

SAND CASTING LEAD SURF FISHING WEIGHTS

1. A Brief Description Of Simple Sand Casting Process

I have been surf fishing since the early 1960's. Back then if you wanted more than an egg sinker to fish with you had to make it yourself. We found out that you could cast your own sinker in sand.

Simple Sand casting is a very simple process that has been around for 1000s of years. Basically you take a container of slightly damp sand and press a model of an item into the damp sand. Then you remove the model from the sand and pour molten metal into the impression that was left in the sand by model. When the metal has become solid again, the reproduction of the model can be removed from the sand.

Of course this simple method can only be applied to shapes such as pyramids, cones, and half spheres. But these shapes are ideal for surf sinkers. More complex shapes require two piece mold and we will not address that here.

2. Sand Casting Warnings

However before I get into the process of sand casting too much, I have to give warnings about this process. The danger in sand casting comes from the fact that you are pouring a molten metal hotter than the boiling point of water into a slightly damp sand mold. When the molten metal comes in contact with the damp sand, it causes the moisture in the sand to expand rapidly as steam. Now if the process is done properly, the spaces between the grains of sand will direct this steam thru the sand and away from the molten metal. But if your sand is too moist, the spaces between the grains of sand will be filled with water. This blocks the steam trying to escape and forces it thru the molten metal that was poured in the mold. This results in a violent explosion of molten metal which at best can burn you, and at worst even blind you and burn your house down.

I will tell you how to properly prepare your sand for casting, but you must be understand that there dangers involved in this process if not done correctly.

Also realized that lead vapors from molten lead are not a good thing for the body or the mind. Please do your casting outside and avoid breathing any vapors from the molten lead!

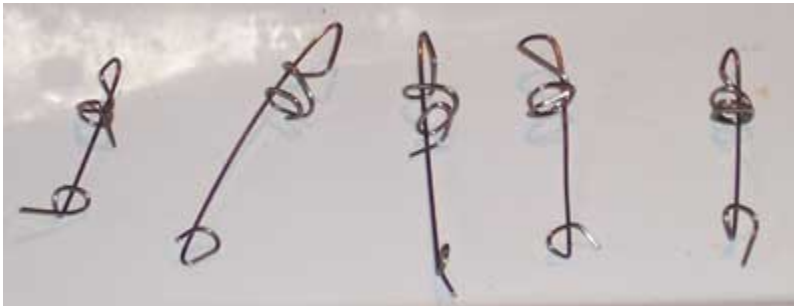
3. Tools

At a minimum, you need the following tools and items:

- A heavy pair of leather gloves for protection of you hands
- A pair of safety glasses or better yet a full face shield
- A pair of pliers to handle items that are too hot to touch
- A lead melting pot
- A metal ladle to dip the molten metal and pour it into your mold
- A metal container to hold your damp sand as a mold.
- A large shallow container to mix and dampen your sand
- A small hand sprayer to spray water to dampen the sand
- A small bucket of water for cooling hot items

4. Hardware Preparation

You will need to have any hardware prepared that you are going to use during casting process. This includes the items like metal eyes or other devices to attach onto the sinker so you can attach your fishing line to the sinker. Most people use a standard eye on their sinkers but I have a fishing system that uses a Hawaiian pig tail (shown below) to attach the end loop of my double dropper fishing rigs.



5. Sand And It Preparation For Casting

This is the most important step in the whole process. I use triple washed construction sand like is used by brick mason for their mortar. I always start with dry sand. (What do I mean by dry sand? If you take a handful of sand and make a fist then open you hand, if the sand does not hold its shape it is considered dry.)

Place your dry sand in a shallow mixing container. The object here is to slowly add a little water by spraying a mist on the sand, mix the sand completely, then test the sand again. You want just enough water to wet even grain of sand yet not enough water so that it occupies the space between the grains of sand. When you have added enough

water, the sand will hold its shape after you open your fist after squeezing the sand. If the sand is dry, spray a little more water on it, mix and test again. Repeat until your sand passes the fist test.

When the sand is damp, place the sand in the mold container and tamp down.

Below is pictured a shallow dish and sprayer I use to mix my sand



6. Making Model Impression

After you have prepared your sand, now all you have to do is take your model sinker and press into the sand, then remove it. Shown below is an old brass plumb bob that I use as a model to make my sinkers by pressing into my damp sand in an old coffee can



I can cast five sinkers at a time using this can.

7. Pouring the Lead

Now with your mold ready all you have to do is pour the molten lead and fill the impressions left in the sand by your model. I personally use a small cast iron ladle in which I melt the lead with a small gas torch. This way I have the right amount of lead I want to pour for each sinker.



If you have a lead melting pot just dip your lead out with your ladle and fill your mold.

I pour the lead from my ladle and before it solidifies I place the pig tail down into the molten lead and hold in place until the sinker is solid, which isn't long. Below is pictured an alternate method of suspending the pigtail from a metal rod over the impression left by the model then the lead is poured into the impression.

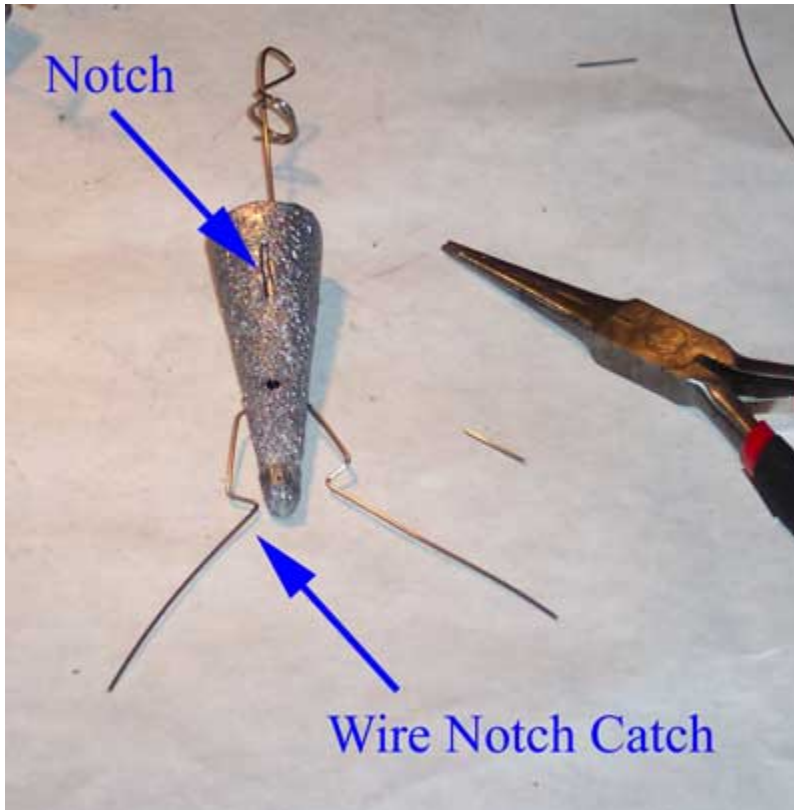


8. Finishing Sinkers

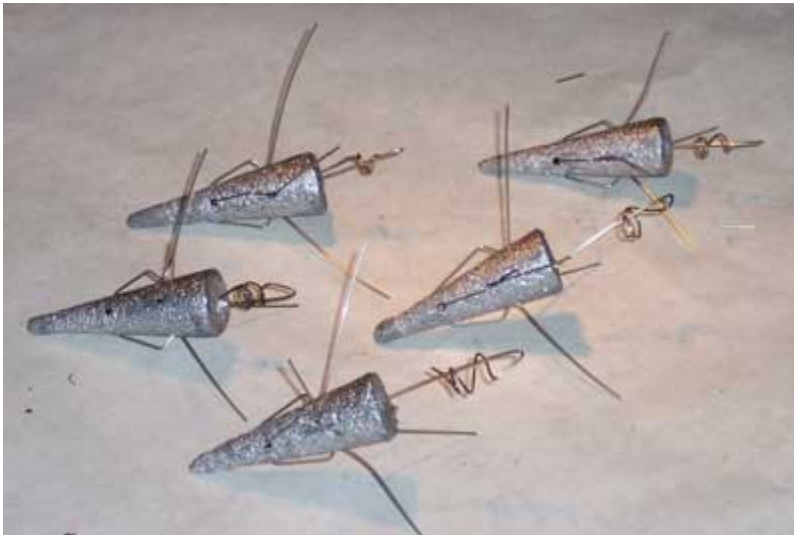
After the sinkers have solidified, they can be removed from the sand with pliers and placed in a bucket of water to cool. This also removes any sand from the sides of the sinkers.



Now for the sinkers that I sand cast, I add “breakaway” style wires for more holding power. This is done by cutting four equally spaced notches with a Dremmel Tool and also drill a 3/32 inch holes thru the sinkers just below the notches. (A note of drilling holes in lead: the best method I have found is to dip the drill bit in 140w oil before drilling, otherwise if you drill with a dry bit, it will seize and break off in the lead)



I can then take lengths of 1/16 wire, place thru the drilled holes and shape them so that the wire will catch in the notches above the holes.



After I am done, I let my sand dry then store it for the next time I need to sand cast some sinkers.