

Application Instructions

Tuscan Field Applied Limestone Coatings

Recommended Tools for Application of Tuscan Stoneworx Limestone Coatings:

- Variable Speed Drill capable of producing 1000 RPM's
 - MX1 Mixing Paddle
 - Clean 5-gallon Plastic Bucket
 - Scale
 - Tape Measure
 - Level
 - White Chalk Line
 - Pencil
 - Utility Knife
 - Soft Bristle Mini Broom
 - Hawk
 - Stainless Steel Trowel
 - Plastic Float
 - Rags
 - Bucket Scoop
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1. Substrate Inspection

- a. Prior to installing Tuscan Field Applied Limestone Coatings material, inspect the substrate to ensure that it is of the type and condition listed below:
 1. Cementitious and polymer base coats. *Note: Refer to applicable application instructions to ensure that the system has been installed properly.*
 2. Sound concrete and masonry
 3. Interior application
 - a. Drywall, plaster, concrete or masonry
 4. Cement board
 5. EIFS – *Note: Refer to manufacture specifications and application instructions.* (See special EIFS requirements)

2. Surface Preparation

- a. Cementitious and Polymer Base Coat
 1. Cementitious Base Coat
 - a. Metal lath or wire must be totally embedded in the one coat base coat. Base coats not prepared properly shall be skimmed with the cementitious base coat adhesive mixture to provide a smooth, flat, level base.
 - b. Base coat shall cure a minimum of 7 days prior to application.
 2. Polymer Base Coat
 - a. Must be fully set (a minimum of 24 hours depending on weather conditions).
 3. The base coat must be free of any imperfections prior to application of the Tuscan Field Applied Limestone Coatings.
 4. All walls shall be free of surface contaminants such as dust, dirt, efflorescence etc. which may impair the adhesion of the Tuscan Field Applied Limestone Coating.
- b. Concrete & Masonry
 1. Concrete walls shall have cured a minimum of 7 days prior to application of Tuscan Field Applied Limestone Coatings.
 2. All walls must be free of surface contaminants such as dust, dirt, paint sealers, form release, efflorescence etc. which may impair the adhesion of the Tuscan Field Applied Limestone Coatings.
 3. All rough surfaces shall be skimmed with a polymer base coat to provide a smooth, flat, level base. (See Section IV for application technique).

c. Interior Surfaces

1. Drywall shall be finished to a Level 2. All sanding dust must be removed. Roll or spray a PVA or 100% acrylic primer over the drywall joint compound to prevent any shrinkage.
2. Interior plaster shall be finished smooth, or textured per owner's preference.
3. Interior concrete or masonry must be cleaned to remove any surface contaminants such as dust, dirt, paint sealers, efflorescence, curing compounds etc. which may impair the adhesion of the Tuscan Field Applied Limestone Coating. All rough surfaces shall be skimmed with a cement coat acrylic mixture to provide a smooth, flat, level base. (See Section IV for application technique).

d. Cement Board

1. All joints need to be prepared with an acrylic base coat and mesh. Screw heads should be treated with a dab of base coat.
2. All walls shall be free of surface contaminants such as dust, dirt, efflorescence etc. which may impair the adhesion of the Tuscan Field Applied Limestone Coating.

3. Mixing Instructions

a. Tuscan Stone & Tuscan Plaster

1. Open bag and inspect for any damage of material. Make sure that material is free of lumps or any moisture intrusion.
2. Use a MX1 mixing blade or equivalent, powered by a 1/2 in (13 mm) variable speed drill capable of producing 1000 RPM's. **CAUTION:** Do not over-mix or use other types of mixing blades as air entrapment and product damage may occur and result in workability and performance problems.
3. **Tuscan Stone:** Add 7 3/4 lbs or 124oz of clean potable water to the bottom of a clean five gallon pail adding Tuscan Tint powder colorant pack. Pack is water soluble and will dissolve during mixing process. Always use cool water.
4. **Tuscan Plaster:** Add 8 3/4 lbs or 140oz of clean potable water to bottom of a clean five gallon pail adding Tuscan Tint powder colorant pack. Pack is water soluble and will dissolve during the mixing process. Tuscan Plaster has an Ad-Mixture packet inside the bag; it is water soluble and will dissolve during the mixing process. Do not remove Ad-Mix bag. Always use cool water.
5. Mix for approximately two (2) minutes for Tuscan Stone and three (3) minutes for Tuscan Plaster. Depending on heat and humidity up to 0.5 lbs or 8oz of clean potable water can be added to your five gallon pail. Always use cool water.

NOTE: It is advisable to mix the material thoroughly then wait five (5) minutes and mix again to break the initial set. Heat and humidity will affect set. Re-tempering with a small amount of water is permissible provided the mixture has not set. The mixture has a pot life similar to any Portland cement material. Mix only as much material as can be conveniently used during a work period. Cool water should always be used.

WARNING: No additives such as sand, aggregates, rapid binders, anti-freeze, accelerators, etc., shall be added to any materials under any circumstances. Such additives will adversely affect performance.

4. Finish Coat Application

a. **Tuscan Stone-** A large limestone aggregate plaster used to achieve rustic texturing or block stone carving. The application and thickness of Tuscan Stone depends on the desired look. For a smoother finish without any texturing or carving a single 6.35mm (1/4") thick coat is all that's needed. Texturing and/or carving require a two (2) coat system. Using a stainless steel trowel, apply the Tuscan Stone over the prepared substrate surface. Apply the first coat 3.18mm (1/8") thick and allow it to dry to the touch. Come back over with a second coat at a thickness of 3.18mm to 6.35mm (1/8" to 1/4") for a total thickness of 6.35mm to 9.53mm (1/4" to 3/8"). Make sure the surface is a uniform thickness so it provides a smooth surface. Coverage should yield twenty five to thirty square feet (25-30sf) per fifty pound (50lb) bag when used for a standard two (2) coat system, depending on substrate and finish. Do not "overwork" finish coat as it can cause blistering. Air temperature must be 40° F or higher and must remain so for a minimum of 24 hours.

1. EIFS (special requirements) - When going over EIFS, applicator will follow all EIFS manufacture specifications and details except where control joints are stipulated, joints shall not exceed .91m x .91m (3ft x 3ft).

b. **Tuscan Plaster-**A small limestone aggregate for interior or exterior use. It's designed to give a smooth elegant finish and can be used as a one or two coat system depending on the desired finish. Using a stainless steel trowel, apply the Tuscan Plaster over the prepared substrate surface. Apply 3.18mm (1/8")

thick for a one coat system or two 1.159mm (1/16") thick coats for a two coat system, making sure the surface is a uniform thickness. Coverage should yield fifty five to sixty square feet (55sf-60sf) per fifty pound (50lb) bag when used for a standard two (2) coat system, depending on substrate and finish. Do not "overwork" finish coat as it can cause blistering. Air temperature must be 40° F or higher and remain so for a minimum of 24 hours.

5. Texturing Application

- a. After applying the Tuscan Stone or Tuscan Plaster Finish Coat, allow to dry to the touch and then with a trowel, scrape over the drying finish tearing the finish to expose the underlying limestone aggregate.
- b. Using a plastic trowel, float over the Tuscan Finish Coat filling in a portion of the torn material creating a "cat face" finish look. You can close up and smooth out as much or as little as you want.
- c. If material is over drying simply add water with a garden sprayer and float reactivating finish.

CAUTION: Working in direct sunlight or windy conditions will shorten your total time of material workability once you have applied it on wall. It is always recommended to work on the shady side of your project in order to achieve the longest possible time of workability when applying Tuscan Stone Coatings.

6. Tuscan Stone Block Stone Grout-Line Carving Application

- a. Have your diagram or blueprint pattern you are planning on laying out.
- b. Tuscan Stone should be firm to the touch and any texturing and floating should be done prior to applying grout lines.
- c. Using a level or chalk line, mark out your grout line pattern. **CAUTION: USE WHITE CHALK ONLY.** All other chalk colors will show through the finish material.
- d. This chalk line becomes your level line.
- e. Using a straight edge or long level, carve your grout lines with a carving tool, a 3" putty knife works great.
- f. To achieve a chiseled or rough stone edge on your block lines use a wire brush at a 45 degree angle to scrape off material. The wire brush can also be used to "weather" or age the face of your block.
- g. To achieve a smooth finish on your block edges use a plastic float at a 45 degree angle on the top and bottom of your grout carving.

7. Template Application Instructions

- a. Once your pattern is determined, measure up from the bottom of the wall in template width increments and make a pencil mark at the increment closest to the center of the wall. Either with a level or chalk line mark your grout line. Using a level, place a second pencil mark to use as a guide in snapping a chalk line. **CAUTION: USE WHITE CHALK ONLY.** Any other chalk colors will show through the finish material.
- b. Templates can be installed to achieve the desired pattern. Some templates will adjoin each other and others will overlap each other 1/16 in (1.6 mm). **NOTE: Adjoining templates must be taped at all joints.** We recommend paper filament tape; standard masking tape is not acceptable.
- c. Prior to removing the paper backing from the template, check the positioning of the template against the wall. Remove the paper backing from the template and position one side of the template against the plumb line and the other against the level line. Press the template on the wall making sure that all edges have adhered.
- d. Continue to install templates using the previous reference lines or the previous template as a guide until the entire surface is covered.
- e. Layout only the amount of templates to be top coated at that time. Do not leave templates uncoated overnight as moisture may affect adhesion.

8. Grout Coat (Tuscan Plaster) Template Application

- a. Inspect and prepare your substrate as described.
- b. With a hand grinding stone or scraper, remove all high points which may have resulted from trowel marks, aggregate, etc.
- c. Prior to application of the Tuscan Plaster grout coat, the wall surface must be fogged or misted with water. **NOTE: When applying the Tuscan Plaster grout coat over concrete, block or other masonry surface, it is not necessary to fog or mist the wall since a prep coat is required. Application of the Tuscan Plaster grout coat is best achieved over a damp substrate.**
- d. Mix the Tuscan Plaster grout coat as described.

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- e. Using a stainless steel trowel apply the Tuscan Plaster grout coat over the prepared substrate. Screed the material very thin, leaving just enough material to completely cover the underlying substrate.
 - f. Allow the Tuscan Plaster grout coat to thoroughly dry (normally 6-8 hours) prior to installing templates.

9. Finish Coat Template Application

- a. Inspect the template placement making sure that the desired pattern exists, all joints are taped (where required), and that the templates are adhered securely to the underlying substrate by lightly going over the templates with a round edged flexible trowel.
- b. Mix the Tuscan Field Applied Limestone Coating as described.
- c. Using a flexible end (round) stainless steel trowel, apply the Tuscan Field Applied Limestone Finish Coat over the templates creating the desired thickness. The desired texture can be accomplished at this time.
- d. Pull templates at desired time through the drying process to create the desired look, but wait until completely dry before color washing.

10. Coating Foam Shapes

- a. Tuscan Stone or Tuscan Plaster can be used over traditional foam shapes to create a rustic or Old World style cast limestone finish that is extremely durable.
- b. Use polymer base coat with synthetic mesh over foam shape.
- c. Mix Tuscan Field Applied Limestone Coating as described.
- d. Apply Tuscan Field Applied Limestone Coating using standard application methods.

11. Modeling or Two-Color Application

- a. With two different colors properly mixed place even amounts of each onto hawk. Pick up different amounts of each color with trowel and spread randomly on wall to create modeling effect.
- b. If texturing the wall you will need to do two (2) coats. Apply first coat, let set, and apply second coat in same manner.
- c. Finish with plastic trowel to achieve desired texture.
- d. Modeling effect can be created using one color by floating different areas of the finish with a plastic float and bringing the cream to the surface, leaving a lighter finish.

12. Burnished Finish- Tuscan Stone

- a. Tuscan Stone can be burnished by a hand held rubbing stone or a drill with a flexible grinding wheel. The window for this application is when the material is about 70% cured. If you wait too long and the material is too hard to polish it can be misted with a spray bottle of water to soften up enough to burnish. If the material has not cured enough it will move or tear when you try to burnish. A good way to check if it's ready is when the cream starts to become firm enough that you can almost see your fingerprint when pressed against it.
- b. The rubbing stone gives a much lighter burnish than a drill. To use simply work the rubbing stone by hand in a circular motion till you achieve the desired polish.
- c. The flex wheel will give the highest polish but requires some prep work to the disc. Using a piece of scrap concrete work the edge of the wheel back and forth tapering and smoothing out the edge of the disc. This process can take one hour or longer and will prevent the disc from digging into the material and instead create a disc that will polish. The correct drill RPM is very important for proper burnishing. The Makita 7" GV 7000 C Vertical Sander has an adjustable speed setting with RPM from 2600-4700 and works best on the higher settings.
- d. Work drill in circular motion back and forth across wall making sure not to overwork any one area.

13. Polished Finish- Tuscan Limestone Coatings

- a. A polished finish that's not as lustrous as the Burnished Finish, but much easier to achieve, can be done with either Tuscan Stone or Tuscan Plaster. Apply material using standard application, work wall to a smooth and even finish. Let wall dry minimum 24 hours.
- b. If the wall is not smooth and even you will only polish the high parts. In order to polish the complete wall use a palm sander with 120 grit paper and sand wall to a smooth and even finish.
- c. Using the Envision Polishing Pad attached to a Makita 7" GV 7000 C Vertical Sander, or equivalent, work pad in a circular, or back and forth motion. The higher the RPM the faster the material will polish.
- d. The Polished Finish does not need to be sealed, as sealer will dull the finish. It is also more stain resistant.

14. Tuscan Limestone Coatings - Shower Surround

- a. Prepare your cement board substrate as detailed.
- b. Apply Tuscan Stone or Tuscan Plaster as detailed.
- c. After wall has cured apply (2) two coats of Tuscan Interior Satin Sealer.

15. Color Washing

- a. Materials Needed
 1. Spray Bottles
 2. Pressure Pump Spray Bottles
 3. Airless Spray Pump (large jobs)
 4. Clean White Rags
 5. 9" wide 1/4" Nap Roller
- b. Mixing Instructions
 1. Fill bucket or spray bottle with right increment of clean water.
 2. Add Tuscan Color Wash to bucket or spray bottle in desired increments to create 50:1 mix; water to colorant and shake well.
- c. Application Instructions
 1. Using spray bottles completely saturate the wall with clean water. This will give you longer work times and more control over application.
 2. Start from left to right in an "S" type motion when applying color.
 3. Use rag to dab up any drips or runs and to move color around.
 4. Let it fully dry before applying sealer.
 5. Once dry, roll or spray on Tuscan Sealer.
 6. Using a clean rag, wipe up remaining drips or overspray with warm soapy water.
 7. An application trick is to seal your wall BEFORE applying Color Wash. This will give you a softer finished look with more control over the application of the Color Wash as well as allow you to wash off an undesirable application with soap and water. After achieving desired look simply seal using standard procedure.

NOTE: It is recommended that you do a sample panel of desired color wash and sealer before starting the project.

16. Sealer Application

- a. Tuscan Stoneworx Tuscan Sealer
 1. Prior to applying the sealer, the Tuscan Field Applied Limestone Finish Coat and any Color Washing must be allowed to completely cure. 7 to 28 days is typical cure time. **NOTE:** Application of sealer prior to the Tuscan Finish Coat completely curing will result in sealer not bonding to the finish coat or a clouding of the sealer.
 2. Apply the sealer with a paint roller, brush or airless spray. Recommended tip for airless spray application- 411 tip. Two (2) coats of sealer are required for exterior use, allowing the first coat to dry before applying the second coat. For interior use one coat is required. **NOTE:** Do not apply sealer in inclement weather. Surface temperature for application must be 55°F (13°C) or higher.
 3. Tuscan Stoneworx Interior Sealer is a Satin finish topical sealer that can ONLY be used for interior application, as it is non-breathable. Tuscan Stoneworx Exterior Sealer is a Flat finish penetrating, breathable sealer that can be used for either Interior or Exterior application.

17. Care and Maintenance

a. Re-dash, Never Paint Tuscan Limestone Coatings

The reason most home and building owners paint their stucco or Tuscan Limestone Coatings is because the typical cost of re-finishing (re-dashing) is more than just hiring a painter to paint over the existing finish. Although seemingly less expensive upfront, painting Tuscan Limestone Coatings causes significantly higher long-term maintenance costs and may even damage your building. Paint is a sealing agent and will seal all the pores, which consequently seals moisture inside of your building. Your building is not able to breathe and mold can grow between the layers of your building. This excess moisture will cause the paint layer to peel and crack. On a Tuscan Limestone Coatings surface, because of the trapped moisture, paint starts decaying more quickly than on a traditional surface. The correct repair is

to hire a sandblasting contractor to remove the existing paint and then to re-apply Tuscan Limestone Coatings to the surface properly. Current methods of re-dashing provide a product that lasts decades and far longer than any paint job.

Re-dash consists of a single layer of Tuscan Limestone Coatings applied to cover and freshen the surface. Repairs are made to cracks and minor imperfections in the surface and then the new coat is applied. This will provide a new look and keep with the integrity of the existing finish. If a new texture is required a two coat system can be applied.

b. Tuscan Limestone Coating Cracks

It is the nature of Tuscan Limestone Coatings to experience some cracking. Tuscan Limestone Coatings are a finish coat that performs the same as the base coat; if the structure settles and cracks the base coat those cracks will come through the Tuscan finish coat, typically in the corners of doors and windows. These small cracks are normal and do not require any maintenance or repair. If a crack exceeds 1/8 of an inch in width then the crack should be repaired. Repairing Tuscan Limestone Coating cracks is completed by adding a small amount of Tuscan Limestone Coatings to the crack. Do not put caulk into the crack. If you experience a crack wider than 1/8 of an inch please contact your contractor so the proper resolution can be determined. Typically a larger crack can be broken back and patched or an expansion joint can be added.

c. Yearly Inspection and Cleaning of Tuscan Limestone Coatings

Tuscan Limestone Coatings should be inspected annually for holes, significant cracks, or separations. If Tuscan Limestone Coating repairs are needed, it is important to have the repairs completed in a timely fashion to prevent damage to your home or building. A mild cleaner and water can be used to remove most stains. Pre-wetting the surface will overcome some absorption of dirty wash water from being absorbed back into the finish. Use of a garden hose and a jet nozzle in combination with a mild cleaner will clean effectively. Pressure washers are not recommended because they will erode the finish and can cause damage.

d. Efflorescence

Efflorescence is a crystalline deposit, usually white, that may develop on the surface of an unsealed cementitious coating. Efflorescence is soluble salts that dissolved in water moving through concrete and then precipitated onto the surface. These salts can originate in the base coat, in the aggregates in the concrete, or in the cement paste. Many of these salts are water-soluble and can be removed easily after they are deposited on the surface. Applicators may have seen these white deposits on walls that have been exposed to rain or damp conditions. Weather conditions are the primary factor controlling the development of efflorescence. Generally, it is minimized in hot, dry conditions where rainwater evaporates quickly from the surface. Cold, damp weather conditions favor the development of efflorescence.

Fortunately, there are some simple steps which can be taken to essentially prevent the formation of efflorescence:

1. When possible, avoid poor drying conditions. For instance, application on a cool damp day could result in the formation of heavy efflorescence. Work in the sun when temperatures are low.
2. Comply with Tuscan Stoneworx specifications requiring protection of materials from inclement weather until they are dry. If rain, sleet, dew, or sprinkler water come in contact with a partially dried wall, efflorescence will form on the surface. Of course, freezing temperatures should always be avoided until the material is fully cured.
3. Heavy, localized deposits of efflorescence may result from water migrating from behind the base coat. The installation should be checked for proper detailing, flashing, caulking, etc.
4. Aesthetic joints or outside corners that were brushed smooth with water are also prone to localized efflorescence, as are areas below un-guttered roof valley or scuppers. Particular attention should be paid to protecting these areas.
5. Do not over water the cementitious material since the excess water will dissolve more salts and lead to efflorescence. The resulting material is more porous, allowing easier migration of water.

Efflorescence is easily removed by washing with diluted acid solutions. Vinegar diluted with water 2:1, Muriatic acid diluted with water 1:9 or commercially available acidic cleaners may be used. The following procedure is recommended.

1. Pre-wet the surface with water.
 2. Apply a solution of one (1) part Sure Klean No. 600 (www.prosoco.com) mixed with twenty (20) parts water.
- Efflorescence cleaners from other companies may also be used. The surface will "fizz" indicating that the salts are

being dissolved by the acid solution. Light scrubbing with a soft bristle brush may be necessary to remove all the efflorescence.

3. Rinse thoroughly with water.

4. Allow the treated area to dry thoroughly prior to application of Tuscan Flat Exterior Sealer.

e. Tuscan Limestone Coatings Coloration

Tuscan Limestone Coatings come in an infinite number of colors. These colors are made by placing iron oxide pigments into the cement mixture prior to application. The color is throughout the layer and will not fade like a painted finish. The full curing time for Tuscan Limestone Coatings is typically several years. During this time you will notice several color changes from dark to light, and then back to dark as the finish sets and the excess moisture evaporates. Color will vary depending on the amount of water used in the mixing process. In order to have consistent color the same amount of water must be used every single time. For consistent color do not overwork any one area of the wall, bringing the cream to the surface will lighten that area.

A typical Tuscan Limestone Coatings application requires a 30 day cure time between the base coat application and the final Tuscan Finish coat. It is required that the final coat be done in dry, warm weather.
Decorative Items

The Tuscan Limestone Coating on your home or building has not been installed to stop moisture penetration. The stucco substrate that the Tuscan Limestone Coating is applied over, if properly installed per lath and plaster standard practices will stop moisture penetration. If incidental moisture does enter through the Tuscan Limestone Coatings and cementations base coat, a water-resistant membrane installed behind the cementations base coat will prevent it from entering your home or building and causing damage. It is essential not to penetrate the wall or the weather-resistant membrane with nails, screws, staples, or any other fastener without proper measures being taken. Should it be required to attach items to your Tuscan Limestone Coating walls, it is important to hire a professional craftsman to ensure that the proper hardware fasteners are used.

f. Water and Sprinkler Systems

Gutters or sprinkler systems should direct water away from the Tuscan Limestone Coated walls of your home or building. The continual spraying of water onto the walls can damage the Tuscan Limestone Coating, create stains, and allow green algae to grow on your walls. Water should be kept away from Tuscan Limestone Coating walls in colder climates where continual freeze thaw takes place, as damage can occur.

g. Windows, Doors, and Other Penetrations

Where Tuscan Limestone Coatings meets a window, door, electrical box, dryer vent, or any other wall penetration, you may notice a small expansion gap. Gaps are normal and should be expected since dissimilar materials expand at different rates. Such gaps can allow for excessive amounts of water to get past the Tuscan Limestone Coatings and therefore should be caulked on an annual basis. Using a quality tube caulking, apply the caulk to the cracks using a small putty knife or your finger to ensure it fills the gaps. Several weepholes are at the bottom of each windowsill. They allow water to exit from the windowsill track. Using a small pin or paperclip annually inspect these holes to ensure they are clear of debris.

DISCLAIMER

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