

Tire Tank installation guidelines:

(prepared by Herschel George - K-State watershed specialist)

1. **Choose size of tire and type of opening.**
 - Small circles for drinking
 - Whole tire
 - Half tire

2. **Cut tire opening.**
 - Tools
 - Tire chalk
 - Drill with large twist drill bit (may hit wire)
 - Reciprocating saw with metal cutting blade with 6 to 8 tpi (teeth per inch).
 - Special cleaning and lubricating fluid
 - Mark the desired cut line with tire chalk
 - Cut tire and remove the center

3. **Select site for tank.**
 - Needs a minimum of about 2 psi (4 ft) difference between water level in pond and top of water in full tank
 - Ideal to have overflow line that drains to daylight

4. **Plumb water lines to and from proposed site.**
 - Ideal to have 1 ½ or 2 inch waterline to and from the tank
 - Ideal to have flexible connector on both incoming and outgoing lines
 - Ideal to have Brass (or Galvanized) line coming into tank to connect to float valve
 - Plumb intake line so bottom of threads on the metal pipe is even with top of concrete line (top of bead inside the tank).
 - Lightly thread a female connector onto the top of the pipe with a 1 ft or longer piece of pipe in it to prevent concrete from getting into the pipe or threads and to allow you to maintain as vertical as possible pipe placement. Do not glue these pieces; they will be removed when concrete is cured.
 - Plumb the drain and overflow so the top of the collar connector is installed to be just flush with the top of the concrete (top of bead inside of the tank).
 - Lightly place a 1 ft or longer piece of spare pipe into connector, but do not glue it! This is to protect the pipe from being filled with concrete and to allow you to maintain the pipe as vertical as possible. This will be removed after the concrete in cured.

5. **Firm, tamp and fill center of tank** so there are 4 to 6 inches of space left for the concrete. There can be greater space, but it requires more concrete.

6. **Level and set tire into site.**
 - Ideal to have tire into ground at least a few inches
 - Ideal to have geotextile around the tank to extend the life of the gravel from sinking into mud
 - Firm and tamp the gravel base under tank.
 - Level tank using a tube level.
 - Install reinforcing rod or wire into the space for the concrete.

7. **Install a bead of silicone** onto the center of the bead that will be in the concrete.
 - Install a bead of silicon onto the incoming and outgoing lines about 2 inches down from the top of concrete line.
 - An optional 2nd bead of silicon can be installed about 4 inches from the top of the concrete line (top of tire bead inside the tank).

8. **Mix the concrete for the tank.**

Tire tank concrete mixture tips from Herschel George: I have been using bagged concrete mix with additions. I add a bit of Portland cement to the mixture to make it a bit richer and stronger. I also add a bit of “fiber” to the mixture. It helps to maintain the material from cracking apart. (Some tell me this is unnecessary, but for the cost it makes me feel better. Fiber adds about \$5.00 to the cost of a yard of concrete.) It takes about 4 or 5 bags to do the tires I am demonstrating on today (5 ft diameter with 24 inch bead).

 - Mix the concrete mixture (with additives) for the tire.
 - Place concrete into the center through the bead opening only.
 - Work the concrete under the tire as best as you can. You may need a trowel and a sledge hammer to make the concrete move under the tire well.
 - Make sure the pipes are straight. Make sure the reinforcing rod is in place.
 - Continue pouring concrete until area below the tire is full up to the top of the bead. Trowel the area. You can have a ½ inch of crown to the concrete if you desire. Check the level of the bottom of the threads and the top of the drain collar to make sure they are at the desired depths.

9. **Run water into the tire outside the concrete area** until the water softly flows across the concrete and covers the concrete by 2 inches.
 - Leave the project (with the water on the top of the concrete!).
 - Clean all tools.

10. **After the concrete cures** (ideally 3 weeks or so), you can install the water level valve with float.
 - Consider the refill rate of the tank when selecting a valve. Small valves cost less but may have slow flow or refill rates.
 - Tanks installed using gravity flow from a pond may have very low pressure, select the valve accordingly.
 - The valve I often show is from: Watson Manufacturing Inc., Stock Water Control Products, P.O. Box 397, Morrill, NE 69358, 1-800-292-2987, 1-308-247-2281
 - <http://floatvalveusa.com/index.html>
 - HG - I recommend installing a “Break-a-way” connection below the valve to protect the metal pipe threads and valve in case your neighbor’s ornery cow tries to take a bath in the tank.
 - HG - I recommend, where possible, installing a winter minimum continuous flow valve to prevent freezing and an overflow line.
 - Set the float level for the desired water level.

11. **Place additional gravel** to the sides of the tank, leaving at least 1 ½ ft of tank showing above the finished gravel layer.

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