

USING YOUR WET DIAMOND POLISHING PADS FOR POLISHING GRANITE AND CONCRETE

The pads you have contain diamonds embedded in the resin. Running them against abrasive surfaces such as granite and concrete will file down the resin and expose the diamonds so the pads will be self-sharpening. If you need to polish glass then you will need to expose the diamonds by running them on concrete surfaces first and then using them on glass. These pads are designed mainly for harder stones like granite, concrete, ceramic, porcelain...if you plan to use them on softer limestone like marble and travertine, then you'll need to do so dry at higher speed from grit #800 and up. Using them dry resulting in more friction and heat so you'll need a more powerful polisher, faster movement to dissipate heat, or intermittent polishing. If there is resin burn you can file them off by wet polishing on concrete or ceramic surfaces.

These pads work with a Velcro holder most having 5/8-11 thread. This will fit any standard polishers except the very old Makita polishers or certain metric polishers made for Europe and South America. It will also fit high-speed grinders, but **DO NOT USE WITH HIGH SPEED GRINDERS UNLESS IT IS A VARIABLE SPEED THAT CAN RUN SLOWER THAN 5000 RPM**. Depending on size, 4" wet pads work best at 5000 rpm max with constant water feeding. We recommend adding a little detergent to the feed water.

Mount a Velcro holder to your tool and mount a pad to it. Shake the pad in two different directions to interlock the Velcro. Grit #50 and #100 is for rough cutting and coarse grinding. If you need to remove lot of material such as filing down concrete to expose aggregates, then we recommend starting with a diamond grinding cup first. Grit #200 will remove big scratches; grit #400 will remove small scratches so if your surface is already smooth then you can start with grit #200. Since scratches are not visible when the surface is wet, a neat trick is to use color crayon pencils to mark those scratches and polish until those markings are gone. If you polish long enough, you will notice a difference in sound when a certain pad is done with an area. Constantly move the polisher preferably with a circular pattern like waxing a car when polishing.

Granite and concrete are porous so to make them shine we recommend at least one round of densifier treatment after polishing with grit #800. Without densifier, the surface may not shine any better than after polishing with grit #800 while showing visible holes on the surface. We sell a two-part densifier that can be used to fill visible and invisible pores to seal and strengthen the top surface. This densifier forms natural stones with granite and concrete giving them a permanent seal and make the top surface much stronger. After densifying, continue polishing with higher grit.

After wet polishing with grit #1500, you will see the surface shines and reflects (without water). We supply finer grits up to #10000 as well as white and black buffing pads.

Tips and Tricks:

Lower grits pads tend to score a circular pattern into the surface if left in one place too long so move the polisher around more quickly with lower grits. It's important to clean the surface at least once after every two grits to remove remnant diamonds so they don't continue to scratch the polishing surface.

Most granite tends to lose big chunk of aggregate and leave holes on the surface; this can be minimized by pre-treatment with densifier to make them bond stronger.

We also supply buffing pads in black and light colors. These can be used by themselves or with beeswax. Buffing with these pads make the surface shines by filling small pores with the pads' resin. We also have 12 color matching resins to be mixed with epoxy glue to repair bigger defects.

DENSIFIER USER GUIDE (1 Pint)

- Content:**
1. One big bag of crystal powder that looks like sugar: this is your densifier (inside the Tyvek bag).
 2. One small bag of chalky powder: these are for filling pores and top curing.

Preparation: Dissolve densifier in the purest water you can find such as deionized water, or purified drinking water. Add about $\frac{3}{4}$ pint initially, dissolve all the crystals then top it off to the final volume of one pint. Do not exceed 1 pint volume. Shake well to dissolve all crystals and then store in a thick plastic PE container or a glass container as small as possible and keep the lid closed. This solution is very corrosive and caustic so handle with care (wear gloves and safety glasses). If the solution gets on your skin, rinse it off and neutralize the affected area with a weak acid such as diluted vinegar. Glass bottle with none metallic cap is best for long term storage.

The chalky white powder is for curing and must not be mixed with densifier. In a separate container, make a gallon or more of this curing solution using just about one teaspoon of chalky powder and tap water. Let the excess powder settle and use only the clear solution on top. Add more water to make more as needed.

Pre-treatment: with porous granite and concrete

- **Filling small holes:** if the granite is porous or tends to lose aggregates and leave holes on the surface, then pre-treat with densifier after polishing up to grit #200: clean the surface, use an old credit card to scrape some chalky powder into pores to fill them. Gently wet them with densifier solution and let them dry. These will be densified to become semi-transparent so add color if you want to.
- **Surface treatment:** let the surface dry completely, before spreading a layer of densifier onto the surface with a squeegee or sponge. When this layer gel up and has mostly dried out, spread the gel around, and then spread another layer of densifier onto the surface. Cover the surface with a plastic sheet and tape up the edges to let densifier soak in overnight or longer without drying out. Longer treatment yields denser thus shinier surface.
- When you are ready to continue, remove the plastic sheet, soak the surface with lot of water and scrape off any excess densifier. Let it dry and spray some curing solution on. Then continue polishing with higher grit.

Densifier treatment:

- One or more treatment is recommended after polishing with grit #800. Dry the surface completely and spread a layer of densifier onto the surface and let it soak. When this layer has almost dried out, squeegee any wet spots around to fill pores, then spread another layer of densifier on and cover with a plastic sheet to let the densifier soaks in without drying out. This treatment can go from overnight to days if necessary. Add more densifier as needed to keep a thin wet coat on top of the surface and give it time to soak in as well as react with the stone. This process will take as long as it take for cement to cure and harden so be patient.
- After treatment, soak with excess water and scrape off any excess densifier. Dry the surface and spray curing solution on, after this dry out, spray some more curing solution on and repeat a few times. Cover the top with a plastic sheet to hold in the moisture if you are not ready to continue polishing. Continue with higher grits.

Tips and tricks:

- Your densifier solution only reacts when it is wet, thus you want to keep the surface hydrated for as long as possible during treatments. This stuff forms concrete bonds with rocks, granite, concrete..., and the chalky curing compound, so it takes almost as long as cement to cure. It will also react with carbon dioxide in the air so covering with a plastic sheet (drop cloth) is the best way to let it soaks and cures. If the granite slab can soak water, it can be densified further. Densifier can also be used for sealing grout and other cement surfaces as well.
- Only the densifier that soak into the stone will do the work so you want the top surface to be completely dry before applying densifier. Use a hair dryer to blow dry if necessary. You can form a clear coat using both densifier and many rounds of curing compound, but that must be done over days. Uncured densifier on top will be plastic like so higher grit diamonds does not cut them well.
- Densifier solution can be used as a cleaner/sealer when wiping on the dry surface of a granite slab to seal it and keep it shining for years. A completely densified, sealed, and polished surface looks as if it is soaking wet.