

CULTURED MARBLE* REPAIR PROCEDURES

*also known as simulated marble, fake marble and synthetic marble



Before



After

DESCRIPTION

Cultured marble is artificial marble, a composite made of dust from marble or calcium carbonate mixed with polyester resins or acrylics and then poured onto a flat molding surface or into fixture molds. Usually, a clear coat is poured first and the composite resin creates the color and the thick structure. There is usually no glass reinforcement imbedded. It is a non-porous, less expensive substitute for genuine marble and is commonly used for sinks/vanities, countertops, bathroom tubs, wall panels and the areas surrounding tubs and showers. The same technology is used to make cultured onyx and cultured granite. Some applications may not have a clear coat layer; however, these procedures are specific to surfaces made with a clear coat layer.

Since these products are normally based on a polyester resin binder with various inorganic fillers (granules and powders), our repair materials are compatible for surface repair. The most common types of damage are burns, cracks and gouges. Even this minor damage which affects the clear topcoat creates an unwanted appearance.

When applicable, cracks can be repaired using MTP procedures outlined in the [bathtub crack repair procedures](#).

- **Top Repairs:** Most cultured marble countertops have a top layer, usually 30 to 50 mils thick, of a clear gel coat resin to protect the colored surface and provide visual depth. Therefore, the use of a colored repair material on the top, clear surface would result in shadowing and a poor surface appearance. An acceptable repair requires the grinding of the clear topcoat surface. Then a clear gel coat resin is applied on the top to achieve see-through of the existing color while repairing the surface level and smoothness.
- **Lip, Bevel, and Bowl Repairs:** The Multi-Tech Products Corporation Granite, MMA, Quick Glaze systems can be utilized if an acceptable color match can be created or supplied. Check our [Product Color](#) section to see standard colors. Toners may be required to create an acceptable match. The contoured surface of these design areas makes it a little easier to achieve an acceptable color match. The [Poly-Filler](#) is ideal for these repairs. If veining is required, it can be created using the procedures shown in the [marble spa repair procedure](#). It requires the use of an air brush, and since it requires some special skill, you may need to practice before performing the actual repair. Also, we have a [spa repair video](#) that can be purchased to learn how to perform this procedure.

Due to the broad range of manufacturers, and changes that occur from product aging and manufacture, color uniformity will vary. Therefore, toning will be necessary with colors. Clear coats can yellow over time. The serviceability of the repair should be excellent when applied properly. Due to these variations there is no implied warranty. Performance of the final repair depends on the experience and skill of the individual repair technician, and their diligence in following recommended procedures.

MATERIALS & TOOLS NEEDED FROM MULTI-TECH PRODUCTS



- Clear Marble Gel Coat
- MEKP Catalyst
- PVA (poly vinyl alcohol) green
- 80 or 100 grit, 220, 320, 400, 600 wet/dry sandpaper
- 1/2" diameter ball grinding bit (or Dremel equivalent)
- 2" wide masking tape
- Buffing bar or MTP Premium Rubbing Compound
- 1/4" variable speed drill 2500 RPM minimum with mini pad set up
- Or industrial grade (2500 rpm) electric buffer/polisher and pad

SAFETY PRECAUTIONS

Polyester resin applications 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 MSDS. During grinding, drilling, sanding, etc., eye, hand and dust protection is required. Breathing resin vapors should be avoided - especially by individuals with a history of lung or breathing problems. A vapor/particulate respirator (NIOSH/MSHA TC-23C) is recommended. Keep products away from heat, sparks and flame. Vapors may cause a flash fire. Close containers after each use. Harden unused product and dispose of properly.

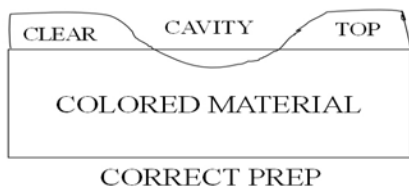


Most repairs on the top surface of cultured marble will be chips, gouges, deep scratches and burns.

Light burns that do not go through the gel coat layer usually can be sanded and buffed out.

Cracks and fractures will extend through the clear coat and the structure. This type of damage generally requires a complete refinish with gel coat resin or a refinish coating over the filled and prepared area. Usually a large repair of this type will be highly visible at the clear coat transition. Therefore, it is best to refinish the entire surface rather than just the damaged area.

A clear gel coat repair can yield almost invisible repairs depending on how deep it goes in the colored structure. The objective is to repair the gel coat allowing the color and pattern in place to show through the repair.



CORRECT PREP



INCORRECT

Start the repair by removing the clear topcoat layer above the damaged surface. The diagram shows the correct method to prepare the repair zone. A smooth, continuous surface should be created throughout the prepared cavity.

A choppy, uneven cavity will show unwanted signs of the grinding preparation within the final finish.

The use of a round grinding stone is imperative for a successful repair and good appearance.



Grind the clear top surface at the damaged zone. The grinding does not need to extend into the color unless the colored surface needs to be exposed to remove any burn marks, deep gouges, etc. Continue grinding to carefully create a smooth crater surface free of ridges, gouges, crevices, or grinding marks. The ball-type grinding stone must be chosen correctly.



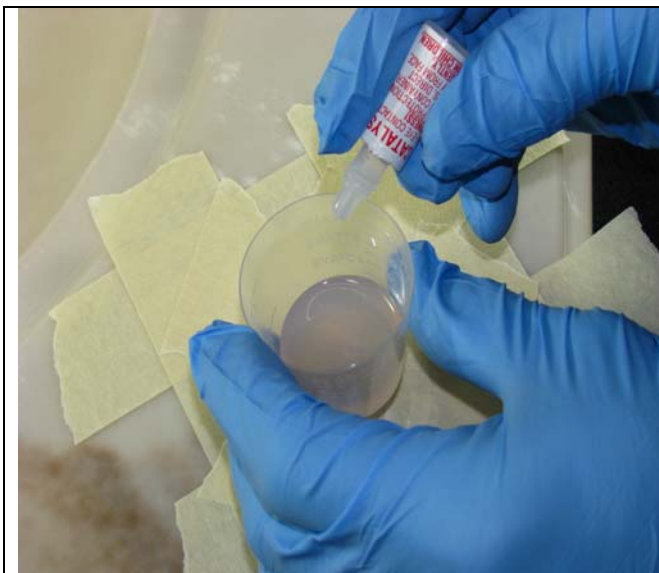
Sand this area with 80 or 100 grit wet/dry sandpaper until smooth.



If the damaged area was shallow, it is possible to complete the repair simply by applying a new clear topcoat to the sanded area.

Be sure to limit the sanded area to no more than 1/2" beyond the repair zone. If aggressive sanding is required, it may be necessary to tape the surrounding surface for protection.

The diameter of the repair zone will determine the depth that can be tolerated without being readily visible.

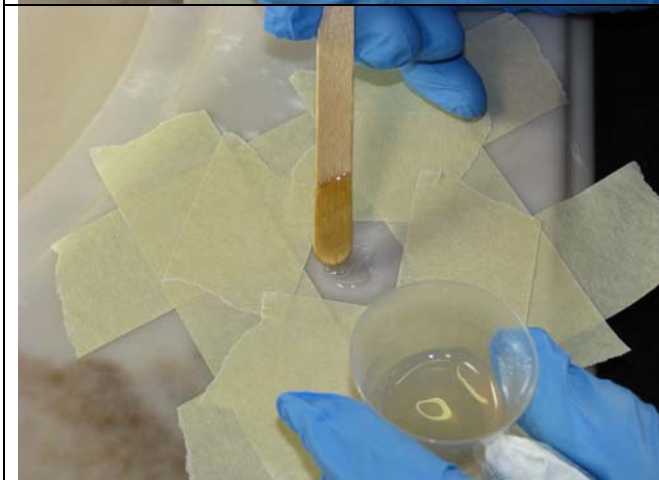


Prepare an adequate amount of clear gel coat resin using the supplied catalyst at the correct ratio to resin.

For precise catalyst percentages use our small dropper bottles. Our 3cc, ½ oz, and 1 oz dropper bottles have a controlled tip for precise drops. DO NOT measure catalyst with our large flip top dispensing lids provided on our 4oz., 8oz., pint and quart sized bottles. These bottles are designed to fill the smaller dropper (control tip bottles).

Catalyst (MEPK) Ratios for Gelcoat Resins

QUANTITY	Recommended Quantity of Catalyst (1.5%) @ 75°F	Maximum Quantity of Catalyst (3%) Hot mix
8oz.	3.5cc	7cc
4oz	1.9cc	3.8cc
1oz	8 drops	16 drops



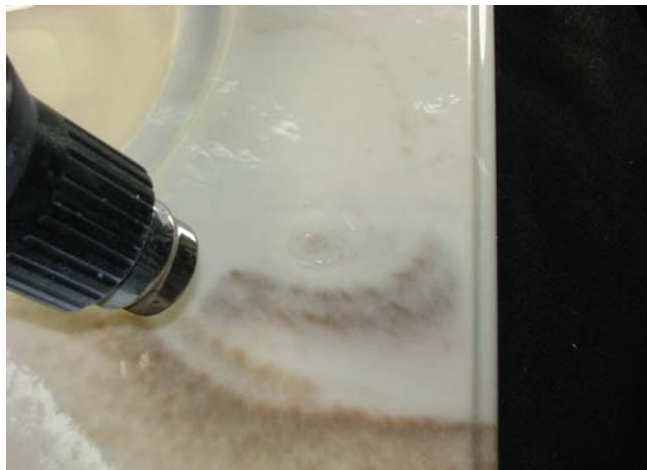
Depending on the size of the prepared cavity, pour or apply the catalyzed gel coat mixture into the cavity. Larger repairs may require more than one fill. Small chips and gouges can usually be overfilled one time for an effective repair.

For multiple fills, see diagram below.

Note: When the clear coat is initially catalyzed it will turn yellow in color. As it cures, it will become clear again.



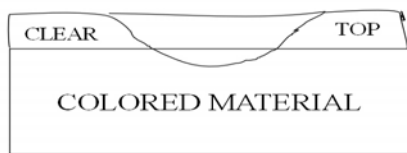
Use a plastic flexible spreader to level the final fill. Apply enough gel coat resin to allow the top of the fill surface to be slightly higher than the surrounding surface. The top surface should be as flat as possible but still be slightly overfilled. This will allow for a cured resin that can easily be sanded level with the surrounding surface.



Apply radiant heat with a heat gun. A hair blow dryer may work for small, do-it-yourself applications. Optimally, professional repair persons should use a heat gun. Apply heat at the outer edges, and allow the heat to be conducted inward to the fill resin. The heat will accelerate the chemical reaction required to cure the gel coat resin. **Do not over-heat.** Over-heating will turn the resin yellow.

The clear coat will initially be glossy. As it cures, it will increase in temperature, and become a viscous gel rather than a liquid. When it becomes a gel, it will acquire a flat-dull appearance. At this point, another layer of gel coat can be applied, if necessary.

At this gel stage, apply PVA sealer. (See PVA application below).



1st FILL - NEARLY LEVEL



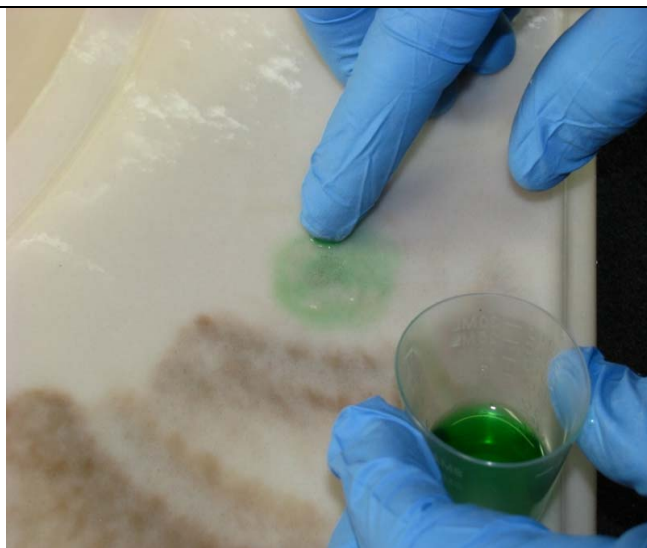
2nd FILL - SLIGHT OVERFILL

When the cavity is deep, it is best to use two applications or more of the gel coat resin. Apply them with the plastic spreader.

The first fill will be a slight underfill at the surface.

The second fill will be a slight overfill at the surface.

Apply heat to accelerate the cure, when completed.

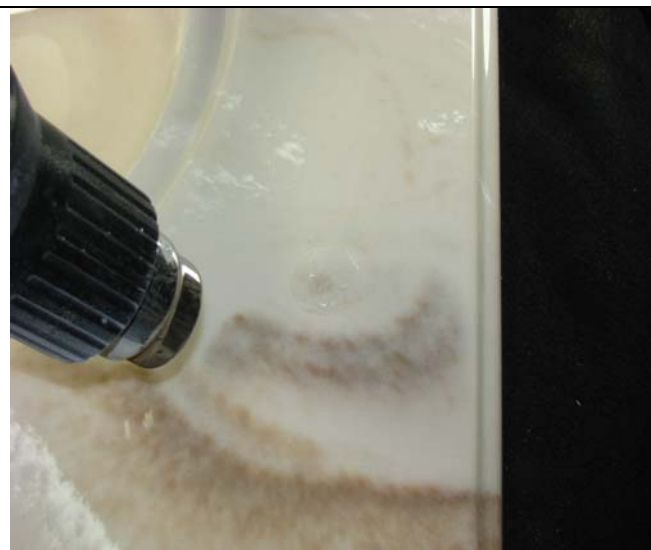


After applying heat and confirming the gel coat resin is at its gel stage, apply a thin film coat of PVA (poly vinyl alcohol) using either your finger, air brush or a paint brush.

The goal is to apply the PVA over the gel coat when it turns to a gel form. If applied while the gel coat resin fill is still liquid, the PVA application would destroy its smooth surface.

Note: Gel coat resin cure process:

- Catalyze the liquid resin (heat cycle begins the cure).
- Apply heat to accelerate the heat reaction.
- The resin enters into a gel stage (jelly to the touch).
- Apply PVA to seal at gel stage (makes sanding easier).
- Resin enters hardness state (heat cycle ends).
- Cool down (ready for sanding and polishing).



Allow the PVA to air dry. Heat can be applied to accelerate the PVA to dry. Do not overheat. The PVA will air dry quicker with a thinner application. A light visible film coat will be sufficient.

The PVA provides a temporary barrier to the environment, and promotes the resin's ability to reach its most durable and best finish.



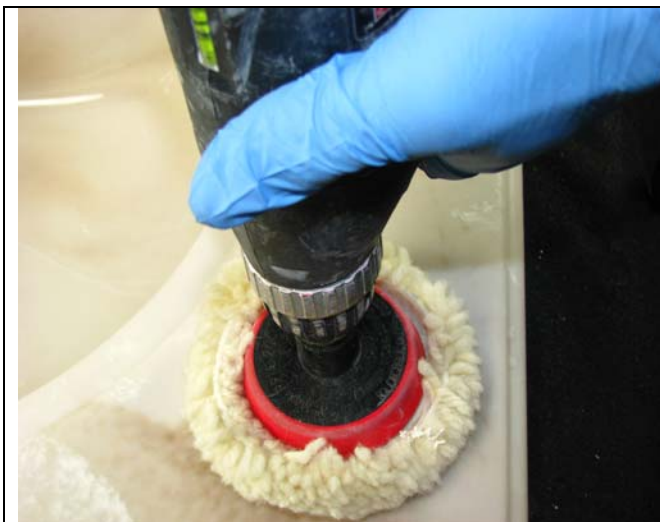
After the PVA is dry to the touch, wet sand the repair zone to create a smooth finish. The PVA sealer will wash away with the water and sanding process. Start with 220 grit wet/dry sandpaper and progress using 320, 400, and 600 grit. Try to limit the sanding to an area no larger than 1/2" beyond the repair zone. Tape may be helpful to control the sanded area, especially with the coarser grit paper.

The goal is to sand the height of the filled resin application down to meet the level of the surface. Concentrate on the overflow of resin to avoid creating a wave from the repair zone to the original surface. A small sanding block may be helpful to hold the sandpaper to create a smooth and even repair.



To create a final, polished surface, use the MTP Premium Rubbing Compound. Apply a generous amount to the surface to be polished with a stir stick and spread out with a paint brush. This polishing process will also be good for the entire surface, so it is not necessary to create a protected tape area.

A buffing polishing bar can be used as well with excellent results.



For DIY: Polish the area with a (2500 rpm) variable speed drill with a mini drill pad set up.

Start polishing at a slow speed to avoid slinging the polish compound. After the compound has been worked into the buffing pad increase speed and continue polishing until the desired gloss and appearance has been achieved.



For Professional Results: Use a commercial (2500 rpm) variable speed buffer/polisher set up with a high quality buffing pad. Follow the same procedure as the DIY above.



The final repair and gloss should be similar in appearance to the original surface.

If problems exist with scratch removal and gloss restoration, see our [Buffing and Polishing DVD](#).

Other helpful materials and training aids:

www.multitechproducts.com

- Buffing and Polishing DVD
- Chip Brushes
- Premium Rubbing Compound
- Light Buffing Bar
- Mini Buffing Pad
- Industrial Grade Buffing Pad
- Wet Dry Sandpaper

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