

SPA COSMETIC REPAIR WITH THE **GRANITE** SYSTEM (GRANITE or QUARITE)

DESCRIPTION

The **GRANITE/QUARITE** repair system has been formulated for repairing granite/quarite spas. It is very easy to use and is suitable for professional or DIY applications.

Granite surfaces are generally the easiest to repair. An acrylic resin, with colored particles like the sheet, is used to match the appearance and texture of the surface. These particles are acquired from the sheet manufacturer. Multiple particle size ingredients can be ordered from Multi-Tech to better match the particles in the spa, which have been deformed in the manufacturing process.

Multi-Tech Products offers repair materials that match all popular colors and textures that are commonly sold in the industry. Refer to our website for more specific information on colors that are available. Repairs to spa surfaces start with a special filler, designed to avoid failure problems seen with polyester body fillers and putties due to the effects of hot water, spa chemicals, and sunlight. A high-performance acrylic resin is the recommended filler for spas. It should always be used when there is long exposure to water and spa chemicals. The repair is finished by applying a protective, clear topcoat. Our K2000 topcoat is a polyurethane based coating that is strongly recommend for spas, since it resists the spa environment best, and the acrylic-based coating can discolor after extended spa conditions exposure. Care must be exercised in buffing to avoid creation of color lines. These repair coatings allow the damaged surface to be repaired to an appearance almost like new.

While there is no implied warranty the materials and techniques described in these procedures have been designed to withstand the normal operating conditions of spas. However, success of the final repair also is dependent on the experience and skill of the individual repair technician.

NOTE: The use of conventional automotive repair products such as polyester type fillers (Bondo, Evercoat, Akemi and Duraglass), lacquer spot putties and primers (although labels may read “acrylic” or “water-proof”) absorb water and are not recommended with this system, especially in spa applications. Substitution of alternate products can have a severe detrimental effect on the performance and durability of the repair.

MATERIALS

- A special high performance, white acrylic filler with catalyst
- A special granite filler for granite spas with catalyst
- Hardener for fillers
- K2000 Clear Topcoat, Thinner/Reducer, and Hardener
- Texturing additive

EQUIPMENT



GRANITE/QUARITE – SPA REPAIR PROCEDURES

The equipment listed below is needed to use the **GRANITE/QUARITE** repair system. Similar equipment made by other manufacturers may be substituted. This equipment is available from Multi-Tech Products or local paint supply houses. A working knowledge of the equipment and application techniques is assumed for these repair procedures.

- A ¼" Die Grinder (electrical or pneumatic) with cylinder grinding points (Dremel-type tools typically are not robust enough for this job)
- Industrial Heat Gun (Again, a hair blow dryer is not sufficient)
- A ¾" Variable Speed Drill (electrical or pneumatic)
- A rubber disc assembly for the drill (similar to the Roloc Disc pad)
- 3" Sanding Discs - 50, 36, 24 grit. (50 grit is optimum.)
- Wet/dry sandpaper in 80, 100, 220, 320, & 400 grit
- Variable Speed, Heavy Duty Polisher/Buffer - at least 2500 – 3500 rpm capability is recommended
- Buffer Pad - purchase the pad first and then match it up to the appropriate buffer.
- Acetone or Lacquer Thinner
- Clean wiping cloths or paper towels
- Vapor/Particulate Respirator - NIOSH/MSHA TC-23C
- Foam Blocks – approximately 5" x 5" x 5" (8 to 10 blocks)
- Rubbing Compound – Medium Grit



Industrial Heat Gun



Grinder & Drill



Heavy-Duty Buffer

GENERAL SAFETY PRECAUTIONS

Spa repairs require personal contact with a variety of components, each having its own unique characteristics. When handling these materials, read and follow the safe handling procedures on the labels and the applicable MSDS. During grinding, drilling, sanding, etc., eye and hand protection is required. Do not breathe vapors or mists. Individuals with a history of lung or breathing problems should not use or be exposed to this product. Keep away from heat, sparks, and flame. Vapors may cause a flash fire. Close containers after each use. Dispose of properly.

Wear a vapor/particulate respirator (NIOSH/MSHA TC-23C) while mixing hardener with coatings, during application (especially when overall refinishing) and until all vapors and mists are exhausted. Individuals with a history of lung or breathing problems or prior reaction to isocyanate should not use or be exposed to this product. Do not permit anyone without protection in the painting area. Follow the respirator manufacturer's directions for respirator use.

NOTES

- Inform the spa owner that the spa will need to be drained prior to technician's arrival.
- The average cure time is 60 minutes. This repair can be done in the field. However, if the ambient temperature is outside the range of 60-80°F, the spa should be shaded or moved to an area that can ensure the proper surface temperature.
- Do not leave Compound A or mixtures containing Compound A uncovered. They may over-thicken or develop a surface skin.

GRANITE/QUARITE – SPA REPAIR PROCEDURES

- A properly prepared repair mix will cure even at a minimal thickness of 5-15mm (1/8”).
- If there is more than one blister on the surface of the spa, complete one step on all of the blisters before proceeding to the next step.
- This repair is cosmetic only, and color variations may exist depending on the age of spa and location of repair. This repair does not affect the functionality of the spa.

PROCEDURE

Before a repair can be started, the spa must be drained of water, and be dry and clean. The steps used to repair a surface crack are:

- 1) Crack preparation (grinding and sanding)
- 2) Filling the crack
- 3) Applying the spa color coating
- 4) Applying a protective clear topcoat

It is recommended that the surface be allowed to fully cure for at least 7 days before water is re-introduced to the spa. Place the spa cover in a position to allow air ventilation during the drying process. Cool temperatures will lengthen the cure time. If condensation occurs on the repair coatings during curing, it will affect the quality and time to cure. Before starting a spa repair, the jets and other areas that should be protected from overspray should be masked.



PREPARING THE CRACK AND FILLING

Spas are produced using a plastic (normally an acrylic) sheet that is reinforced from the back using a fiberglass composite or other strong plastic. Preparation and filling of the crack are the same regardless of the color or texture of the spa. As a general rule, we recommend using only the acrylic filler on spas. This provides a very hard, non-porous surface that resists the spa environment.

It is a two-part resin.



REPAIRS ABOVE THE WATER LINE

Multi-Tech's Poly-Filler is available for jobs where the repair will not be constantly exposed to water, moisture, or chemicals. It uses a cream hardener and is easier to grind and sand than the acrylic filler.

The optimal area for using polyurethane sealant on a spa surface would be on the outer lip where the cover does not retain moisture.



GRANITE/QUARITE – SPA REPAIR PROCEDURES

THE STEPS FOR PREPARING THE CRACK FOR FILLING ARE:

- 1) Terminate the crack by routing it out from one end to the other using the rotary grinder.



- 2) Remove all loose fragments from the edge by sanding with 100 grit wet or dry sandpaper. Control the sanding to the immediate area of the defect to minimize the size of the repair.



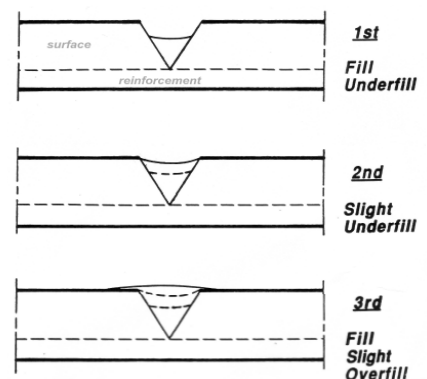
- 3) Clean the area with a soft cloth or paper towel slightly dampened with isopropyl (rubbing) alcohol.
- 4) Chemical components should be at room temperature.

- 5) Prepare the acrylic filler by dispensing the desired amount of component "A" into a plastic graduated mixing cup. Add 30 drops of component "B" per each ½ ounce of "A". Mix thoroughly with the wooden stirrer.

Use immediately, since it will harden within 15 minutes.



- 6) Fill the crack with the acrylic resin to slightly below the spa surface. Use gentle continuous heat with the heat gun around the edge of the crack, without pointing the gun directly on the crack. This will accelerate the curing process. Allow to cure for 5 to 10 minutes. Now, immediately, fill again. Filling should still be below the spa surface.



GRANITE/QUARITE – SPA REPAIR PROCEDURES

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- 7) Grind any excess white acrylic filler from around the crack to avoid bleed-through in the final repair. Repeat the curing process.

Use 36 to 50 grit sanding discs.



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- 8) Immediately, fill again (3rd time) so that the fill is slightly above the spa surface. Sand with 100 grit wet or dry sandpaper if more than 15 minutes expire between applications. The filler should be soft to the fingernail. This promotes adhesion of the separate coatings. Using too much filler in a single coat can result in excessive heat, which may result in air bubble formation.

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- 9) The fill process is the same for the acrylic paste filler as well as the granite repair systems in order to avoid air pockets. The green granite surface is used for demonstration purposes only.

After final filling and hardening, grind the filled area with the grinder. Use a low speed to avoid excessive heat build-up and melting. Continue until the surface is flat and even with the surface of the spa.

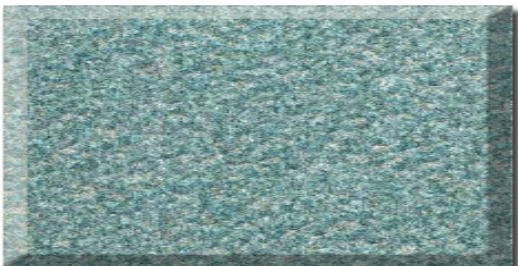
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- 10) Sand slightly with 100 grit wet or dry sandpaper.

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- 11) Now you may wipe the surface with a very thin coat of a new batch of the acrylic filler to fill in imperfections such as pin holes or grinder marks.

Do not use anything other than the acrylic filler for this purpose.



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- 12) Allow a few minutes for curing, and then begin sanding with a progression from 220 to 320 to 400 grit wet sandpaper. Now the surface is ready for application of the spa color matching system.
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REPAIRING GRANITE SURFACES

Granite surfaces are generally the easiest to repair. An acrylic resin, with colored particles like the sheet, is used to match the appearance and texture of the surface. These particles are acquired from the sheet manufacturer. Multiple particle size ingredients can be ordered from Multi-Tech to better match the particles in the spa, which have been deformed in the manufacturing process.

GRANITE/QUARITE – SPA REPAIR PROCEDURES

- 1) Starting from a crack filled with the white acrylic resin, grind a depression that is about 1/16" below the spa surface.

This void will be filled with the colored filler. In fact, the colored filler can be used for the entire filling process for small cracks, etc.



- 2) Using the mixing cups, combine component "A" with component "B" in the ratio of 30 drops of "B" to each ½ oz. of "A".

Mix well.



- 3) Apply this material in the depression and fill so that it is above the spa surface.



- 4) Allow it to cure for about ½ hour. The heat gun can be used to accelerate. Direct heat to the immediate surrounding area, and not directly on the filler.

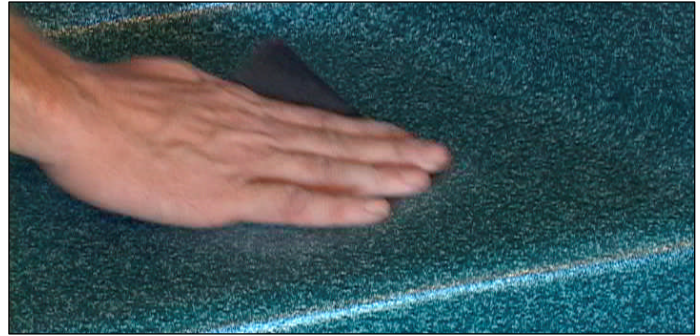
- 5) Grind the area smooth with the drill and disc pad.

Use a 50 to 36 grit disc.



GRANITE/QUARITE – SPA REPAIR PROCEDURES

- 6) Sand the surface to the desired smoothness using a progression from 100 to 320 grit sandpaper.



APPLICATION OF TRANSPARENT PROTECTIVE COAT

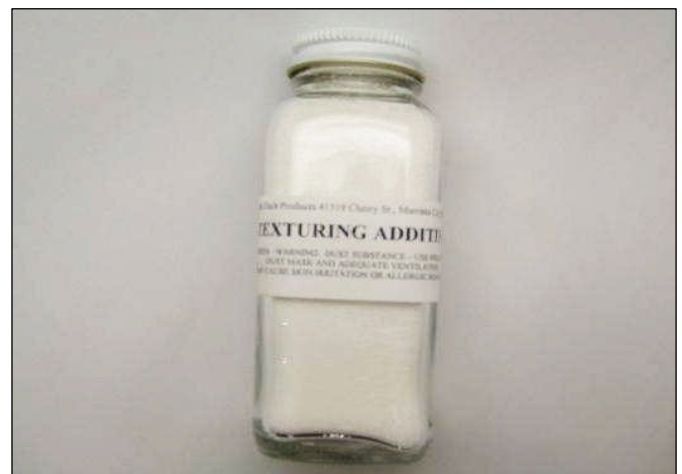
Now you are ready to apply the protective, clear topcoat. We recommend using only the K2000 product since it withstands the effects of spa water and chemicals. The required components include a hardener, thinner/reducer, and the topcoat.

- 1) Pour an ample amount of K2000 topcoat into a mixing cup or airbrush bottle.

Add the hardener in the ratio of 1 part hardener to 3 parts topcoat.



- 2) If desired, a texture enhancer can be added. It is added in the ratio of 1 part enhancer to 32 parts topcoat.



GRANITE/QUARITE – SPA REPAIR PROCEDURES

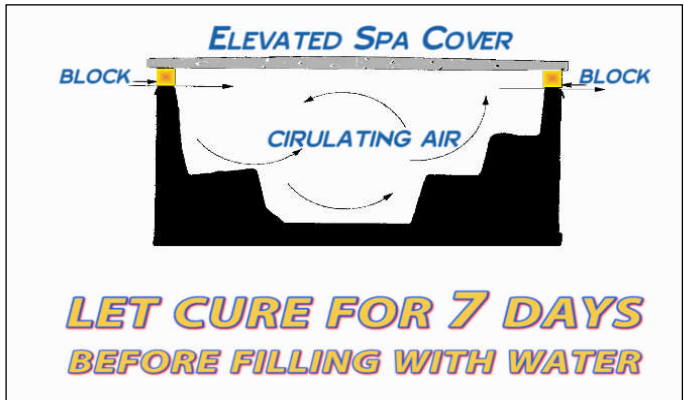
- 3) Apply this mixture to the repaired area by dabbing with a small brush.

Wait up to 7 days before filling the spa with water. Keep the surface dry to avoid damaging the repaired surface until it is ready to be filled.



FINAL NOTES:

It is recommended that the surface be allowed to **fully cure** for at least 7 days before water is re-introduced to the spa. Place the spa cover in a position to allow air ventilation during the drying process utilizing foam blocks mentioned in the necessary equipment section. Cool temperatures will lengthen the cure time. If condensation occurs on the repair coatings during curing, it will affect the quality and time to cure.



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