

Rock Recipes from The Tarp

(This is slightly modified from a file posted to The Tarp)

In the knapping community there are several ways to heat treat stone. The following is a brief description of three of these cooking methods: abo techniques, use of a kiln, and use of a conventional roaster oven. Following this brief outline is a listing of various materials, as well as their cook and hold times. Enjoy!

Abo Style

The Abo way is in a pit, burying the spalls, bifaces and flakes under sand or dirt, from several to about six inches deep. A campfire is built. The next day the coals are scraped away from the surface and dried out soil is removed. The spalls or bifaces are layered in and the soil is replaced. Then the coals are placed back over and more fuel is added so that the coals remain for up to twelve hours. After a day or two the stone is dug up and checked to see if it has been heat treated to satisfaction. Temperatures range depending on stone thickness. A good place to start is that a 1" biface buried 1" gets about to 600 - 650 degrees. For each 1/2" deeper temperature drops 50 degrees. Thicker stone needs less heat, thinner stone needs more to reach the same 600 - 650 degree results. Don't discount the use of charcoal. It makes a great abo fire!

Kiln Cooking

Kiln cooking rock is the most predictable method, especially if you have a computerized control device as you have the most control. Ramp times vary depending on material. A general rule of thumb is to dry your rock out at 200° for 8 hours, then ramp-up in 50° increments (spalls and smaller stone) until you reach the desired temperature, then hold for the desired "soak" time. For larger stone reduce this ramp-up and down times as larger stone does not absorb the heat as quickly as smaller sizes.

Additionally, there are several varieties of stone that should also be ramped-up a bit slower: Harper, TX tabs, Rootbeer, Knife River, and Mozartkite(20-30° per hour), Frisco, Pedernales amoebas and some of the darker rocks should only be approached at 5° per hour. And it appears that ramp-down times are just as crucial as ramp-up times. In most cases 30° per hour is a good measure. Fuller kilns will ramp down slower than than emptier kilns. Also, one should test their rock to see if it cooks better in whole or slabs. Frisco, Montana agate, and Pedernales amoebas can only be cooked as THIN spalls or as slabs up to about 5/16 inch, while Burlington, Flint Ridge, Mozartkite, Knife River, and Kay County can easily be cooked whole. Care should be taken to assure yourself that there are not any enhydros (water pockets) in your rock as disastrous results can be obtained and you may have to hunt far and wide for your kiln lid or garage door! Doug Kries recommends ramping all rock up 5 degrees per hour and down 30 degrees per hour, except for Burlington, Flint Ridge, and Kay County.

Roaster Oven Cooking