RTumbler, LLC

Professional Rock Polishing Instructions

Safety Warnings and Precautions:

Before operating your rotary tumbler, be sure to read and understand all of the manufactures warnings and operating procedures. Ensure your tumbler is in good working order, check for worn or damaged parts and replace or repair as needed. Follow manufacturer's operating guidelines for tumblers, use ANSI approved eye and respiratory protection. Do NOT dispose of the used grit down your drain, it will act like concrete in the u-bend, hardening and eventually causing costly repairs. Instead use a 1-gallon ice cream bucket with a kitchen strainer to wash the stones. Let it dry, and dispose of in your trash.

Rock Tumbling General Guidelines:

Tumbling stones is not an exact science, the information here is to be used as a starting point for tumbling. Adjusting the amount of grit, quantities of stones and tumbling times may be necessary to achieve your desired result. Keep notes of the modifications you use to tumble stones, they can be useful to help achieve future results.

Brief Overview of the Concept of Tumbling Stones

As you have already purchased your tumbler, you may or may not understand just how a stone transforms from a dull jagged rock into a smooth and brilliant specimen. The term tumbling is not an entirely accurate description of how the smoothing process works. Tumbling is defined as rolling end over end in a helpless manner. If a rotary tumbler just tossed the stones about, relying on contact with other stones for the smoothing process, the stones would fracture and would never shine. Two key factors are incorporated in rock polishing, the first you already know, since you are reading this, is the grit. The grit used in this kit is a synthetic, man-made material from silica sand and carbon and a naturally occurring material from Corundum. These grits have a Mohs hardness (a scale developed to organize different hardness of stones) of between 9-10. Most stones, not including precious stones (Diamonds, Rubies) have a Mohs hardness far below 9. The grit is essentially harder than the stones you want to polish, and it is able to chip away the stone to make it smooth.

The second important part of the polishing process is the tumbler barrel. In order to chip the material away from the stone, the grit has to make contact with it. Some chipping will occur from the grit washing up against the rock, but the majority of the chipping happens when the stone slides down the side of the curved wall of the barrel. As the stone slides, it makes contact with the harder grit and grinds away some of the stone. This happens over and over again thousands of times until a smooth stone is produced.

Basic Tumbling Instructions

1. Fill the barrel ½ to 3/4 full of like hardness stones. Add stage one (coarse grind, 60/90) in accordance with the chart. Add cool water just until it reaches the bottom of the top layer of stones, attach the lid. Run tumbler 24 hours a day for 7 days. On the seventh day, open tumbler and pull a few stones out, rinse and check for desired smoothness. Note: the stones will not be shiny, they will only shine after the final polish step, smoothness is referring to the lack of jagged or rough edges. If stones are not smooth enough, return them to the barrel, attach the lid and continue to tumble for up to 10 days, checking every day for desired results. When stones are smooth, remove stones from the slurry and wash with clean water in a kitchen colander, wash barrel and lid and discard used grit.

2. Return stones to clean barrel, add stage two (medium grind 120/220) in accordance with the chart. Add cool water just until it reaches the bottom of the top layer of stones, attach the lid. Run tumbler 24 hours a day for 7 days. On the seventh day, open tumbler and pull a few stones out, rinse and check for desired smoothness. Note: the stones will be slightly shiny when wet. Wash barrel and lid and discard used grit.
3. Return stones to a clean barrel, add third stage (pre-polish 500F) in accordance with the chart. Note: if the stones in the barrel no longer reach the ½ full mark, a buffering material should be used. Add plastic pellets (either brand new, or pellets that have only been used with 500F grit) until the barrel is ¾ full. If a buffering media is not available, either wait to tumble the stones until another batch of stones has been

   through the first two stages and can be combined, or continue with a normal tumble but add just enough water to the barrel and stones to reach the top of the second row of stones (just add less water, an ounce or two, compared to the previous steps). Attach lid and run tumbler 24 hours a day for 7 days, checking for

low luster when stones are dry every other day after the seventh day. Wash and separate stones from plastic pellets (let plastic pellets dry, and put in a zip lock bag and label bag for use with only 500F grit the next time you polish), wash barrel and lid and discard used grit.

4. Return stones to clean barrel, add fourth stage (polish, 1200 white fused) in accordance with the chart. Note: if the stones in the barrel no longer reach the ½ full mark, a buffering material should be used. Add plastic pellets (either brand new, or pellets that have only been used with 1200 grit) until the barrel is ¾ full. If a buffering media is not available, either wait to tumble the stones until another batch of stones has been through the first two stages and can be combined, or continue with a normal tumble but add just enough water to the barrel and stones to reach the top of the second row of stones (just add less water, an ounce or two, compared to the previous steps). Add cool water just until it reaches the bottom of the top layer of stones, attach the lid. Run tumbler 24 hours a day for 5 days. On the fifth day, open tumbler and pull a few stones out, rinse and check for a high gloss shine when dry. If stones are not shiny enough, return them to the barrel, attach the lid and continue to tumble for up to 10 days, checking every day for desired results. Wash and separate stones from plastic pellets (let plastic pellets dry, and put in a zip lock bag and label bag for use with only 1200 grit the next time you polish), wash barrel and lid and discard used grit.

5. This step is optional but can help remove residual polish from small cracks and voids in the stones. Return the stones to a clean barrel, and add about 6 tablespoons of powdered detergent, laundry soap works best. Avoid using powdered dish detergent, it can be to abrasive. Add water to the bottom of the top layer of stones, you may use plastic pellets, sawdust or other non-abrasive filler if desired. Attach lid and tumble for 24 hours. Remove stones and wash and let dry, wash barrel and lid, and enjoy your hard work.

Grit Usage Chart

The following chart is a recommended grit usage based on manufacturers specifications. Please note, the quantity has been adjusted from factory specs to account for the higher quality of grit included.

Tumbler Model	**60/90 First Stage** 1 ounce = 1 tablespoon	**120/220 Second Stage** 1 ounce = 1 tablespoon	**500F Third Stage** 1 ounce = 2 tablespoons	**1200 Fourth Stage** 1 ounce = 3 tablespoons
Chicago Electric 3 lb.	3 ounces	3 ounces	1.5 ounces	1.5 ounces
Chicago Elec. (2) 3 lb.	3 ounces per barrel	3 ounces per barrel	1.5 ounces per barrel	1.5 ounces per barrel
Thumler's 3 lb.	3 ounces	3 ounces	1.5 ounces	1.5 ounces
Thumler's (2) 3 lb.	3 ounces per barrel	3 ounces per barrel	1.5 ounces per barrel	1.5 ounces per barrel
Thumler's 9 lb.	6 ounces	6 ounces	3 ounces	3 ounces
Thumler's 12 lb.	12 ounces	12 ounces	6 ounces	6 ounces
Thumler's 15 lb.	16 ounces	16 ounces	8 ounces	8 ounces
Lortone 1.5 lb.	1.5 ounces per barrel	1.5 ounces per barrel	1 ounce per barrel	1 ounce per barrel
Lortone 3 lb.	3 ounces per barrel	3 ounces per barrel	1.5 ounces per barrel	1.5 ounces per barrel
Lortone 4 lb.	4 ounces	4 ounces	2 ounces	2 ounces
Lortone 6 lb.	6 ounces per barrel	6 ounces per barrel	3 ounces per barrel	3 ounces per barrel
Lortone 12 lb.	12 ounces per barrel	12 ounces per barrel	6 ounces per barrel	6 ounces per barrel
National Geographic 2lb	3 ounces	3 ounces	1.5 ounce	1.5 ounce
NSI,Nat.Geo, Smithsonian 1lb	1 ounce	1 ounce	.5 ounces	.5 ounces

Feel free to contact us at Rtumbler.com, or support@rtumbler.com with questions or more information.