

CHLORINATION INSTRUCTIONS WATER WELLS 4" TO 5" DIAMETER

Chlorination is the process for disinfecting a well system in order to produce bacteriologically safe water.

When to chlorinate?

- During and after the well system is constructed
- Whenever the well is opened for repair or plumbing work is performed (example: pump or pressure tank replacement)
- To eliminate or reduce odor in the water
- Whenever a bacteria sample shows an unsafe result

Who should chlorinate the well?

- It is standard practice for the well contractor to chlorinate new and repaired wells. It may be up to the owner of the well to collect water samples for testing and to pay for additional chlorinations, should they be necessary.
- Homeowners chlorinating a new well should first check with the well contractor to see if it effects the warranty on their system.
- Mechanically able homeowners should be able to chlorinate their own 4" or 5" diameter well, providing they know how the well works and are aware of potential problems.

Potential problems when chlorinating a well:

- Removal of the well cap will expose electrical wiring, which then allows the potential for electrical shock or injury.
- Certain well caps (e.g. Flow Rite, characterized by a bolt in the center of the well cap), when removed, will break the connection of the drop pipe to the pitless adaptor, causing a loss of water pressure. Wells having draw down seals, sealed spools, or wells that are classified as flowing wells are difficult to chlorinate. Contact your well contractor to chlorinate in these cases.
- When pouring the bleach (chlorine) and water solution into the well casing, beware: scale may break off of the inner wall of the casing and become lodged in the impellers of the pump, causing it to fail, or plug the well screen, plumbing pipes, and water conditioner. Precipitate of iron from the well water could occur, resulting in similar problems.

Procedure:

First: Inspect the well system for defects that may be causing the bacterial problems and make necessary repairs. See our helpful inspection guide. Also, additional samples may need to be collected before and after your water treatment equipment to determine the problem area.

1. Prepare chlorine solution. Chlorine can be obtained as household bleach (purchase the unscented variety) containing 5.25% chlorine or as a solid granular material containing calcium hypochlorite which is about 65% chlorine (trade name HTH – usually available at hardware stores). Granular chlorine works best and is recommended.

1 gallon bleach yields 0.42 lbs chlorine

1 lb calcium hypochlorite 0.65 lbs chlorine

The following amounts are suggested:

Dept of Water In Well	4" to 5" Old Well (>5 yrs)		4" to 5" New Well	
	Bleach	Calcium Hypochlorite	Bleach	Calcium Hypochlorite
50'	.25 gal	2.5 oz	½ gal	5 oz
100'	.50 gal	5 oz	1 gal	10 oz
150'	.75 gal	7.5 oz	1 ½ gal	15 oz
Chlorine concentration produced			250 ppm	
			500 ppm	

- Mix the chlorine in a bucket of tap water. Use a clean bucket. Prepare a 2nd bucket of water for rinsing consisting of tap water and a tablespoon of bleach.
- Place treatment equipment (water softener, iron removal system, R/O unit, etc.) on by pass.
- Shut off power to pump
- Remove well cap. Normally there are 2 to 4 bolts holding the cap in place.
- Looking down the well with the cap removed you should see a center pipe of approximately 1" diameter called the drop pipe. Pour the chlorine solution between this pipe and the outer well casing: DO NOT pour the solution on the electrical wire connection or down inside the drop pipe.

OPTIONAL STEP (Provides a more aggressive treatment): Connect a clean hose to your outside hose bib, and run hose into the top of the well past the electrical splice. Turn power to pump back on. Open hose bib to circulate water down the well for about 30 minutes. Remove hose.

- Pour the bucket of rinse water down the well. Replace well cap. Turn power to pump back on if you haven't already. Turn on tap (s) inside the home and let run until you can smell chlorine, then shut off, and let sit overnight.
- The next day, run an outside hose at full flow for about 1 hour. Most of the chlorine should now be reduced low enough to where you can place your water softener back on line. Open the inside taps and continue running the outside hose to further flush chlorine out of the system. Most steel wells should be flushed free of chlorine after 2 hours. PVC wells may take longer – several hours.

Note: Wait a day or two after flushing all the chlorine from the system before collecting a sample to allow the water to stabilize.

- Collect a water sample for coliform (bacteria) analysis from a raw water tap to determine whether the chlorination procedure was successful. Follow proper sampling instructions! Once a safe raw water sample is obtained, collect a sample after your treatment equipment for comparison.

DISINFECTING SMALL AMOUNTS OF WELL WATER FOR DRINKING AND COOKING

- Boil water for five minutes to make it safe. To remove the "flat" taste from the boiled water, cool; and then pour it back and forth between two clean receptacles several times to permit the water to pick up carbon dioxide from the air.

OR

- Add 3 drops of any of the common liquid laundry bleaches to each gallon of clear well water and let sit for 30 minutes. Continue these precautionary measures until the well water is proven bacteriologically safe.