

Home Made Berkey Water Filter

By: Daire

22 January 2008

I have a large family and our current home does not afford us much space for water storage. While we are able to store some, our contingency water plan centers around the two stormwater holding ponds near our home. However, this water is standing water that mainly is supplied by runoff from the parking lots of our townhouse complex. So, thorough filtering is required to remove the variety of contaminants that are likely present in the water.

The best option for this situation is the proven Berkey water filter. Berkey filters are gravity filters that use cleanable micro-permeable ceramic filter elements. These filters are extremely effective, long-lasting and require no electricity. The only drawback is that they are expensive, and money saved is money that can be spent on other preps. You can save about \$175-200 or more by making your own.

This article will guide you through the construction of a filter equivalent in performance to the Imperial Berkey that sells for about \$300. My total cost was \$122

Gather the necessary components. You will need the following:

- two 5-gallon food grade buckets (got mine from Lowes for \$5 each)
- two lids for the buckets (got mine from Lowes for \$1.50 each)
- a pair of Black Berkey filter elements (ordered mine on Ebay for \$99 which included free shipping and a free Sport Berkey filtered bottle)
- a food grade spigot (the kind used for large coffee pots or water coolers is perfect, ordered mine from jamesfilter.com for \$10)



Drill two 1/2" holes in the bottom of the upper bucket and two matching holes in the lid of the lower bucket.



Drill a 3/4" hole in the side of the lower bucket toward the bottom. Make sure that the hole is up just far enough for the spigot to clear when the filter is sitting on a flat surface



Assemble the lower bucket by installing the spigot and the lid with holes.



Install the filter elements in the upper bucket through the holes in the bottom.



Assemble the filter by placing the upper bucket on the lower. Be sure to line up the holes so the tubes extend through the lid of the lower bucket. Place the remaining lid on top.



To use the filter, fill the upper bucket with water and wait. If you are starting with dry elements, it will take quite a while before the water starts dripping into the lower bucket. It takes up to several hours for the clean water to drain into the lower bucket. This process can be sped up considerably by frequently topping off the water in the upper bucket. This maintains maximum pressure on the elements.

Notes:

- I had no scientific way to test the water quality; however, the filtered water was clear, had no odor, and tasted similar to distilled.
- The specifications of the Black Berkey elements can be found here: http://berkeywater.com/BerkeyLight/BB_Purification_Elements.html
- There are a number of ways to make this even cheaper: Use free buckets from a grocery store bakery or restaurant. I have found the same type of spigot for \$5 since making this one. Super Sterasyl elements can be substituted for the Black Berkey elements. They cost about \$84 a pair.
- The filter can be made considerably larger by using any two stacking containers suitable for water, trash cans or 30-gallon water barrels for instance. The flow rate can also be increased by adding more filter elements.
- The filtered solids remain on the outside of the filter elements and will eventually interfere with the rate of flow. Therefore, it is important to prefilter through a dense cloth (we use cloth diapers) if your source water is particularly cloudy. The elements can be scrubbed clean with a plastic scouring pad. The Black Berkey elements last for about 3000 gallons each (6000 gallons for the pair).

Daire

www.alpharubicon.com

All materials at this site not otherwise credited are Copyright © 1996 - 2008 Trip Williams. All rights reserved. May be reproduced for personal use only. Use of any material contained herein is subject to stated terms or written permission.