

WATER PURIFICATION

USER'S GUIDE

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CONSTRUCTION

Ceramic Filter:

The ceramic filter needs to be constructed using red clay and sawdust. The mixture should be 50 percent red clay and 50 percent sawdust so that when fired the sawdust burns out and leaves a porous filter. Other than that the ceramic filter is molded or formed the same way as regular pottery in a size that will fit inside the upper container. The filter needs to be bowl shaped and approximately five gallons in volume. After the filter is fired and has drying time it needs to be soaked in water overnight then dried again before the colloidal silver can be applied. The filter can either be soaked in the colloidal silver or it can be painted on.



Colloidal Silver:

Colloidal silver can be bought from numerous suppliers or it can be made. It is easily made by running electric current through pure silver that is submerged in water. The silver ions are removed from the silver and suspended in the water. This water with the silver ions in it is what the filter either needs to be soaked in or painted with.

Upper and Lower Containers:

The upper and lower containers will be fairly similar to each other. They are both standard clay mixtures and one has to be able to sit on top of the other without sinking in. Both these containers need to be approximately five gallons in volume and should correspond with the filter itself. The top one should have a five inch or so hole in it for the water to drain through to the



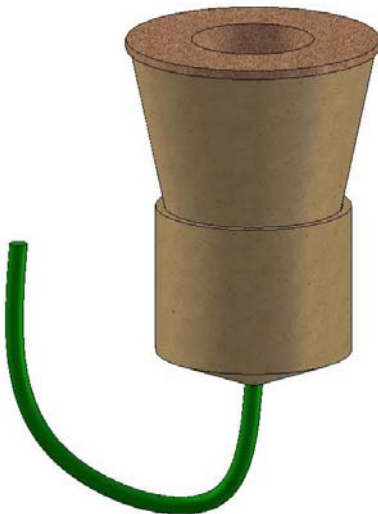
bottom container. The bottom container needs to have a hole that is the same size as the hose that will be used for retrieving the water. The hole should be centered on the bottom of the container and the container should have a cone shaped bottom so that the water drains completely into the hose for consumption.



Stand:

The whole system needs be suspended by a stand off the ground by some sort of stand. Constructed out of wood, plastic, or metal depending on what is available and inexpensive. The only restriction is that the hose can come out of the bottom of the filter without being constricted.

ASSEMBLY



In order to assemble the system it is easiest to start from the bottom and work your way up. So begin with the stand and place the bottom container on it. Attach the hose to the bottom and seal it with some sort of sealant to prevent leakage. On the top of that container place the upper container with the filter inside of it. On top of the upper container and ceramic filter there will be a cloth filter that will act as the initial filter for large debris. An old sheet or article of clothing works very well and is very cheap.

OPERATION

Pour contaminated water into top filter and container through the cloth filter. Within an hour one to two liters of purified potable water will be in the bottom container ready for consumption. Lower the hose below the bottom of the lower container to obtain water.

CLEANING AND MAINTANCE

As the filter is used, the pores become clogged with dirt and debris. A sign that The filter needs to be cleaned is a significant reduction in flow rate.

1. Be sure the filter is completely empty.
2. Wash your hands (with soap, if available)
3. Remove filter and place on clean plate (washed with filtered water)
4. Fill part way with filtered water
5. Scrub inside and out with a stiff laundry brush
 - Do not be concerned if clay comes off–this just means you are scrubbing well
6. Rinse until water is clear
 - NEVER use chlorinated water or soap in filter

Cloth can be replaced as needed. The upper and lower container should be fully washed with soap and rinsed on a monthly basis. Also, both containers and hose should be checked for leaks weekly. Filter needs to be replaced after 18 months.