SECTION 03 53 00

SELF-LEVELING POLISHED CONCRETE TOPPING

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\*\* NOTE TO SPECIFIER \*\* LATICRETE International, Inc.; green flooring and facade materials.  
This section is based on the products of LATICRETE International, Inc., which is located at:1 LATICRETE Park N.Bethany, CT 06524-3423Toll Free Tel: 800-243-4788Tel: 203-393-0010Fax: 203-393-1684Email: [request info (sldolata@laticrete.com)](https://arcat.com/rfi?action=email&company=LATICRETE%252BInternational%252C%252BInc.&message=RE%253A%2520Spec%2520Question%2520(03530lat)%253A%2520&coid=33748&spec=03530lat&rep=&fax=203-393-1684)  
Web: <https://laticrete.com/en>   
 [ [Click Here](https://arcat.com/company/laticrete-international-inc-33748) ] for additional information.  
LATICRETE is a leading manufacturer of globally proven construction solutions for the building industry. LATICRETE offers a broad range of products and systems covering tile & stone installation and care, masonry installation and care, resinous and decorative floor finishes, concrete construction chemicals, and concrete restoration and care including the LATICRETE SUPERCAP® System.  
For over5 years, LATICRETE has been committed to research and development of innovative installation products, building a reputation for superior quality, performance and customer service. LATICRETE methods, materials and technology have been field and laboratory proven by Architects, Engineers, Contractors and Owners. Offering an array of low VOC and sustainable products, LATICRETE products contribute to LEED certification, exceed commercial/residential VOC building requirements, and are backed by the most comprehensive warranties in the industry.

1. GENERAL

\*\* NOTE TO SPECIFIER \*\* This specification is for a polished concrete finishing method utilizing LATICRETE NXT Overlayments; which are pumpable, pourable, low-alkali, and premium self-leveling. Used to finish new or existing concrete slabs, precast, cast-in-place, and/or level uneven floor surfaces. Creating a decorative wear layer to be used as the finished flooring.

LATICRETE NXT Overlayment's may be installed using the methods outlined in this specification.

* 1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Pumpable and pourable, low-alkali, cement-based, self-leveling polishable topping system.
       1. Vapor reduction coating.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 01 30 - Maintenance of Cast-in-Place Concrete.
    2. Section - .
    3. Section 03 30 00 - Cast-in-Place Concrete.
    4. Section 03 41 16 - Precast Concrete Slabs.
    5. Section 07 91 23 - Backer Rods.
    6. Section 09 61 36 - Static-Resistant Flooring Treatment.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Concrete Institute (ACI):
       1. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.
       2. ACI 302.1R-04 - Guide for Concrete Floor and Slab Construction.
       3. ACI 318 - Building Code Requirements for Structural Concrete and Commentary.
    2. ASTM International (ASTM):
       1. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation.
       2. ASTM C1583 - Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method).
       3. ASTM C1708 - Standard Test Methods for Self-leveling Mortars Containing Hydraulic Cements.
       4. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
       5. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
       6. ASTM C109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
       7. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
       8. ASTM C348 - Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars.
       9. ASTM C779 - Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces.
       10. ASTM C1028 - Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull Meter Method.
       11. ASTM C1315 - Liquid Membrane-Forming Compounds Having Special Properties of Curing and Sealing Concrete.
       12. ASTM E430 - Standard Test Method for Measurement of Gloss of High-Gloss Surfaces by Abridged Goniophotometry.
    3. International Concrete Repair Institute (ICRI):
       1. ICRI Guideline No. 03739 - Field Applications of In-Situ Tensile Pull-Off Tests.
       2. ICRI Guideline No. 03732 - Selecting and Specifying Concrete Surface Preparation for Coatings, Sealers, and Polymer Overlays.
    4. Underwriter's Laboratory (UL):
       1. UL 2818 - Greenguard - Certification Program for Chemical Emissions for Building Materials, Finishes and Furnishings.
  1. SYSTEM DESCRIPTION
     1. Pumpable and pourable, low-alkali, cement-based, self-leveling topping based on a proprietary mineral binder system that shall be used to finish concrete and level uneven floor surfaces. The topping shall be capable of placement over sound concrete before polishing begins. Floor covering adhesives that are suitable for concrete shall be suitable for use on the topping.
  2. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: For each type of product indicated. Include manufacturer's technical data, application instructions, and recommendations.

\*\* NOTE TO SPECIFIER \*\* Technical Data Sheet: [Click here](https://cdn.laticrete.com/~/media/support-and-downloads/technical-datasheets/tds184n.ashx?la=en&vs=5&d=20211207T173958Z&hash=628A4B9794D0E6503C877D08072421B250682003) for Technical Data Sheet.

* + - 1. Manufacturer's data sheets on each product to be used.
      2. A completed LEED Environmental Building Materials Certification Form. Information to be supplied generally includes:
         1. Manufacturing plant locations for tile installation products.
         2. LEED Credits as listed in "LEED Credit Submittals."
         3. Recycled Content: Pre-consumer or post-consumer, or project specific information gathered using LATICRETE LEED Project Certification Assistant available at www.laticrete.com/green.
      3. UL GREENGUARD Certification Program For Chemical Emissions For Building Materials, Finishes And Furnishings:
         1. UL 2818 or UL GREENGUARD Gold certificates provided by tile installation materials manufacturer on UL GREENGUARD letterhead stating "This product has been UL GREENGUARD Gold Product Certified For Low Chemical Emissions by the UL Environment under the UL GREENGUARD Certification Program For Chemical Emissions For Building Materials, Finishes And Furnishings."

For each tile installation product used to verify Low VOC product information.

* + - 1. Contractor's certification of LEED Compliance: Submit Contractor's certification verifying the installation of specified LEED Compliant products.
      2. Product Cut Sheets:
         1. For all materials that meet LEED performance criteria.
         2. With Contractor or Sub-contractor's stamp, as confirmation that submitted products were installed on Project.
      3. Material Safety Data Sheets: For all applicable products.
    1. Submit proof of warranty.
    2. Submit Health Product Declarations (HPD) for each tile installation material.
    3. For Alternate Materials: 30 days before bid date, submit independent laboratory test results confirming compliance with specifications listed in Part 2 - Products.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
     2. Installer Qualifications: Minimum 2 year experience installing similar products.

\*\* NOTE TO SPECIFIER \*\* Contact LATICRETE at +1.800.243.4788 x1235 for the name of your local sales representative who can provide names of qualified applicators.

* + 1. Installation of LATICRETE NXT Self Leveling Toppings: By a qualified applicator using specialized mixing equipment and tools approved by Manufacturer.
    2. Testing Agency Qualifications: Secure an independent agency qualified according to ASTM C1077 and ASTM E329 for testing indicated, as documented according to ASTM E548.
    3. Environmental Performance Requirements: The following criteria are required for products included in this section.
       1. Refer to Division 1 for additional requirements:

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
       1. Place mockups of LATICRETE NXT topping of approximately 100 sq ft (9.3 sq m) to demonstrate typical joints, surface finish, bonding, texture, tolerances, and standard of workmanship.
       2. Do not proceed with remaining work until workmanship is approved by Architect.
       3. Refinish mock-up area as required to produce acceptable work.
    2. Topping is a cement-based product and may exhibit slight variations in color as a function of job-site conditions. Water-marks similar to veins in stone are a natural result of a pour/spread/smooth installation process.
  1. PRE-INSTALLATION MEETINGS
     1. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Deliver materials in their unopened packages and protect from moisture. Protect liquids from freezing and from excessive heat. Store off the floor on dry pallets or equivalent.
        1. LATICRETE NXT LEVEL SP: Packaged in 50 lb. (22.7 kg) plastic bags. Use within one year of date of manufacture.
        2. LATICRETE NXT LEVEL DL: Packaged in 55 lb. (24.9 kg) plastic bags. Use within one year of date of manufacture.
     2. Use all means necessary to protect materials before, during and after installation and to protect installed work and materials of other trades.
  3. PROJECT CONDITIONS
     1. Observe Basic Rules of Concrete Placement and Finishing.
        1. Substrate Temperature: Minimum 50 degrees F (4 degrees C) during application.
        2. Ambient Temperature: Maintained at 50 to 90 degrees F (10 to 32 degrees C).
     2. Follow hot weather precautions available from manufacturer's Technical Service Department.
     3. Never mix with cement or additives other than manufacturer's approved products.
     4. During Application and Curing: Do not expose topping to rapid air movement from mechanically conditioned air. Direct Air flow from HVAC systems in application areas away from floor during application of topping and for a minimum 24 hours after work is completed.
     5. Foot Traffic of Any Type: Not allowed in work area from commencement of substrate preparation until a minimum 24 hours after completion of finishing.
  4. SEQUENCING
     1. Ensure products of this Section are supplied to affected trades in time to prevent interruption of construction progress.

\*\* NOTE TO SPECIFIER \*\* Consult Technical Services at +1.800.243.4788 x1235 for average depths over the specified materials limits. Refer to TDS 230 for more substrate preparation and primer information, and TDS 238 for more polishing Self Leveling topping information.

* + 1. First Grind: Approximately 12 hours after topping is installed depending on pour depth and drying conditions.
       1. Lower temperatures, higher relative humidity, poor ventilation, and thicker self-leveling topping application will extend dry time.
       2. Test performance suitability and compatibility prior to starting polishing process.
          1. Sample surfaces should be installed as a field test to be representative of entire surface and tested for intended use.
       3. When aggregate is broadcast into surface or mixed integrally, allow a 24-hour drying time prior to first grind.
          1. The extra cure time allows more strength to develop and prevents aggregate from rolling out during grinding stage.
  1. WARRANTY

\*\* NOTE TO SPECIFIER \*\* Reference LATICRETE Warranty Data Sheet DS-230.1 for complete details and requirements.

* + 1. The Contractor warrants the Work of this Section to be in accordance with the Contract Documents and free from faults and defects in materials and workmanship for a period of 1-year. The topping manufacturer shall provide a 1-year warranty, which covers materials and labor.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: LATICRETE International, Inc., which is located at:1 LATICRETE Park N.Bethany, CT 06524-3423Toll Free Tel: 800-243-4788Tel: 203-393-0010Fax: 203-393-1684Email: [request info (sldolata@laticrete.com)](https://arcat.com/rfi?action=email&company=LATICRETE%252BInternational%252C%252BInc.&message=RE%253A%2520Spec%2520Question%2520(03530lat)%253A%2520&coid=33748&spec=03530lat&rep=&fax=203-393-1684);Web: <https://laticrete.com/en>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
       1. For alternate materials, at least thirty days before bid date submit independent laboratory test results confirming compliance with specified products performance and requirements.

\*\* NOTE TO SPECIFIER \*\* Minimum recommended thickness for polished topping is 1/2 inch mm). LATICRETE NXT DL, and SP can be applied to a maximum depth thickness of 2 inches (51 mm). Interior concrete is the only suitable substrate to receive self-leveling polished concrete toppings.

* 1. MATERIALS
     1. Self-Leveling Polished Concrete Topping:

\*\* NOTE TO SPECIFIER \*\* Delete basis of design option not required and delete color options not required.

* + - 1. Basis of Design: LATICRETE NXT LEVEL SP (salt and pepper look) as manufactured by LATICRETE International, Inc.
         1. Compressive Strength tested to ASTM C1708: 6000 to 7000 psi (43.1 to 48.3 MPa) after 28 days.
         2. Color: Grey.
         3. Color: White.
         4. Color: \_\_\_\_\_\_\_.

Topically dyed per Manufacturer's written instructions.

Integrally pigmented per Manufacturer's written instructions.

* + - 1. Basis of Design: LATICRETE NXT LEVEL DL as manufactured by LATICRETE International, Inc.
         1. Compressive Strength tested to ASTM C1708: 5100 psi (35.1 MPa) after 28 days.
         2. Color: Grey.
         3. Color: White.
         4. Color: \_\_\_\_\_\_\_.

Topically dyed per Manufacturer's written instructions.

Integrally pigmented per Manufacturer's written instructions.

* + 1. Primer:

\*\* NOTE TO SPECIFIER \*\* Refer to LATICRETE Substrate Preparation and Primer Guide for LATICRETE Self-Leveling Products TDS and Guide for Polishing LATICRETE Self-Leveling Overlayment TDS 238 for more detailed Epoxy Primer with sand broadcast information.

* + 1. Delete primer options not required.Delete primer options not required.
       1. LATICRETE NXT LEVEL SP topping products.
       2. LATICRETE NXT LEVEL DL topping products.
       3. VAPOR BAN ER Vapor Reduction Coating with sand broadcast to refusal.
       4. VAPOR BAN NXT Vapor Reduction Coating with sand broadcast to refusal.
    2. Joint Filler: LATICRETE L and M JOINT TITE 750.
    3. Grout and Skim Coat: LATICRETE 3701 Admix.
    4. Coloring Dye: LATICRETE LM VIVID DYE WB Plus.
       1. Color: As selected by the Architect from Manufacturer's standard range.
       2. LATICRETE LION HARD.
    5. Sealer: LATICRETE STONETECH BulletProof Sealer.
    6. Water: Clean, Potable, and Cool.
    7. Broadcast Sand: Clean, dry play sand.
       1. Sand Grain Size: 00.
          1. Less than 1/50 inches or pass 98.5 percent sieve size No. 35.

\*\* NOTE TO SPECIFIER \*\* Refer to Part 3 Execution for Related materials. Modify to meet the project scope requirements.

* 1. MATERIAL PERFORMANCE
     1. Finished Gloss Level:

\*\* NOTE TO SPECIFIER \*\* Delete gloss level options not required.

* + - 1. Polished Concrete Level 1: Low Gloss.
         1. Looking From Distance of 100 ft (30.48 m): Floor reflects images from side lighting.
         2. Gloss Meter Readings: 30 to 40.
      2. Polished Concrete Level 2: Medium Gloss.
         1. Looking From Distance of 30 to 50 ft (9.144 to 15.24 m): Floor clearly reflects from side and overhead lighting.
         2. Gloss Meter Readings: 41 to 55.
      3. Polished Concrete Level 3: High Gloss.
         1. Looking Straight Down: Floor clearly reflects overhead and side light, with appearance of floor looking wet.
         2. Gloss Meter Readings: 56 or higher.
    1. Floor Flatness and levelness requirements (FF):

\*\* NOTE TO SPECIFIER \*\* Delete floor flatness options not required.

* + - 1. FF: \_\_\_\_\_\_\_\_. Specified Overall Value.
      2. FF: \_\_\_\_\_\_\_\_. Specified Overall Value in areas as detailed on Drawings.
      3. FF: \_\_\_\_\_\_\_\_. Minimum Local Value.
      4. FF: \_\_\_\_\_\_\_\_. Minimum Local Value in areas as detailed on Drawings.
      5. FF: As detailed on Drawings
      6. Test Substrate floor flatness and levelness prior to installation of overlay according to ASTM E1155 Standard Test Method for Determining Floor Flatness and Floor Levelness Numbers by an independent testing agency experienced with testing procedure and possessing the necessary equipment.

1. EXECUTION
   1. SUBSTRATE EXAMINATION
      1. Do not begin installation until substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
      3. Verify the Following:
         1. Surfaces to be Covered with Self-Leveling Topping:
            1. Sound, rigid and conform to good design and engineering practices.
            2. Not leveled with gypsum or asphalt-based compounds.
            3. Free of visible surface water on the slab.
            4. Are of a suitable substrate that is listed on the applicable datasheet.
            5. Clean and free of oil, wax, grease, sealers, curing compounds, asphalt, paint, de-icing agents, dust, dirt, loose surface material and any other contaminant that will act as a bond breaker.

Consult with an independent lab to analyze core samples to determine full depth of contamination.

Potential bond breaking contaminants must be removed down to maximum depth of contamination to clean, absorptive, structurally sound concrete by shot blasting, scarifying or other mechanical means per ICRI Guideline No. 310.2R.

Concrete is then to be swept and vacuumed clean.

Chemical removal of contaminants is acceptable.

* + - 1. Systems over which self-leveling product will be installed, including framing system and panels, must conform to the following:
         1. Residential Applications: International Residential Code (IRC).
         2. Commercial Applications: International Building Code (IBC)
         3. Applicable local building codes where project is located.
      2. Project Design:
         1. Includes Intended Use.
         2. Necessary Load Allowances:

Expected live loads.

Concentrated loads.

Impact loads.

Dead loads.

Weight of finish and installation materials.

* + - * 1. Verify substrate deflection under the following Loads:

Liv.

Dead.

Concentrated.

Impact loads on floors.

* + - * 1. Do not exceed industry standards for type of finished flooring installed.
        2. Confirm with Contractor that floors are designed and built-in accordance with local codes and industry standards and are structurally sound.
        3. In Addition to Deflection Considerations: Above ground installations are inherently more susceptible to vibration. Materials used cannot mitigate structural deficiencies including floors not meeting code requirements and/or overloading or other abuse of the installation beyond the limits of the design parameters.
        4. Maximum Allowable Floor Member Live and Concentrated Load Deflection: Not to exceed L/360 where L is the clear span length of the supporting member per applicable building code.
      1. Building Envelope or Temporary Enclosure: Providing suitable temperatures, weather protection, and blocking direct sunlight for 72 hours after application of self-leveling products.
         1. Temperatures During Primer Application and Throughout Drying Time.

Substrate: 50 degrees F (10 degrees C) or higher.

Air: 60 to 90 degrees F (16 to 32 degrees C).

* + - 1. Evaluate areas around walls, columns, penetrations, and other building elements where movement is anticipated.
         1. Isolate areas where self-leveling abuts restraining surfaces allowing for building movement.

To Accommodate Movement:

Prior to self-leveling product application: Attach temporary compressible isolation strip to perimeter walls, columns, protrusions, etc. isolating self-leveler from the restraining or moving surfaces.

Isolation Strip: Fastened in place with staples, tape, etc. and remove after self-leveling product has set firm.

Refer to ACI 302.2R-06 and ASTM F710 for more detailed information.

* + 1. Concrete Surface Tensile Pull Strength: 200 psi (1.4 MPa) minimum for self-leveling topping.
  1. PREPARATION
     1. Health and Safety: Personal protection such as rubber gloves, suitable dust masks, safety glasses and industrial clothing is highly recommended.
        1. Dispose of packaging, product wash, and wastewater per local, state or federal regulations.
     2. Clean surfaces thoroughly prior to installation.
     3. Prepare surfaces using methods recommended by manufacturer for achieving the best result for substrate under project conditions.
     4. Concrete Surfaces: Shot blasted and mechanically abraded to ensure contaminants such as curing compounds, sealers, or glue are removed.
        1. Acceptable Methods of Mechanical Cleaning: Refer to ICRI Guideline No. 03732 for detailed information regarding methods.
           1. Grinding, shot blasting, scarifying, needle scaling, scabbling, and milling.
        2. Minimum Concrete SurfaceTensile Pull Strength: 200 psi (1.4 MPa) is required for decorative wear surface products.
        3. Areas that are loose, broken or do not meet the minimum concrete surface tensile strength must be removed and repaired.
           1. Once repaired and clean, surfaces must be properly primed prior to installing overlay products.
        4. Sweep and Vacuum thoroughly.

\*\* NOTE TO SPECIFIER \*\* Insert any special means of preparation in addition to surface preparation requirements listed above. Delete if not required.

* + - 1. Additional Means of Preparation Required:
         1. \_\_\_\_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* List other substrates and means of preparation as required. Delete if not required.

* + - 1. Other Substrates and Substrate Preparation:
         1. \_\_\_\_\_\_\_\_.
      2. Water Drop Test, and Tensile Strength Testing: Conducted after mechanical removal of contaminants.
  1. INSTALLATION
     1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.

\*\* NOTE TO SPECIFIER \*\* Refer to LATICRETE Substrate Preparation and Primer Guide for LATICRETE Self-Leveling Products TDS230 and Guide for Polishing LATICRETE Self-Leveling Overlayment TDS 238 for more detailed Epoxy Primer with sand broadcast information..

* + 1. Installation of Self-Leveling Toppings:
       1. Primer for Self-Leveling Wear Surface:
          1. Substrate Temperature: During application and throughout drying time.

Maintain at 50 degrees F (10 degrees C) or higher.

Air Temperature: 50 to 90 degrees F (16 to 32 degrees C).

* + - * 1. Do not install primer when there is standing or visible water on substrate.
        2. Protect primer from direct sunlight and weather during application and drying time.
      1. Mixing: Mix Components A and B per written installation instructions.
         1. Components are packaged in pails to specified ratio.
         2. Pour Component A into larger Component B steel pail.

Verify all of Part A liquid is drained from pail.

* + - * 1. Mixing Speed: Less than 300 rpm with a jiffy blade on a slow speed drill, for 2 minutes.

Eliminate ribbons of contrasting shades.

Mixture to be uniform.

* + - * 1. Do not mix in a plastic bucket as mix generates excessive heat.
      1. Application:
         1. Immediately After Mixing: Pour ribbons of mixed material onto prepared substrate.
         2. Spread using appropriate round or square notch squeegee, or SPARTACOTE Resin Broom designed to apply desired mil thickness in a single coat.

Apply an even coat covering all areas thoroughly.

* + - * 1. Immediately After Initial Application: While epoxy is wet, using a high quality 3/8 inch (9 mm) nap, non-shedding paint roller, back-roll at 90 degrees from squeegee direction to ensure full coverage and uniform thickness.
      1. Broadcast:
         1. Working in small sections immediately broadcast approximately 1 to 2 lbs of play sand per sq ft into the wet, freshly applied epoxy.

Broadcast to point of refusal completely covering wet epoxy with sand.

Continue process maintaining a wet edge until entire area is covered.

If epoxy dries prior to sand broadcast, apply additional epoxy, and immediately broadcast sand.

Once sanded, avoid walking on floor for a minimum 6 hours.

Allow sanded epoxy to cure for a minimum of 16 hours then sweep and thoroughly vacuum until loose sand and dust is completely removed from the surface.

Any loose sand on the surface may appear in the finished decorative wear surface.

* + - 1. Protect Epoxy Primer Application:
         1. Do not subject primed floor to trade traffic, construction dust, debris, flooding, or other substances prior to topping installation.
         2. If Primed Floor Becomes Contaminated Prior to Topping Installation:

Completely remove primer by shot blasting, scarification or other mechanical means.

Properly re-prime and allow to dry prior to topping installation.

* + 1. Installation of Decorative Wear Surfaces: Proper application is the responsibility of the Contractor. Field visits by LATICRETE personnel are for making technical recommendations and not supervising or providing jobsite quality control.
       1. Substrate temperature: 50 to 90 degrees F (4 to 32 degrees C)
       2. Air temperature: Between 50 to 90 degrees F (10 to 32 degrees C) during application.
       3. Protect areas from direct sunlight.
       4. Do not use damp curing methods or curing and sealing compounds.
       5. To Meet Level Tolerances: Survey surface using digital or electronic leveling devices and apply level pegs as required.
       6. Adequate Ventilation: To ensure uniform drying.
       7. Application:
          1. Pump or pour blended material onto substrate at an average thickness ranging between 1/2 to 2 inches (12 to 51mm).
          2. Immediately Following Placement: Lightly smooth surface and pour lines.

When not using elevation pins, a gauge rake will assist in controlling material depth.

Do not expose LATICRETE NXT LEVEL DL or SP to rolling dynamic loads, such as forklifts or scissor lifts, for 24 hours after installation.

* + - * 1. Minimum Thickness for Polished Applications: 1/2 inch (12 mm).

\*\* NOTE TO SPECIFIER \*\* NXT LEVEL DL and SP can be integrally colored using NXT ANYCOLOR universal liquid pigments. Indicate NXT ANYCOLOR universal pigment color name in subparagraph below. Add a schedule if multiple colors are required. Delete paragraph if not required.

* + - 1. Adding Integral Pigment:
         1. Color: NXT ANYCOLOR \_\_\_\_\_\_\_\_.
         2. Coloring Rate:

NXT LEVEL DL: 1 liquid pigment unit for every 55 lbs (24.9 kg) of mix.

NXT LEVEL SP: 1 liquid pigment unit for every 50 lbs (22.7 kg) of mix.

* + 1. Cut Joints: Honor all types of active/dynamic joints and cracks in the substrate up through the underlayment and floor covering.
       1. Moving Joints or Cracks: Can transfer up through self-leveling, and moisture mitigation products and could cause cracks in the finish flooring.
       2. Prior to Cutting Joints:
          1. Allow LATICRETE NXT LEVEL DL and SP to cure for a minimum of 3 hours, until surface is walkable.
          2. Joints should be cut prior to grinding.
          3. Trace previously marked substrate joints.
          4. Cut into concrete substrate joint through full depth of self-leveling overlayment.
    2. Fill Joints: Allow LATICRETE NXT LEVEL DL and SP to dry for 24 hours prior to filling joints
       1. Vacuum and air blast to clean out new cut joints leaving no loose dust or debris.
       2. Do not use water.
       3. Protect adjacent joint surface from staining caused by product overflow with stain protector.
       4. Joint Filler: LATICRETE L and M JOINT TITE 750. Overfill joint 1/16 inch (1.5 mm).
          1. Excessive overfill will waste product and may cause surface staining.
          2. After 45 Minutes: Trim excess joint filler using a new 8 inch (200 mm) razor scrapper to create a flat, smooth joint.
          3. NOTE to Specifier: For more specific polishing guidelines based on polishing equipment manufacturer, please contact LATICRETE Technical Services at 1.800.243.4788 x1235.
    3. Polishing: LATICRETE NXT LEVEL DL and SP: Can be polished after 12 hours.
       1. Consult with polishing concrete contractor as there many methods, levels of polish, unlimited color, and other design aspects that must be considered.
       2. Polishing topping material requires a high degree of experience and craftsmanship.
       3. A suitable sized mock-up is required for obtaining owner's acceptance prior to installation.
    4. Grinding Stage: Dry grind only. Do not wet grind.
       1. Typically, 40-grit metal bond diamond will cut the surface within 24 hours of install.
       2. Aggressive grit and heavier equipment may be needed to cut through surface skin and expose aggregate as surface gains strength over time and/or if aggregate needs to be exposed.
       3. Grinding stage will remove 1/16 to 1/4 inch (1.5 to 6 mm) of the surface.
          1. Once the first grind diamond tooling has been determined, spend a large amount of time on grinding and cutting through the skin.
          2. Make multiple passes north to south then east to west fashion.

Multiple passes will be needed to grind deep enough so that the surface skin, gauge rake/smoother marks and low spots removed, and aggregates are exposed.

* + - * 1. Continue grinding until consistent aggregate exposure has been achieved.
        2. Sweep and vacuum clean and inspect prior to each diamond grit change.
        3. Continue to grind using higher grit metal bond diamonds up to 120 grit to remove scratches created by the previous step and to smooth the surface.
        4. Multiple passes at each grit may be needed to ensure all of the previous scratches are removed.

\*\* NOTE TO SPECIFIER \*\* There are several other types of products and methods for grouting available including acrylic, resinous, cementitious, etc. Contact and follow instructions from the grout /skim coat manufacturer that you are using. Delete if not required.

* + 1. Grout and Skim Coat: LATICRETE 3701 Admix
       1. Dilute 1 part water to 1 part 3701 Admix.
       2. Apply with sprayer and bristle broom.
          1. Spray 10 to 15 ft in front of grinder.
          2. Scrub the 3701 Admix into floor with the broom.
          3. Immediately run grinder with 120 grit over admix and allow to dry.
    2. Transition: 100 - 200 grit Ceramic, Hybrid, or transitional tools are often used to remove metal diamond scratch patterns prior to switching to resin bonds.
       1. This typically requires a single pass, but multiple passes may be needed.
       2. Multiple Passes: In a north to south then east to west fashion.
       3. When Switching from Hybrid or Transitional to Resin Bond Diamond Tools: Drop back one grit from the last metal used.
          1. For Example: When transitioning from 150 Hybrid, start with 100 grit Resin.
    3. Honing Stage: Sweep and vacuum clean and inspect to ensure previous scratches have been removed prior to each diamond grit change.
       1. Run machine at slower speed over self-leveling topping then you would over normal concrete slabs.
          1. Faster speeds with resin bonds over self-leveling toppings could generate enough heat to burn the topping polymers and cause discoloration.
       2. Consider removing weight from machine. Additional weight could cause excess heat.
       3. Begin honing using 100 grit resin.
          1. If Scratches Remain After the First Resin Pass: Drop back to hybrid or transitions to remove deep scratches. Then work your way back up.
          2. Continue to Hone Using 200 Grit Resin.

Sweep and Vacuum clean and inspect to ensure previous scratches have been removed.

* + - * 1. If Using a Dye: Apply L&M VIVID DYE WB Plus prior to densifying per data sheet instructions.

Two coats are recommended however, this should be determined during the mockup.

* + - * 1. Use the following LATICRETE System Materials: L&M VIVID DYE WB Plus.
  1. Dye and/or Densify:
     1. Mixing:
        1. Mix 8 oz (237 mL) of dye concentrate with 1 gal (3.8 L) of water.
        2. Mix 32 oz (946 mL) of dye concentrate with 5 gal (19 L) of water.
        3. Shake or stir container for 1 minute to mix contents together.
        4. Application Temperature: Higher than 50 degrees F (10 degrees C) and maintained for 4 hours after application to concrete.
        5. Typical Dry Time: 30 minutes at 70 degrees F (21 degrees C) and 50 percent relative humidity.
     2. First Coat: Establish your grinding level starting point.
        1. Grind floor up through 200 grit level prior to first dye application.
        2. Use a hand pump sprayer with a fine mist, cone shaped sprayer nozzle.
           1. Apply dye in consistent, overlapping circular motion, hold wand 12 to 18 inch (300 to 450 mm) above surface.
           2. Mop out excess dye application to minimize potential spotting due to puddling.
           3. Following Initial Dye Application: Wait until dye has dried. Depending on floor tightness, heat, and humidity dry time may take 10 and 50 minutes.
           4. Over spray and tip design can lead to wasted dye.
           5. LM VIVID DYE WB PLUS is being sprayed too heavily if puddles are present.
           6. After Drying: Scrub floor with water and brush or white pad, removing VIVID DYE WB PLUS residue in the process.
           7. Excess dye residue not removed may affect final color uniformity.

\*\* NOTE TO SPECIFIER \*\* L&M recommends two dye applications to achieve maximum possible uniformity and richness of chosen dye color.

* + 1. Second Coat: Add equal parts LION HARD to already diluted VIVD DYE WB PLUS. This new solution will be used for all subsequent color applications.
       1. After the 400 grit diamond grind, apply second coat in a similar manner as before.
       2. Do not puddle.
       3. Use a mop or microfiber pad to evenly disperse puddles.
          1. Failure to remove puddling may create permanent spotting.
       4. Allow to dry.
       5. Scrub floor with water and brush or white pad, removing dye residue.
       6. After final polishing pass, apply two coats LION HARD after concrete is dyed and polished.
       7. During first cleaning, expect a small amount of residual dye to come off the concrete.
    2. Polish: Use 800 grit resin.
       1. If Second Densifier Application is Necessary: Densify again using L&M LION HARD.
          1. Apply to rejection at rate of 600 to 800 sq ft per gal (14.7 to 19.7 sq m per L) using a microfiber pad and keeping surface wet for 15 to 20 minutes
          2. Do not allow to puddle.
          3. Allow to dry.
          4. Remove residue with next polishing step.
          5. Continue to polish using 1,500 grit Resin.
          6. Sweep and vacuum floor.
          7. Continue to polish using 3,000 grit Resin.
          8. Sweep/vacuum floor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required. .

* + 1. Apply Guard: Once the specified gloss has been achieved use STONETECH BulletProof Sealer. For improved stain resistance apply two coats.
       1. Sweep, vacuum, and auto scrub surface.
       2. Ensure dust and debris is removed and allow to dry.
       3. Shake sealer container well before use.
       4. Apply a thin even coat of sealer using a low-pressure sprayer and microfiber pad.
          1. Application Rate: 600 to 800 sq ft per gal.
       5. Allow sealer to penetrate surface for 10 to 15 minutes keeping surface wet with seraler. Add additional sealer as needed.
       6. Do not allow to puddle.
       7. Allow sealer to dry 20 to 30 minutes then Burnish with a 2000 RPM burnisher and a soft white, soft natural hogs hair, or diamond impregnated burnishing pad.
       8. Repeat above for a second coat.
       9. Light foot traffic may resume in 6 to 8 hours.
       10. BulletProof sealer will fully cure in 72 hours.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturers recommendations.
     2. Clean excess mortar and epoxy from surfaces with water before they harden and as work progresses.
        1. Do not contaminate open grout and caulk joints while cleaning.
        2. Sponge and wash veneers diagonally across joints.
        3. Do not use acids for cleaning. Polish with a clean dry cloth.
        4. Remove surplus materials and leave premises broom clean.
     3. Contractor and Installer are responsible for protecting the finished floor from damage, including sufficient time for installed materials to cure properly.
        1. Protection of installation may be required to prevent premature exposure of setting materials to moisture or rain.
     4. Protect finished installation under provisions of Division 1.
        1. To avoid damage to finished work, schedule floor installations to begin only after structural work, building enclosure, and overhead finishing work are completed.
        2. Keep traffic off finished floors until they have fully cured.
        3. Up to 3/4 inch (19 mm) thick plywood or OSB protection over non-staining Kraft paper to protect floors after installation materials have cured.
           1. Covering floor with polyethylene or plywood in direct contact with floor may adversely affect curing process of self-leveling overlayment.
     5. Keep floors installed area closed to foot traffic for 2 hours at 70 degrees F (21 degrees C), and to heavy traffic for 24 hours at 70 degrees F (21 degrees C) unless instructed differently by manufacturer. Replace or restore work of other trades damaged or soiled by work under this section.
     6. Follow maintenance guidelines as provided in Section 1.4 Submittals.

END OF SECTION