

DESCRIPTION: Ultra Surface Patching Mix is a special "Just Add Water" blend of cement, sand, Ultra Surface Powder Polymer and other ingredients used as a patching material for a variety of applications. It is used to repair holes and spalls; as a leveling coat to fill in low areas or to make a rough surface smooth; as a repitching coat to correct the slope for proper drainage; as an underlayment for carpet, tile or other types of flooring; to patch stucco and masonry, to eliminate tripping hazards at joints where one side of a concrete slab is raised, as well as other repair and resurfacing applications. It can be applied from less than 1/16 of an inch to 1/2 of an inch thick and feathered to zero. It is also used to make repairs, when needed, prior to applying an Ultra Surface Polymer Concrete resurfacing, texturing or 1/4" stamping application. It can even be used as a 1/4 - 1/2" stamping material for samples or small jobs.

METHODS OF APPLICATION: The Ultra Surface Patching Mix is most commonly applied by trowel and/or screed rod. For smaller repairs a putty knife may be used.

SURFACE PREPARATION: The surface area to be repaired must be clean and sound, free from any loose materials or contaminants that may interfere with bonding. Common surface preparation methods include scrubbing with detergent, acid washing and pressure washing. Other methods include grinding and sandblasting. Any loose or hollow areas of the surface being repaired should be removed using a hammer or scabbler.

MIXING INSTRUCTIONS: To make a patching mix start by adding one part water to 4 - 5 parts Patching Mix. Add a little more water or Patching Mix as needed to achieve the consistency desired. To mix the whole 50 lbs. of patching mix, add 3 quarts of water to a five gallon mixing container. Slowly add the patching mix while mixing with a 1/2" drill motor and mixing paddle. Add more water as needed, up to 1 - 1 1/2 quarts more, to achieve the consistency desired. Three quarts of water per 50 lbs. of patching mix will make a dryer mix for deep holes or vertical patching. Four quarts of water per 50 lbs. of patching mix will make a good consistency for 1/4 - 1/2" patching (or stamping). Four and a half quarts of water per 50 lbs. of patching mix will make a wetter mix for 1/16 - 1/8" resurfacing applications. For patching applications from 1/2 - 1 1/2" deep, see the mixing instructions on page 3.

PATCHING MIX APPROXIMATE COVERAGE RATES

1/16 inch thick =	100 sq. ft. per 50 lb. pail of Patching Mix.
1/8 inch thick =	50 sq. ft. per 50 lb. pail of Patching Mix.
1/4 inch thick =	25 sq. ft. per 50 lb. pail of Patching Mix.
3/8 inch thick =	18 sq. ft. per 50 lb. pail of Patching Mix.
1/2 inch thick =	13 sq. ft. per 50 lb. pail of Patching Mix.

APPLICATION INSTRUCTIONS FOR REPAIRS 1/16" - 1/2" DEEP**Instructions for patching applications less than 1/16th of an inch thick**

For patching or resurfacing applications less than 1/16th of an inch, it is best to use the Ultra Surface Polymer Concrete Squeegee/Bond Coat mix or the Ultra Surface Resurfacer Bag Mix. The Squeegee/Bond Coat mix and Resurfacer are both spread using a special metal edge squeegee (available from Concrete Solutions) and/or a concrete hand trowel. The Squeegee/Bond Coat is made by mixing in a five gallon bucket: 1 gallon of Concrete Polymer, 1 gallon of Water, 2 gallons of Portland Cement (regular or white) and two gallons of #60 or 90 silica sand. The Resurfacer is a pre-mixed 50 lb. bag, ready to mix in a five gallon bucket with: 1 gallon of Concrete Polymer and 1 gallon of Water.

Instructions for patching applications 1/16 - 1/2 inch thick

Ultra Surface Patching Mix is made for repairs thicker than 1/16th of an inch but is okay to feather to zero around the edges of a patch. Follow the instructions below for the best way to patch using Ultra Surface Patching Mix.

1. Spray the cleaned area to be repaired with water to lightly dampen the surface. Do not spray too much water.

Instructions for patching applications 1/16 - 1/2 inch thick continued

2. Place the patching mix on the dampened area to be repaired. Using a trowel, press and work the patching mix into the dampened surface to achieve a good bond and to break the surface tension. For the best results, especially on large patches, it is recommended to apply a wet Squeegee/Bond Coat immediately ahead of the Patching Mix to achieve the best bond possible. Scrub the Squeegee/Bond Coat or Resurfacer over the repair area using a brush or broom.

3. Immediately dump some patching mix over the Squeegee/Bond Coat or Resurfacer while it is still very wet. Use a trowel and/or a light weight aluminum screed rod (available through Concrete Solutions) to spread and finish the patching mix smooth and flush with the surrounding surface. If necessary, use a hand held spray bottle or pump-up sprayer to lightly fog the surface of the patch with water. A light amount of water will make the patching mix more workable and easier to trowel to a smooth finish. Feather the edges of each repair to zero. Allow the patch(es) to dry, then, apply another Squeegee/Bond Coat over the patch, if needed, to make it smoother. Another method is to use a right angle grinder with a flat masonry grinding wheel or sandpaper to smooth out the repairs.

Instructions for patching applicatons 1/2 - 1 1/2 inches thick

For small holes and spalls that are deeper than 1/2", it is okay to use the Ultra Surface Patching Mix the way it is, or pea gravel can be added for extra strength and to extend the mix. To one 50 lb. pail of Patching Mix add up to 1 1/2 gallons of 3/8 pea gravel. By adding pea gravel to the patching mix, it can be applied up to 1 1/2 inches thick for small repairs. For larger repairs over 1/2" thick, it will be more economical to make your own patching mix using the Ultra Surface Concrete Polymer mixed with water, cement and sand from your local area. See the formulas below for instructions on how to make your own patching mix.

MAKE YOUR OWN PATCHING MIX FOR REPAIRS 1/16" - 1/2" DEEP

Five Gallon Bucket Mixing Formula:

For repairs 1/16" - 1/2" deep, mix by volume:

1/2	Gallon	Ultra Surface Concrete Polymer
1	Gallon	Water
1 1/2	Gallons	Cement [Portland type I/II]
4 - 4 1/2	Gallons	Silica Sand [#60 and 30 mixed equally]

Mixing Instructions: Start by mixing the polymer and water in the mixing container. Add all of the dry ingredients (cement first) and mix together using a 1/2" drill and mixing paddle. If the mix seems too wet, add more cement and sand at a one part cement to two and a half parts sand ratio. If the mix seems too dry add a little more polymer and water at a one part polymer to two parts water ratio to achieve the consistency desired.

Approximate Coverage Rates

At 1/16" thick	the coverage rate for the mix above = 112 sq. ft.
At 1/8" thick	the coverage rate for the mix above = 56 sq. ft.
At 1/4" thick	the coverage rate for the mix above = 28 sq. ft.
At 3/8" thick	the coverage rate for the mix above = 19 sq. ft.
At 1/2" thick	the coverage rate for the mix above = 14 sq. ft.

Note: Measure each ingredient using one quart and one gallon measuring

Mortar Mixer Mixing Formula:

For repairs 1/16" - 1/2" deep, mix:

3	Gallons	Ultra Surface Concrete Polymer
6	Gallons	Water
94	Lbs.	Cement [Portland type I/II]
300	Lbs.	Silica Sand [#20, 30 and 60 mixed equally]

Mixing Instructions: Start by mixing the polymer and water in the mixing container. Add all of the dry ingredients (cement first) and allow to mix together for 5-10 minutes. If the mix seems too wet, add more cement and sand at a one part cement to two and a half parts sand ratio. If the mix seems too dry add a little more polymer and water at a one part polymer to two parts water ratio to achieve the consistency desired.

Approximate Coverage Rates

At 1/16" thick	the coverage rate for the mix above = 720 sq. ft.
At 1/8" thick	the coverage rate for the mix above = 350 sq. ft.
At 1/4" thick	the coverage rate for the mix above = 170 sq. ft.
At 3/8" thick	the coverage rate for the mix above = 107 sq. ft.
At 1/2" thick	the coverage rate for the mix above = 75 sq. ft.

Note: Measure each ingredient using one quart and one gallon measuring

Application Instructions: Follow the same application instructions given on page 1 for the pre-mixed "just add water" Ultra Surface Patching Mix. See page 3 for how to make your own patching mix for repairs 1/2 - 1 1/2 inches thick.

MAKE YOUR OWN PATCHING MIX FOR REPAIRS 1/2" - 1 1/2" DEEP

Five Gallon Bucket Mixing Formula:

For repairs 1/2"-1 1/2" deep, mix by volume:

(Read important mixing instructions below before mixing)

3/4	Quarts	Ultra Surface Concrete Polymer
3	Quarts	Water
5	Quarts	Cement [Portland type I/II]
10	Quarts	Silica Sand [#16, 20 and 30 mixed equally]
10	Quarts	3/8 Pea Gravel

Important Mixing Instructions: Start by mixing 3/4 quarts of polymer and 3 quarts of water in a 5 gallon pail. Add all of the dry ingredients and mix together using a 1/2" drill and mixing paddle. Add a little more Ultra Surface Polymer and water as needed at a 1 part polymer to 4 parts water ratio to adjust the consistency. If the mix seems too wet, add more cement and sand at a one part cement to two parts sand ratio. If the mix seems too dry add more polymer and water at a one part polymer to four parts water ratio. Mix to achieve a regular concrete mix consistency.

Approximate Coverage Rates

At 1/2" thick	the coverage rate for the mix above = 11 sq. ft.
At 3/4" thick	the coverage rate for the mix above = 7 sq. ft.
At 1" thick	the coverage rate for the mix above = 5 sq. ft.
At 1 1/4" thick	the coverage rate for the mix above = 4 sq. ft.
At 1 1/2" thick	the coverage rate for the mix above = 3 sq. ft.

Cement Mixer Mixing Formula:

For repairs 1/2"-1 1/2" deep, mix by volume:

(Read important mixing instructions below before mixing)

1 1/2	Gallons	Ultra Surface Concrete Polymer
6	Gallons	Water
94	Lbs.	Cement [Portland type I/II]
200	Lbs.	Silica Sand [#16, 20 and 30 mixed equally]
200	Lbs.	3/8 Pea Gravel

Important Mixing Instructions: Start by mixing 1 1/2 gallons of polymer and six gallons of water in a cement mixer. Start the mixer. Add all of the dry ingredients. Add a little more Polymer and water as needed at a 1 part polymer to 4 parts water ratio to achieve the consistency desired. If the mix seems too wet, add more cement and sand at a one part cement to two parts sand ratio. If the mix seems too dry add more polymer and water at a one part polymer to four parts water ratio. Mix to achieve a regular concrete mix consistency.

Approximate Coverage Rates

At 1/2" thick	the coverage rate for the mix above = 100 sq. ft.
At 3/4" thick	the coverage rate for the mix above = 63 sq. ft.
At 1" thick	the coverage rate for the mix above = 46 sq. ft.
At 1 1/4" thick	the coverage rate for the mix above = 35 sq. ft.
At 1 1/2" thick	the coverage rate for the mix above = 28 sq. ft.

APPLICATION INSTRUCTIONS FOR REPAIRS 1/2" - 1 1/2" DEEP

For deeper repairs from 1/4 - 1/2" or more, it is recommended to apply a Squeegee/Bond Coat of the Ultra Surface Polymer Concrete immediately ahead of the patching mix, to achieve the best bond possible. Apply the Squeegee/Bond Coat as thin as possible over the dampened surface using a brush or broom. Apply in small sections at a time, followed immediately with the patching mix while the Squeegee/Bond Coat is still very wet. Trowel and/or screed the patching mix over the wet Squeegee/Bond Coat (or Resurfacer) to the desired finish and feather the edges to zero.

RESURFACING INSTRUCTIONS AFTER THE PATCHING IS COMPLETED

Once all of the repairs have been patched to a smooth finish and feathered to zero, the next step is to apply a Squeegee/Bond Coat or Resurfacer over the entire surface. To use the Squeegee/Bond Coat for resurfacing; dampen the surface with water and spread it thin and smooth (1/64 - 1/16" thick) using a special metal edge squeegee (available from Concrete Solutions) and/or a hand trowel. Keep the surface damp ahead of the material, without leaving any puddles, to prevent it from drying too fast. It is best to apply it during the coolest part of the day to achieve the best finish and to have the longest amount of working time. For some jobs more than one coat of the Squeegee/Bond Coat mix may be needed to achieve a smooth finish. A floor polisher machine with a sand paper attachment and #24 - 30 sand paper can be used between coats, if necessary, to smooth out any ridges, trowel marks or squeegee marks. For more detailed instructions with step-by-step pictures on how to apply a Squeegee/Bond Coat, see section six of the Ultra Surface Products Manual.

HOW TO MAKE A SQUEEGEE/BOND COAT MIX

There are two ways to make a Squeegee/Bond Coat Mix:

1. Make your own mix by adding our Ultra Surface Concrete Polymer and some water to the proper ratio of cement and silica sand from your local supplier. Mix by volume:

- 1 part Ultra Surface Polymer Concrete
- 1 part Water
- 2 parts Cement [Portland type I/II]
- 2 parts Silica sand [#60 or 90]

Note: Change the word “part” for cup, quart, gallon etc. to make the amount of mix desired.

2. Use Ultra Surface Resurfacer Bag Mix - Resurfacer is a premixed 50 lb. bag of cement, sand and other ingredients, ready to be mixed with Ultra Surface Concrete Polymer and water for thin resurfacing and texturing applications. Mix one 50 lb. bag of Resurfacer to one gallon of Ultra Surface Concrete Polymer and one gallon of water. Add up to ½ gallon more of pre-mixed polymer and water at a 1 to 1 ratio to achieve the consistency desired. For smaller batches mix one part polymer, one part water and three to four parts Resurfacer. Adjust the consistency as needed by adding a little more polymer and water at a 1 to 1 ratio or if the mix seems too wet, add more Resurfacer.

ULTRA SURFACE POLYMER CONCRETE TEXTURE OR 1/4" STAMPING APPLICATION

Once the surface is repaired with the Patching Mix and resurfaced with the Squeegee/Bond Coat or Resurfacer Mix, the next step is to apply a texture coat or 1/4" Stamping application of the Ultra Surface Polymer Concrete to achieve the final finish desired. For instructions on how to apply an Ultra Surface Polymer Concrete Fine Broom Finish, Trowel Knockdown Texture or 1/4" Stamping Application; please see the Ultra Surface Products Manual under section seven, or call Concrete Solutions at (800) 232-8311.

INSTRUCTIONS FOR PATCHING VERTICAL SURFACES: For patching the edges or corners of joints, steps or curbs, it is recommended to first prime the repair area with a thin coat of Ultra Surface Epoxy 500 using a paint brush. Patch over the Epoxy 500 with the Ultra Surface Patching Mix while the Epoxy 500 is still tacky [usually within one hour]. This will provide a superior bond for repairs on vertical edges, which have more stress and less support. For vertical applications the patching mix will need to be mixed to a thicker consistency that will not sag. Add less water or more patching mix as needed.

WARRANTY AND LIABILITY:

The applicator is responsible to make his or her own assessment of the products suitability for a particular purpose. Our liability is limited to the purchase price of any product proven to be defective. No other warranties are made concerning the product, whether expressed or implied, or statutory, such as warranties of merchantability of fitness for a particular purpose. In no way is Concrete Solutions or its agents liable for any consequential or incidental damages. It is the responsibility of each buyer or applicator to determine that the product or application is suitable for his or her particular purpose.