

## WET/DRY DIAMOND POLISHING PADS SET OF 10+1+DENSIFIER/SEALER



The pads you have bought 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. **For best performance, use more water with lower grit pads, less and less to no water with higher grit.** When using a pad dry, move the polisher around to different area quicker to dissipate heat or polish intermittently. If there is resin burn you can file them off by wet polishing on concrete or ceramic surfaces. For

softer stone such as marble and travertine, file down all pads especially higher grits on harder surface such as concrete to get an even surface and expose the diamonds before using them.

Start by removing rough surfaces and edges with the grinding cup or grinding stone. Mount the cup to a grinder using the lock nuts that comes with the grinder. After smoothing out the surface you can start polishing.

These diamond polishing pads work with a Velcro holder most having 5/8-11 thread. This will fit any standard polishers and grinders 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.** If fixed speed grinder is all you have then you can hook it up in-line with a heavy duty dimmer switch to slow it down. Remember to plug into a GFCI protected plug whenever you use with water. Run the edge of the Velcro holder against the grinding stone to file off the extra Velcro tape and balance the Velcro holder.

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 such as filing down the surface but will remove material slower than the grinding cup. 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 or #400 if you don't want to remove the top layer. 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 the pad is done with an area.

Granite and concrete are porous so you may need to treat them with densifier to fill in those pores so they can be polished to a permanent shine. Densifier react with the stone to form real rock to fill those pores thus will also seal the surface. At least one densifier treatment is recommended after polishing with #400. Then after polishing with grit #1500 the surface has to shine and reflect otherwise it needs to be treated again.

After wet polishing with grit #1500, you will see the surface shines and reflects (without water). If not then the top surface isn't dense enough and densifier treatment is still needed.

### Tips and Tricks:

Clean the surface often to remove big diamond debris before moving to the next grit. Big diamonds can be embedded into higher grit pads and continue to scratch the surface if you don't remove them.

Run the higher grits #3000 and #10000 on rough surface to smooth them out first before using them for the first time especially on softer stone. This removes the top uneven layer of resin and expose the diamonds.

If you have big cracks and chips, the best way to fill them is to use epoxy glue mix with the coloring paste we supply to match the color of the slab to overfill the cracks and chips, and then polish them smooth.

## DENSIFIER USER GUIDE (1 pint: 2"x8" or 3"x5" bag ~10 Oz.)

1. One bag of granular crystal powder: **dissolve all this in high purity water to make 1 pint of densifier.**
2. One smaller bag of chalky powder: **use 1 teaspoon per gallon of cold tap water to cure the densifier.**

**Prepare Densifier** Dissolve the whole bag of densifier in the purest water you can find such as deionized water, or purified drinking water. Add about  $\frac{3}{4}$  pint initially, then add powder and stir to dissolve all the crystals then top it off to 1 pint total volume. This solution is caustic and best store in glass container such as glass bottles. Keep out of reach of children! **Wear gloves and eye protection when working with this solution!**

**Prepare Curing solution:** Put 1 teaspoon in a gallon size container and fill up with cold tap water. Shake well and then let the excess powder settle for 10 minutes. Collect the clear solution into a spray bottle for use.

### Densifier treatment:

- After polishing with grit #400, make sure there is no visible scratch mark left then dry and spray a layer of curing solution on and allow it to dry completely.
- Heat dry the surface by blow drying or exposing the surface to sunlight until it is hot. Always do this before applying the first layer of densifier (if you skim on this heat drying step you may find yourself having to repeat the whole densifying process again). Then spread a thin layer of densifier on by a squeegee or a paint brush.
- When the first layer of densifier is partially dry, use an old credit card or squeegee to spread the soapy puddle around to fill visible pores. Let it air dry to a smooth coat naturally.
- Spread a second layer on after the first layer has dried out. Squeegee it around to mix with the top of the first layer. Cover the surface with plastic drop cloth to keep it moist for as long as possible. Let it soak until the next day or next weekend before continuing. Add more densifier to wet any surface that has dried out.
- Remove the plastic cover, squeegee the surface flat, and then let it dry out.
- Spray excess amount of curing solution on. After about 10 minutes squeegee off the excess, then let the surface air dry. You should get a smooth surface, if not repeat this step until you do.
- Spray curing solution on again and let it air dry slowly. Repeat this process a few times until the surface no longer feels soapy when wet.
- Continue polishing with grit #800. When the surface is smooth, go to grit #1500. I recommend that you run grit #1500, #3000, #10000 on some other rough surface to smooth them out completely and expose the embedded diamonds evenly before using them for the first time.
- After polishing with #1500, the surface should shine and reflect. If not the top surface isn't dense enough yet.

### Tips and tricks:

- Avoid treating already smooth surface on prefabricated granite. Most of these surfaces especially from less expensive imported prefab have been treated with wax or acrylic wax so it will not soak densifier. Treatment may destroy some of the wax and make it worse. Treat only newly cut and polished area for these slabs. For scratches prefab, you'll most likely need to remove the top layer  $\frac{1}{64}$ " for densifier to work.
- The main goal of treating with densifier is to soak the densifier and cure component into the stone so that they react within and form stone particles to fill the pores thus making the top surface much denser. This is why it is very important to make the stone bone dry before adding densifier solution. Thus heat dry throughoutly.
- Densifier solution can also be used as a cleaner/sealer/protector so wipe a small amount on a dry surface occasionally and then wipe it off after 5 minutes with a damp rag.
- The curing powder can be used to fill tiny defects and then treated with densifier to become semi-transparent, but treatment will take a while and the treated areas need to be kept moist throughout the entire process.