

Technical Bulletin: Drilling and Filling without Surface Polishing



Type of defects that can be repaired:

- Voids
- Holes drilled to remove defects
- Small quartz pop-out

Tools:

- Hardener
- Color match kit
- Drill, dremel, or die grinder
- Fine carbide tipped hand chisel
- Acetone
- Acrylic Flow grade adhesive (i.e. Akemi Marmokitt 1000 Acrylic Penetrating)
- Burring bits (diamond or silicon carbide) with fine tips (<1/8" balls, cones, or cylinders)
- Cups
- Tongue depressors
- Razor blades
- Putty knife
- Tape

Safety:

- Safety Glasses
- Grinding tool equipped for use with water or respirator with high efficiency cartridges
- Gloves

Note: Always practice repair techniques before trying on paying jobs

Directions:

1. Discuss repair with homeowner with confidence. This repair will be flush with the top. It will take about 1 hour from start to finish and will be complete when you leave.
2. Plan the color scheme
 - For multi-colored Zodiaq® colors use a contrast color rather than the base color
 - For solid colored Zodiaq® colors use a shade of the base color.
 - Large areas may require two colors, plan in advance what first and second contrast colors would be.
3. Get all tools ready.
4. If material removal is required, remove material first. The tool and the material surface needs to be wet or a respirator with a high efficiency cartridge needs to be worn.
 - If drilling, use a bit that is only slightly larger than defect. Do not drill all the way through. Drill the hole slightly deeper than the flaw. This gives the adhesive more surface to adhere to.

- If repairing a kaolin flaw (white chalk like material) remove all loose material with a pick
 - Do not leave the hole perfectly round. Create some irregularity to it.
5. Put gloves on and clean repair area with acetone.
 6. Tape area around the defect to be repaired. Tape is used to aid in clean up and minimize the amount of adhesive used which speeds hardening.
 7. Color match the acrylic penetrating flow grade adhesive to a translucent color (Acrylic-penetrating adhesive is very thin and produces fewer air bubbles in small holes. In addition, when hard it has a shine that is closest to that of the top.) To keep the adhesive translucent, use as little pigment as possible while still getting the right color.
 - For multi-colored Zodiaq® colors use a contrast color rather than the base color
 - For solid colored Zodiaq® colors use a shade of the base color.
 8. Split the adhesive into two cups and then add hardener to one of the cups.
 9. Using putty knife or razor blade to make the adhesive level with the tape
 10. Remove the tape when the adhesive reaches gel state.
 11. Wait for the resin to harden completely before removing the excess adhesive.
 12. Remove excess adhesive as follows:
 - Use a razor and short sharp strokes that are perpendicular to the surface. (Removing adhesive in one motion usually pulls out the adhesive around the edges.)
 - Change directions while working with the razor blades frequently so that there are no directional lines.
 - Change razor blades every time the razor gets gummed up.
 13. If necessary, use a small amount of acetone and 0000 steel wool to clean the area.
 14. If the filled area is large and would look better with more than one color, remove some of the adhesive with a razor or dremel and bit and back fill with a second contrast color and repeat steps 6-11.

Hints:

- Make hole irregular.
- Use contrast or one of the off shade colors.
- Use acrylic adhesive because it shines better.
- Change direction of scraping frequently.
- Use multiple razor blades.
- Don't scrape until resin is very hard.
- Backfill as often as necessary.

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