

ULTRA SURFACE TROWEL KNOCKDOWN FINISH

10/05

DESCRIPTION

The Ultra Surface Polymer Concrete Trowel Knockdown Finish is an attractive, decorative, slip-resistant finish most commonly used on pool decks, patios, driveways and walkway areas. It is applied using a compressor and hopper gun spray unit and then troweled to achieve the desired texture. When the texture coat application is dry Ultra Surface Colorcoat 100 can be used to achieve a uniform colored finish. Ultra Surface Sealcoat 1000 or Acrylic Urethane are recommended over the Colorcoat 100 on driveways for extra stain resistance. For residential pool decks, Colorcoat 100 can be applied without a sealer. For commercial pool decks, apply WB Urethane or Acrylic Urethane over Colorcoat 100.

PRODUCTS AND TOOLS NEEDED FOR THE TROWEL KNOCKDOWN FINISH APPLICATION

Description of Application	Product Name	Coverage Rate/Gallon	Tools For Application
Apply a Squeegee/Bond Coat of Ultra Surface Polymer Concrete.	U.S. Concrete Polymer [Mix w/ water, cement and sand or premixed 50 lb. bag mix.]	250 sq. ft. per gallon of polymer.	24" Metal Squeegee, Hand Trowel.
Apply a Trowel Knockdown Finish of Ultra Surface Polymer Concrete.	U.S. Concrete Polymer [Mix w/ water, cement and sand or premixed 50 lb. bag mix.]	250 sq. ft. per gallon of polymer.	Compressor and hopper gun unit, hand trowel, wet rag, spiked shoes.
Apply a 1st coat of Ultra Surface Colorcoat 100 or Acrylic Concrete Stain..	U.S. Colorcoat 100	200 sq. ft. per gallon of Colorcoat 100.	9" or 18" 3/4" nap paint roller.
Apply a 2nd coat of Ultra Surface Colorcoat 100 or Acrylic Concrete Stain.	U.S. Colorcoat 100	200 sq. ft. per gallon of Colorcoat 100.	9" or 18" 3/4" nap paint roller.
Option 1: Apply one or two coats of Ultra Surface Sealcoat 1000, or Acrylic Urethane for stain resistance.	U.S. Sealcoat 1000 Or U.S. Acrylic Urethane	300-400 sq. ft. per gallon.	Pump-up or Airless Sprayer, 1/2 - 3/4" nap paint roller, Paint Strainer.

Option 2: Ultra Surface Acrylic Urethane clear can also be used over the Colorcoat 100 for added stain resistance in heavier traffic areas. The best sealer to use depends on the job conditions. All sealers can be slippery especially when wet. It is recommended to use slip resistant granules added to the sealers and/or broadcast on top to achieve the slip resistance necessary. Use a slip resistant additive mixed in the sealer and/or white aluminum oxide #80 lightly broadcast on top.

SURFACE PREPARATION

Clean the surface by power scrubbing with detergent to remove oil, grease, dirt or any other contaminants that may interfere with bonding, then pressure wash the surface at close range using a 3000 psi pressure washer to clean and rinse. Acid washing is also recommended. See step-by-step instructions with pictures on how to acid wash in the Surface Preparation section of the Ultra Surface Products Manual. Shotblasting is another popular method for preparing the surface.

CRACK REPAIR

After cleaning the surface, fix any cracks in need of repair using the Ultra Surface Crack Repair System [Epoxy 500Epoxy, Elastomeric Basecoat and 4" Crack Repair Fabric]. See step-by-step instructions with pictures on how to fix cracks in the Crack Repair Section of the Ultra Surface Products Manual.

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PATCHING, LEVELING, RE-PITCHING

Before applying the Ultra Surface Trowel Knockdown Finish the surface should be semi-smooth to achieve the best results. If needed, patch any holes, gouges or deteriorated areas of the surface with an Ultra Surface Polymer Concrete Patching Mix. The polymer concrete patching mix can also be used to fill in low spots, level an uneven surface or re-pitch areas with improper drainage. See the Ultra Surface Products Manual under Patching and Leveling in Section Four for detailed mixing and application instructions with step-by-step pictures.

RESURFACING WITH THE SQUEEGEE/BOND COAT

The final step before applying a Trowel Knockdown Finish is to apply a thin Squeegee/Bond Coat of the Ultra Surface Polymer Concrete over the entire surface. Apply the Squeegee/Bond Coat using a 24" Metal Squeegee [available from Concrete Solutions] to help smooth out the surface and to cover up any crack repairs or patching that may have been done. The Squeegee/Bond Coat helps to provide a more uniform surface which makes the Trowel Knockdown texture easier to apply to achieve the best finish possible. See the Squeegee/Bond Coat mixing and application instructions in the Ultra Surface Products Manual for more detailed information. [See Page 4 for information on what to do with expansion joints.]



Apply a Squeegee/Bond Coat using a 24" Metal Squeegee.

SQUEEGEE/BOND COAT MIXING FORMULA

Mix By Volume:

1	Part	Ultra Surface Concrete Polymer	
1	Part	Water	[Clean]
2	Parts	Cement	[Portland Type I/II, regular and/or white cement]
2	Parts	Silica Sand	[#60 or 90]

Note: To make a four gallon mix in a five gallon bucket which should cover approximately 250 sq. ft., mix one gallon of Polymer, one gallon of Water, two gallons of Cement and two gallons of #60 Silica Sand. Mix with a drill and mixing paddle for 3-5 minutes. **The Squeegee mix is also available in a 50 lb. bag mix called Resurfacer.**

TROWEL KNOCKDOWN MIXING INSTRUCTIONS

After the Squeegee/Bond Coat is dry to touch, within 1 to 2 hours, you can proceed with the Trowel Knockdown application. The Trowel Knockdown mix can be made in a five gallon bucket or a mortar mixer depending on the size of the job. See mixing instructions below.

TROWEL KNOCKDOWN MIXING FORMULA

Mix By Volume:

1	Part	Ultra Surface Concrete Polymer	
2	Parts	Water	[Clean]
3	Parts	Cement	[Portland Type I/II, regular and/or white cement]
4.5 - 7.5	Parts	Silica Sand	[#60] [Mix sand to achieve the consistency desired.]

Note: To make a five gallon bucket mix which should cover approximately 100 -150 sq. ft., mix ½ gallon of Polymer, one gallon of Water, 1 ½ gallons of Cement, and 2 ¼ - 3 ¾ gallons of #60 Silica Sand to achieve the desired consistency. Mix using a drill and mixing paddle for 3-5 minutes. To make a mortar mixer batch which should cover approximately 600-900 sq. ft., mix 3 gallons of Polymer, 7 gallons of Water, 10 gallons of Cement, and 15-25 gallons of Silica Sand #60. **The Knockdown mix is also available in a 50 lb. bag mix called Resurfacer.**

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TROWEL KNOCKDOWN FINISH APPLICATION INSTRUCTIONS

The Trowel Knockdown Mix is applied with a compressor and hopper gun spray unit. The Marshal Town hopper gun unit is the brand recommended to achieve the best results. The tip of the hopper gun should be adjusted to the next to the largest hole or the medium tip. If your hopper gun has an air adjustment value on the gun [which is recommended], you can set the compressor at 100 psi or less and then adjust the pressure high or low at the gun. This will keep you from having to run back and forth to the compressor whenever the air needs adjusting. The air pressure works best between 3 psi and 15 psi depending on the spray pattern desired. Start with a very low pressure and spray the Trowel Knockdown Mix on a piece of cardboard as a test. If the material is coming out too slowly, adjust the pressure up a little bit at a time until you achieve the spray pattern desired. The consistency of the mix, the tip size being used, the amount of air pressure and the type of hopper gun being used will all determine the final texture. If you need to make the mix wetter add a little more polymer and water at a 1 P to 2W ratio to achieve the proper consistency [no more than 1-2 cups].



Spray the Trowel Knockdown Mix over the surface using hopper gun spray unit.

After adjusting the air pressure and if necessary the consistency of the mix to achieve the desired spray pattern, you are ready to proceed with the Trowel Knockdown Texture Coat application. Where required, mask off areas to prevent over spray or a cardboard shield can be used. To start, fill the hopper gun approximately $\frac{3}{4}$ full with the Trowel Knockdown Mix. While one person sprays on what is referred to as a “splatter coat” at a 75-80% coverage rate a second person, wearing spiked shoes, follows behind a few minutes later with a trowel and knocks down the splatter coat of Ultra Surface Polymer Concrete to achieve a flat, textured, decorative finish. [Prior to spraying do not wet the surface with water.]



1. Spray the Trowel Knockdown Mix at a 75-80% coverage rate to achieve an even textured profile.



2. Mask off surrounding areas to prevent over spray or use a cardboard shield next to the edges.



3. While wearing spiked shoes knock the spray texture down flat before it dries using a trowel.

After spraying the Trowel Knockdown Texture it will usually take 5 - 10 minutes or more depending on the temperature before it can be troweled flat. If you trowel it too soon you can create large smooth areas, referred to as “pancakes”, from the material being too wet. By allowing the material to set up to where it is not too wet and not too dry you will achieve a more even texture. The person troweling should keep a damp cloth in one hand to periodically wipe the bottom of the trowel clean. The person spraying and the person troweling should not get more than approximately 10’ away from each other to prevent the polymer concrete from drying too hard before it can be troweled.

It is important to keep fresh batches of material mixed up so the person spraying and troweling do not have to wait or a seam line may be noticeable where you stop and start. If you need to stop somewhere, always stop next to a joint so you can begin again on the opposite side of the joint later. Be careful to protect the finished edge from over spray.

To help keep a mix fresh longer especially on hot days, it is recommended to add 1 or 2 ounces of the Ultra Surface Polymer Concrete Retarder to the mix. [See the Ultra Surface Products Price List for coverage rates and mixing ratios.]

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APPLICATION INSTRUCTIONS CONTINUED

WHAT TO DO WITH EXPANSION JOINTS

Immediately after the Squeegee/Bond and also the Trowel Knockdown Finish applications dry to touch [within 30 minutes to 1 hour] it is important to walk around the surface and cut back open any expansion joints that were filled with the polymer concrete. The material in the joints will be thicker so it will take longer to dry than up on the surface. It is best to remove the excess material when it is not too wet. The polymer concrete in the joints will get to a stage between wet and dry when it is like dampened dirt and can easily be scraped out using a trowel or stand up scraper. Clean all the material out of the joints back to the original edges, then sweep up the excess and throw it away. If the material in the joints dries too hard the joints will have to be saw cut back open all the way through using a skilsaw and a diamond blade. If any material is left touching in between the joints delamination can occur next to the joints later on. [See picture #4].



4. Scrape out any material that got in the joints using a trowel or scraper before it dries too hard.

APPLYING ULTRA SURFACE COLORCOAT 100

When the Trowel Knockdown or Spray Texture has dried [usually within 2-4 hours] scrape gently over the surface and power blow to remove any rough edges before applying two coats of the Ultra Surface Colorcoat 100 or Acrylic Concrete Stain. The Colorcoat 100 or Acrylic Concrete Stain should be applied over the Trowel Knockdown Texture using a 3/4" nap 9"-18" paint roller. Apply both coats undiluted to achieve the best color uniformity and stain resistance. The coverage rate is approximately 200 sq. ft. per gallon per coat. [See the Ultra Surface Colorcoat 100 or Acrylic Concrete Stain Technical Data Sheet].



5. After scraping and blowing off the surface, apply two coats of Colorcoat 100 w/a paint roller.

APPLYING A TOPCOAT SEALER

For driveways or areas that will receive vehicular traffic, it is recommended to apply 1-2 coats of Ultra Surface Sealcoat 1000 or Acrylic Urethane as a topcoat sealer. For residential pool decks Colorcoat 100 or Acrylic Concrete Stain can be

applied without a sealer. For commercial pool decks, it is recommended to apply Ultra Surface Sealcoat 1000 as a topcoat sealer. The best method of application over the Trowel Knockdown Texture, is to spray a thin coat of sealer using a pump-up sprayer, followed by a 1/2 - 3/4" nap roller to leave a thin, even coat. Using this method the coverage rate should be 400 sq. ft. per gallon. Pour the sealer through a paint strainer before spraying to prevent the tip from clogging.

SLIP RESISTANCE: When using Colorcoat 100, Acrylic Concrete Stain, Sealcoat 1000, or Acrylic Urethane it is recommended to use slip resistant granules mixed in the colorcoats or sealers (such as Shark-Grip) and/or broadcast #80 or coarser aluminum oxide to help avoid slip fall accidents.

DECORATIVE BORDERS AND STENCIL PATTERNS

Stencil patterns can be used with the Trowel Knockdown application to achieve a more decorative look, or border designs can be created using a special 3/8-1/2" grout tape available from Concrete Solutions. To use stencils or grout tape the first step is to apply the Squeegee/Bond Coat in the grout color desired by using integral color pigments in the mix [see colorchart]. Once the Squeegee Coat dries, grout tape or paper stencils can be laid over the pigmented Squeegee Coat to create the pattern or border desired. Next, the Trowel Knockdown Mix is sprayed over the tape or stencil and troweled to the desired finish. The stencil or tape is removed after the spray coat dries and two coats of Ultra Surface Stamped Concrete Sealer is applied to lock in the color before water gets on the surface. To learn more please attend our two day, monthly training class in Las Vegas.



Decorative borders or stencil patterns can be applied to enhance the appearance of the Trowel Knockdown Finish.

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DECORATIVE BORDER DESIGNS



Trowel Knockdown Texture w/ 1/8" Stamped Border.



Trowel Knockdown Texture w/ 1/8" Stamped Border.



Trowel Knockdown Texture With Brick Border Design.



Trowel Knockdown Texture With Tile Border Design.