DIAMOND PACIFIC
TOOL CORPORATION
2620 W Main St, Barstow CA 92311

(800)253-2954 Toll Free
(760)255-1030 Internation

Tumble Polishing Rocks in a Vibratory Tumbler (Wet Method)

Tumble polishing rocks is fun and easy, but there are certain guidelines to follow that will help insure success.

General Guidelines:

1. Follow the safety and operation instructions for your particular tumbler. You may find a difference in times and grit quantities between your tumbler's instructions and those following. Adjust as necessary.

2. Set up your tumbler on a firm, level surface, preferably in an area where the noise of the tumbling rocks will be less of a bother

3. Fill your tumbler bowl according to the machine's directions, generally about 2/3 to 3/4 full. Filling the bowl too full or not ful enough can prevent proper vibratory action and lead to damage of the bowl.

4. BE SPARING WITH WATER. Too much water stops the proper vibratory action and can cause damage to the tumbler bowl Also, too much water can leak through the center hole of some vibratory tumblers and damage the motor.

Preparation of Stones:

1. Remember, the finished product is determined as much by the quality of the rocks you use as by the polishing process. Some rocks will never attain a good polish no matter what you do to them. In general, stones that are 6 to 7 in hardness (such as agates and jaspers) will polish well. Use the scratch test listed on back of this page to determine the hardness of your material.

2. Vibratory tumblers are most successful on stones where the shape does not have to be changed a great deal, or a lot of surface material removed. You can use stones of slightly different hardness in the same load, but you will have greater success if you tumble together rocks of the same hardness.

3. Vary the size of your stones and include a few up to 1-1/2" in diameter (for a 4 to 5 lb bowl). Larger stones can be tumbled in the larger barrels, but use common sense. A load of large rocks will not create the proper vibratory action and can damage the bowl.

4. Wash your rocks in hot, sudsy water. Rinse them well and let them drain a bit. When the rocks are still damp but not dripping, put them in the tumbler. REMEMBER, BE SPARING WITH WATER.

Instructions for the Wet Method:

Note: The quantities of grit given below are for a 4 to 5 lb tumbler bowl. Adjust as necessary for larger or smaller tumblers.

Step 1 Coarse Grind (60/90 grit)

a. Put your damp rocks into the tumbler bowl and fill it to about 1/2 full. Turn on tumbler. MAKE CERTAIN YOUR HANDS ARE DRY BEFORE USING ANY ELECTRICAL CONNECTION.

b. Sprinkle in about 2 tablespoons of the coarse grit (60/90). Add enough ceramic media to bring load to about 2/3 full. The grit should cling to the rocks to work properly. If more water is needed, sprinkle it on sparingly. A spray bottle works well. Too much water will wash the grit off the rocks.

c. Check the tumbling action. The rocks should be vibrating in toward the center of the bowl and under, or rolling over, depending on your style of tumbler. If you are not getting the right tumbling action, you may have too much water in the load, the load may be too small or too large, or you may need a greater variance in the size of the rocks. You may also need to add a little water.

d. Replace the tumbler lid to prevent evaporation of water and to reduce the noise.

e. The coarse grind will be the longest and takes from 2 to 7 days. The load should be checked 2 to 3 times daily because of the build-up of mud (ground up rock and grit) which can cause the action of the tumbler to slow down. A small amount of water may be added to restore the action.

f. In this first step you are mostly trying to smooth the surfaces of the stones. When no further improvements result, wash and clean the rocks, ceramic media and bowl thoroughly. This step is very important as even one particle of grit left on a stone, or in the barrel, can scratch the finish of the finer grits DO NOT WASH WHERE THERE IS A DRAIN AS THE MUD AND GRIT CAN CLOG THE DRAIN. On a lawn is a good place for the washing process.

Step 2 Medium Grind (220 grit)

a. Return clean, damp stones and ceramic media to tumbler and turn on machine.

b. Sprinkle in about 2 tablespoons of the fine grind (220 grit). This step will take from 1 to 3 days. In this step you are trying to achieve a dull finish.

c. Follow the general instruction in "c" through "f" in step 1 above.

Step 3 Final Grind (600 grit)

a. Return clean, damp stones and ceramic media to tumbler and turn on machine.

b. Sprinkle in about 1 tablespoon pre-polish (600 grit). This step will take from 1 to 3 days. In this step you are trying to achieve a shine when the stones are wet.

c. Follow the general instruction in "c" through "f" in step 1 above.

Step 4 Pre Polish (Aluminum Oxide)

a. MAKE CERTAIN YOUR STONES AND BOWL ARE CLEAN OF ALL PREVIOUS GRIT. If possible, use a separate bowl for the polish step. Place clean stones and ceramic media in tumbler bowl. Turn on machine.

b. Sprinkle in about 1 tablespoon aluminum oxide. This step will take about 1 to 3 days. On stones of 7 in hardness, you will probably achieve a satisfactory polish, but for a really high polish, go to Step 5 when you are finished with Step 4.

c. Follow the general instruction in "c" through "f" in step 1 above.

Step 5 Final Polish

a. MAKE CERTAIN YOUR STONES AND BOWL ARE CLEAN OF ALL PREVIOUS GRIT. Add clean stones to the tumbler and add enough Ceramic Media to fill up the spaces between the stones. Turn on tumbler.

b. Sprinkle in about 1 tablespoon final polish. This step will take from 1 to 3 days and will put a high shine on most stones.

c. Follow the general instruction in "c" through "f" in step 1 above.

d. For a final clean up, you may wish to run the stones for a few hours in a solution of laundry detergent and enough water to make thick suds. This will clean off any remaining polish and do a final burnishing job on the stones.

The MOHS Scale

The MOHS Scale lists ten minerals according to relative hardness. The scale is gradusted from #1 (Talc, a very soft stone) through #10 (Diamond, the hardest stone).

1. Talc	6. Orthoclase
2. Gypsum	7. Quartz
3. Calcite	8. Topaz
4. Fluorite	9. Corundum
5. Apatite	10. Diamond

Scratch Test for Hardness

Use the simple field test below to identify the relative hardness of a stone. Stones in the range of 6 to 7.5 will usually polish well.

Fingernails scratch	2 to 2.5
Pennies scratch	3
Knife blades scratch	5.5
Window glass scratches	5.5
Steel files scratch	6.5
Garnet Scratches	7 to 7.5
Carborundum scratches	9.5

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