

Working with pewter in woodturning

Pewter is an alloy consisting mostly of tin which has been mixed with small amounts of other metals such as copper, lead or antimony to harden it and make it more durable. Antimony is a brittle silvery-white semimetal. It is a chemical element with symbol Sb (from Latin: *stibium*) and atomic number 51. A lustrous grey metalloid, it is found in nature mainly as the sulphide mineral stibnite (Sb_2S_3).

Reclaimed pewter, from old tankards and such like contain higher levels of lead than the modern pewter and so every care should be taken not to breath in the fumes and barrier methods should be adopted to prevent absorption of lead through the skin.

When melting down pewter PPE should be used, so gauntlets to prevent burning fingers and hands, and a full face shield to guard against splashes of molten metal in the face and eyes. Full length sleeves should be worn fastened at the cuff and long trousers should also be worn. Shorts or skirts leave too much unprotected skin exposed to hot splashes. Stout footwear should be used and the floor area should be clear of all trip hazards and the work area should be well ordered. I always have a bucket of cold water on hand just in case I spill a drop on my clothing; pewter remains hot for a very long time.

When melting down old pewter it pays to remove the scum from the molten surface. This is oxidised pewter and better results are obtained if the molten pewter is not contaminated by any unwanted element. Be careful not to boil the pewter, it has a low melting point around 170–230 °C depending on the make-up and mix of the metals. You cannot make a successful casting with boiling liquid pewter, it is grainy when it cools off and is very weak and brittle; it is also very difficult to turn and get a good finish. I cast the newly melted pewter into aluminium cake tins first so as to have a convenient size of clean pewter for the final casting. Be careful to prevent splashes occurring when putting these “cakes” in the electric crucible.

When casting the pewter into wooden moulds ensure that the moulds are moisture free so as to prevent the moisture turning to steam and causing the molten pewter to erupt like a volcano. Only cast into moulds that are robust enough to withstand the heat and weight of the pewter and do not attempt to move the mould until the pour has solidified. It will remain hot for a very long time. I only melt pewter outdoors so as to reduce the risk of fumes but do not do this if there’s any risk of rain or moisture in liquid form of any sort falling into the crucible. This will cause the crucible to “explode” spreading molten pewter for many feet around.

When pouring molten pewter the mould should be level so as to aid an even flow. Try to cast in the mould in one steady, continuous pour. This will yield the best results. The safest method is to use an electric crucible thereby reducing the risk of moving hot, molten metal. Take your time and make sure that everything you need is ready before you start.

Turning pewter on a wood lathe

The clean pewter is now re-melted in an electric crucible and poured carefully into a mould that is clean and dry, and level. It needs to be level to ensure an even flow of molten metal and to maintain an even thickness. Do not be tempted to move the mould with hot pewter still in it, it is still hot enough to burn you if you are not careful. An even fill gives added benefits when you come to turn it as uneven pours will not be balanced.

Speaking from experience, it is not a good idea to start turning the pewter until it has fully cooled down as the shavings are hot too especially on a bald head!! Once the cast pewter has cooled I dribble super glue in between the pewter and mould just to be safe when turning. Mount the mould on the lathe and start at a slow speed just as you do when turning wood, the difference here though is pewter has no grain so therefore you can cut "uphill" if needed.

I have made some side and end scrapers that work very well to cut and shape but I have also successfully use a spindle detail gouge . Be aware that the shavings coming off are reusable so working clean is a good idea. You should also be aware of the dust that can come off, you do not want to breathe that in or get it in your eyes. PPE is a must all the time when working with pewter and I recommend using a full face shield when turning.

Some tools will perform better than others so I suggest trying different tools at different speeds but just be careful to avoid a snatch as they are a bit different to those you will experience with wood. The other thing to avoid is running your fingers over the rotating pewter as the sharp edges will inflict severe cuts.

Polish with wet and dry and apply a lacquer or wax polish to prevent the surface from oxidising. The surface can be decorated just as wood can with revolving type cutters or even a chatter tool.