Several months ago (before I knew about this site), I got back into the hobby of fishkeeping after taking several years off. I made the common beginners mistake of putting two Oscars plus other tankmates in a tank that was far too small. 29 gallons to be exact. No one at the LFS mentioned how big they got. When I found this site, I realized that I had a problem on my hands. My wife and I proceeded to look for a large tank to hold the two Oscars, plus several tankmates. Not wanting to spend 1000 bucks on a tank and stand, I did some research on DIY fishtanks and decided to build my own.

I cannot take credit for coming up with the plans to build this, but I did make some modifications to the original plans that I found at garf.org.

Lets get something straight, I am not a person who has had a lot of experience with building things. My wife and I have made some basic renovations to our home, but that was the extent of my carpentry experience before starting this project. I started the project on December 4th of last year and it took exactly one month to complete. The finishing touches with the trim and exterior of the tank are not done yet, but will be once the weather starts warming up.

Anyway, I went to the hardware store and asked them to cut two sheets of exterior grade plywood for the bottom back and two sides of the tank. The tank dimentions were originally 66”x36”x32”, but had to be modified later on (I will get to that story in a minute). The man who cut the wood accidentally cut one to the wrong size, but I bought it anyway to make a double bottom and the extra scrap came in handy later on.

- Dimentions for the 3/4” thick plywood were:
- Bottom - 32”x66”
- Both sides - 35 1/4”x30 1/2”
- Back - 35 1/4” x 66”
- Frame for the front (4 pieces) 1 - 66”x3”, 1 - 66”x2”1/4, 2- 30”x3”

After getting the plywood home, I proceeded to attatch the back and the two sides to the bottom. Using 3” drywall screws every three inches along with liquid nails for the seams, I proceeded to finish this task. The wood box was actually starting to resemble something. The garf plans are very specific on what order everything needs to be attached. Before putting the front frame on, I decided I should measure the space that I was putting it in the wall again. The tank is in a wall in my basement that separates the family room from the utility room. I planned it this way so I could have access to the tank from the room behind the family room. There are two large steel beams that go from the concrete floor to the main support beam, so I only had a few inches on either side of the tank to fit this in. My measurements for the tank area were correct… BUT… I din't realize that the tank would be too wide to fit down the stairs. The tank was 32” and the staircare was literally 1/8” to small. Since I did not have the front frame on yet, I carefully cut one inch off the front of the tank and attached the frame.

Now it was time to epoxy the inside of the tank. This is by far the most important part of building your own tank. You need to find a two part epoxy paint that is NSF 61 certified and rated for potable water storage. Being rather ignorant, i thought this type of paint would be easy to find at Lowes or Home Depot, but boy was I wrong. After a couple days of calling paint stores, I was finally able to find a store that would sell me a one gallon kit. Since this is considered an industrial paint, so most places would only sell it in 5 gallon kits. One gallon was almost 70 dollars, so you can imagine how much 5 gallons would be. Luckily, the paint that I bought could be applied in temperatures down to zero degrees F. the paint fumes are very toxic before it is cured and I recommend that anyone who tries this project apply the paint outside AND use a respirator. Being that I live in upstate NY, the fact that I could apply the paint in such cold temps was a godsend. I was lucky that it was 15 degrees the day that I put the paint on. The lower the temp, however, the longer it takes the paint to cure. I could write another article on the painting process itself, but I will save that for a later time.

After all day of painting, I used up the entire gallon kit with several coats. I was not able to wait for one coat to dry before applying the next, because it was so cold outside and the paint takes so long to cure (not thinking, I mixed the whole one gallon kit instead of just a portion and therefore could not save any for later because once the two parts are mixed, like any epoxy, they will harden). Being that it was so cold, I waited almost ten days before I attached the glass. I used 1/2 inch tempered glass from my local glass shop for the front. Measurements for the glass were 64”x34”. This was the most expensive part of the project (almost half the cost of the entire project). I carefully moved the tank without the glass into the family room in the basement before installing the glass. Even after cutting an inch off the front, it was still a tight fit down the staircase. With the help of a close friend, I siliconed the inside of the front frame. It took almost 4 whole tubes of aquarium silicon to do this. We laid the tank with the front part face down on the ground and carefully lowered the glass into place. We then wiped down as much of the excess silicon that we could ithout disturbing anything. I emptied both my bookshelves in the basement to weigh down the glass with books and let it sit like that for five days.

After the five days, I tipped the tank upright and siliconed all the inside seams of the tank and let it sit for five more days. After a quick recheck of the inside seams to make sure that I did not miss anything, the tank was ready to test.

Having discussed the process so far, I will share a couple of modifications that I made to the garf plans. When you see thie pics, you will see shelves in both the back corners of the tank. Since the tank was so tall, I decided that this would offer a little more support. the shelves are screwed and glued from both the sides and the back of the tank. I wanted there to be as little bow as possible in the walls of the tank. On the lower shelf on the right, I have leaned rocks up against it and made a cave. The shelf on the left side, I added plants and rocks. It makes the landscape a little more interesting with the multiple layers of the shelves. One other modification was to use three top braces instead of one for more extra support. The garf plans said to sand the epoxy smooth once it was cured. I really liked the textured look, so I did not sand it smooth.

After drinking a six pack on a Tuesday night, I decided to give it a whirl and fill er up. I was amazed to find that it did not leak a drop. I left the water in it for several days before draing and putting it in the wall. The stand that the tanks sits on is made from three columns of cinder blocks with a plywood platform framed with 2×4's The blocks cost about 75 dollars and the platform that sits on top of the blocks is made from the 2×4's that were cut out of the wall that we put the tank in. I figured to get the tank level, I would be easier to shim the platform without the tank on it first rather than trying to shim the tank itself. Minor electrical work was done to reroute wires that were traveling through the wall that the tank is in.

After a month of construction, four of us lifted the decorated tank onto the platform and flush against the frame in the wall. Did a fishless cycle in record time with used filter media and bio-spira.

Looking back, there are a few things that I would have done different with this project, but overall I am very satisfied with my new tank. As far as longevity, we will see. If something happens to the tank, I will be OK as long as I can save the glass. Even if it only lasts a few years, this was a very fun project, and building another tank would not be difficult at all.

I will be making a modification for a wet/dry system that will involve drilling a hole for PVC through the back of the tank. This should not be a problem since I will be drilling through the wood near the top of the tank. Other than that, and the cosmetic work that needs to be done outside the tank, My project was done in less time than I expected and cost a lot less than I thought it would.

Here is the cost breakdown:

- 3 sheets 4'x8' 3/4” exterior grade plywood - $70
- 1 piece of 1/2” tempered glass 64”x34” - $220
- 1 case of aquarium silicon - $30
- One gallon of two part epoxy paint - $68
- Screws and Liquid nails $15
- 45 cinder blocks for the stand - $75
- 3 2×4's - $11

- Total $479

By the way, we figured out that when full, the weight of the tank, water, gravel and rocks WITHOUT the cinder blocks weighs more than my wife's Volkswagon. If you try this, I highly recommend that it be on a concrete floor.

Here is the link for the pics: http://share.shutterfly.com/action/slideshow?a=67b0de21b3369601e40d&sid=8EZtWbdm2aMTS&auto=1&idx=-1&m=1&d=1140753203173

Take care, dogg

- *Submitted by Sensdogg*