (200mm) wide over the areas. Then embed and loop the 6" (150mm) wide LATICRETE Waterproofing/Anti-Fracture Fabric and allow the HYDRO BAN liquid to bleed through. Immediately apply a second coat of HYDRO BAN.

*** Dry coat thickness is 20 – 30 mil (0.02 - 0.03" or 0.5 - 0.8mm); consumption per coat is approximately 0.01 gal/ft² (approx. 0.4 L/m²); coverage is approximately 100 ft² /gal (approx. 2.5 m²/ L). LATICRETE Waterproofing/Anti-Fracture Fabric can be used to pre-treat cracks, joints, curves, corners, drains, and penetrations with HYDRO BAN.**

Protection - Provide protection for newly installed membrane, even if covered with a thin-bed ceramic tile installation against exposure to rain or other water for a minimum of 2 hours at 70°F (21°C) and 50% RH. For temperatures between 45°F and 69°F (7°C to 21°C) allow a minimum 24 hour cure period.

Flood Testing - Allow membrane to cure fully before flood testing, typically a minimum 2 hours at 70°F (21°C) and 50% RH. Cold conditions will require a longer curing time. For temperatures between 50°F and 69°F (10°C to 21°C) allow a minimum 24 hour cure period prior to flood testing.

MIXING

Mix according to printed product instructions included with each LATICRETE® product package.

WALL TILE INSTALLATION

Thin Bed Method: Install LATICRETE® 254 Platinum or LATICRETE® 254R Platinum Rapid, in compliance with current revisions of ANSI A108.02, A108.1B and ANSI A108.5. Use the appropriate trowel notch size to ensure proper bedding of the tiles. Work the thinset into good contact with the substrate and comb with notched side of trowel. Spread only as much thinset as can be covered while the mortar surface is still wet and tacky. Back-butter tiles to ensure 100% coverage. Firmly embed each tile into the thinset to ensure full bedding and flatness. For installations onto metal stairs, use only LATAPOXY® 300 Adhesive. Allow installation to set until firm; typically 24 hours @ 70° F (21°C). Clean excess mortar from tile surfaces and open grout joints immediately, while it is still wet and tacky.

Large and Heavy Tile Method: Install LATICRETE® 4XLT or LATICRETE® 4-XLT Rapid, in compliance with current revisions of ANSI A108.02 (3.11), A108.1B and ANSI A108.5. Use appropriately-sized notch trowel to ensure proper bedding of the tiles. Firmly apply LATICRETE® 4-XLT Rapid into good contact with the substrate using the flat side



LATICRETE INTERNATIONAL, INC. ▪ 1 LATICRETE Park North ▪ Bethany, CT 06524-3423 USA
800.243.4788 ▪ support@laticrete.com ▪ www.laticrete.com

©2014 LATICRETE INTERNATIONAL, INC. All trademarks shown are the intellectual properties of their respective owners.

of the trowel. Next, immediately apply 4-XLT Rapid to the substrate with notched side of trowel. Spread only as much 4-XLT Rapid, as can be covered, while it remains wet and tacky. Back-butter tiles to ensure 100% coverage. Allow installation to set until firm; typically 24 hours @ 70° F (21°C). Clean excess mortar from tile surfaces and open grout joints immediately, while it is still wet and tacky.

GROUT INSTALLATION

Polymer Fortified Cement Grout (ANSI A118.7): PERMACOLOR® Grout or PERMACOLOR® Select Grout, allow tile installation to cure a minimum of 24 hours @ 70° F (21°C). Verify grout joints are free of dirt, debris or tile spacers. Sponge or wipe dust/dirt off veneer face and remove any water standing in joints. Apply grout release as recommended. Surface temperature must be between 40-90° F (4-32°C). Pour approximately 64 oz. (1.9 L) of clean, potable water into a clean mixing container. Add a 25 lb. (11.3 kg) bag of LATICRETE® PERMACOLOR™ Grout to the container while mixing. Mix with a slow speed mixer to a smooth, stiff consistency. Install latex fortified cement grout in compliance with current revisions of ANSI A108.1A, ANSI A108.02 and ANSI A108.10. Dampen dry surfaces with clean water. Spread using a sharp edged, hard rubber float and work grout into joints, packing joints full and free of voids/pits. Hold float face at a 90° angle to grouted surface and use float edge to "squeegee" off excess grout, stroking diagonally to reduce pulling grout out of filled joints. Initial cleaning can begin as soon as grout has become firm, typically 15-20 minutes after grouting @ 70° F (21°C). Begin initial cleaning by lightly dampening the entire grouted area with a damp sponge. Then wash clean the entire area with a damp (not wet) sponge. Drag a clean towel, dampened with water, or wipe a clean, dampened sponge, diagonally over the veneer face to remove any grout haze left after "squeegeeing." Rinse towel/sponge frequently and change rinse water at least every 200 ft² (19m²). Repeat this cleaning sequence again if grout haze is still present. Allow grout joints to become firm. Buff surface of grout with clean coarse cloth. Inspect joint for pinholes/voids and repair them with freshly mixed grout. Within 24 hours, check for remaining haze and remove it with warm soapy water and a nylon scrubbing pad. Do not use acid cleaners on latex Portland cement grout less than 10 days old.

SEALERS (FOR CEMENT BASED GROUT)

STONETECH® Grout Release (For Porous Surfaces) Read entire label before using. Use only as directed. Always test in a small inconspicuous area to determine ease of application and desired results. Make sure surface is clean, dry and free of loose debris. Surface temperature should be between 50-80°F (10 – 26°C). Avoid skin and eye contact. Wear protective eyewear, gloves, long sleeves, and long pants while handling product. Ensure work area is well-ventilated during application and until surface is dry. Keep children and pets out of the area until surface use resumes.

1. Mask off any surfaces not intended to be treated.
2. Apply an even coat of STONETECH® Grout Release with a paint pad, paintbrush, paint roller or low-pressure sprayer.
3. Allow STONETECH Grout Release to completely penetrate the surface for 5-15 minutes.
4. Wipe up all remaining grout release from the surface. Do not allow excess liquid to pool or dry on surface. Do not over apply.
5. Allow for a minimum of 4 hours cure time prior to grouting.
6. After grouting, remove excess grout. Do not allow grout to completely dry prior to removal.
7. Clean equipment with water. 8. Once grout is fully cured seal installation with an appropriate STONETECH sealer. Follow grout manufacturer's directions for cure time.

Cleaning

Clean tools used during application with water.

STONETECH® Bulletproof® Sealer: Read entire label before using. Use only as directed. Always test in a small inconspicuous area with a 24-hour cure time to determine ease of application and desired results. Allow new cement



LATICRETE INTERNATIONAL, INC. ▪ 1 LATICRETE Park North ▪ Bethany, CT 06524-3423 USA
800.243.4788 ▪ support@laticrete.com ▪ www.laticrete.com

©2014 LATICRETE INTERNATIONAL, INC. All trademarks shown are the intellectual properties of their respective owners.

based grout installations to cure for a minimum of 72 hours prior to application. Make sure surface is clean and free of waxes and coatings. STONETECH Bulletproof Sealer may be applied to damp surfaces one hour after standing water has been removed. Surface temperature should be between 50°F and 80°F (10°C and 27°C). Ensure that the area is well-ventilated during application and until the surface is dry. Keep children and pets out of the area until treated surface is dry.

1. Ensure cap is closed and sealed, and shake well before use.
2. Mask off surfaces not intended to be treated.
3. Liberally apply an even coat of STONETECH® BulletProof Sealer using a paint pad, roller, brush or low-pressure sprayer.
4. Allow sealer to penetrate the surface for 10-15 minutes. During this time, keep the surface wet with sealer, adding more sealer as needed. **DO NOT ALLOW SEALER TO COMPLETELY DRY ON THE SURFACE.**
5. Thoroughly wipe dry the entire surface with clean absorbent towels.
6. A second coat may be needed for porous, absorbent surfaces. If a second coat is required, it should be applied within 30-40 minutes from the initial application as directed in steps 3-5.
7. Should a sealer residue appear, rewet the impacted section of the surface with sealer. Agitate the surface with a white nylon scrubbing pad to loosen residue and wipe dry with a clean, absorbent towel.
8. A full cure is achieved in 24-72 hours. Use of the treated surface may resume in 6-8 hours. If use of the surface must resume sooner, cover the treated surface with red rosin paper to protect it until full cure has been achieved.
Clean tools used during application with water.

PROTECTION

- To avoid damage to finished tile work, schedule floor installations to begin only after all structural work, building enclosure, and overhead finishing work are completed.
- Keep all traffic off finished tile floors until they have fully cured. Builder shall provide up to ¾" (19mm) thick plywood or OSB protection over non-staining Kraft® paper to protect floors after installation material have cured. Covering the floor with polyethylene or plywood in direct contact with the floor may adversely affect the curing process of grout and latex/polymer fortified Portland cement mortar.
- Keep floors installed with epoxy adhesive closed to traffic for 24 hrs. at 70°F (21°C), and to heavy traffic for 48 hours @ 70°F (21°C) unless instructed differently by manufacturer.
- Use kneeling boards, or equivalent, to walk/work on newly tiled floors.
- Replace or restore work of other trades damaged or soiled by work under this section.
- Protect exterior installations from exposure to rain for a minimum of 7 days at 70° F (21° C).

COLD WEATHER NOTE

The curing of installation materials is retarded by low temperatures and finished work should be protected for an extended period of time. Typically, for every 18° F below 70° F (10°C below 21°C), latex and Portland cement based materials take twice as long to cure.

HOT WEATHER NOTE



LATICRETE INTERNATIONAL, INC. ▪ 1 LATICRETE Park North ▪ Bethany, CT 06524-3423 USA
800.243.4788 ▪ support@laticrete.com ▪ www.laticrete.com

©2014 LATICRETE INTERNATIONAL, INC. All trademarks shown are the intellectual properties of their respective owners.

The evaporation of moisture in Portland cement grouts is accelerated by hot, dry conditions. Apply grout to dampened surfaces & protect freshly spread grout & finished work when installing in temperatures over 95 degrees F (35 degrees C).

As a professional courtesy, LATICRETE does offer technical services free of charge. LATICRETE does not have any express or implied contractual obligation or duty to provide those technical services. The user maintains all responsibility for verifying the applicability and suitability of the technical service or information provided by LATICRETE representatives. Moreover, technical service site visits and consultations do not constitute express or implied approval by LATICRETE of product use or other construction means and methods. By providing technical services, LATICRETE does not undertake to perform any duty owed by the user to any third party, and no third party should rely on LATICRETE providing technical services.

LATICRETE Technical Services provides review of job specifications and plans, project detail planning and review, and provides answers to questions concerning the installation of ceramic tile, brick, marble and stone. Call toll free USA +1 (203) 393-0010. Fax: USA +1 (203) 393-1684. E-mail: technicalservices@laticrete.com, Internet: www.laticrete.com. To obtain a copy of detailed product information, most recent revisions of LATICRETE data sheets, and answers to installation questions, E-mail: technicalservices@laticrete.com or call (800) 243-4788 x.235.

© 2014 LATICRETE INTERNATIONAL, Inc. The right to copy, distribute, and utilize for commercial purposes is specifically granted to Stone and Tile Importers and manufacturers, Architects, Engineers, and Specifications Writers.

All trademarks shown are the intellectual properties of their respective owners.

R September 25, 2017



LATICRETE INTERNATIONAL, INC. ▪ 1 LATICRETE Park North ▪ Bethany, CT 06524-3423 USA
800.243.4788 ▪ support@laticrete.com ▪ www.laticrete.com

©2014 LATICRETE INTERNATIONAL, INC. All trademarks shown are the intellectual properties of their respective owners.