

1. Two years ago I bought a stick of pewter alloy from Simon Hope after watching him do a demo with pewter. This is the stick cut up - I used the bandsaw without any problems. You can buy it from him (www.hopepipes.co.uk) or Trylon (www.trylon.co.uk).

As the club competition this month was a box with a non wood component, I decided create a pewter insert and thread it to join the two parts together.

2. Firstly, I drilled two chucking points in some scrap softwood. In retrospect I should have done this by fixing to a faceplate and then creating them in the normal way making sure the bottom was square, as when they were remounted after casting they didn't run as true as they could have done.

3. I fixed each blank to the lathe and formed a ring mold for the pewter using a parting tool.

4. Now I had planned to use an old camping stove and calor gas outside to melt the pewter. But having assembled it in the morning and checked the gas was OK, I didn't turn it off properly so later in the day of course it was empty! Anyway, Mrs A was out so I used the cooker inside. I didn't use her best pan though! This is a £2 pan I got from our local In Store shop. Here you can see that the sticks have started to melt - it took a while and I think I should have cut them into smaller pieces (and not used quite as much!

5. I covered the kitchen side with a big piece of MDF (just in case!) and poured the molten pewter into the mold. Make sure you are wearing safety specs as it can spit if there is any moisture in the mold.

6. When it had set, which doesn't take long, a few minutes, but it does stay hot much longer, I remounted it on the lathe and turned away the waste so the casting came away easily. Just do this a bit at a time as you don't want it flying around the workshop! Remember as it cools it will contract so if you want to do some forming while it's in the mold make sure you run some superglue around the join first. If you were making a ring for a bowl for example then you would do some of the turning whilst the casting was in the mold.

7. So here they are separated from the mold.

8. I put the insert straight into the chuck jaws ready to turn. You can also see the prepared box blank as well.

9. I faced it off using a scraper in shearing mode and you can see the "shaving" you get. This swarf is very soft and you can collect it up and save it for re-use (see step 15).

I found it works with most lathe speeds but about 600 - 100 seems about right. I also discovered later in the process that when cutting shoulders and threads a little lubrication helped. I actually have some cutting fluid which works really well but 3 in 1 also worked.

10. Here it is ready for the female thread to be chased. I did this in exactly the same way as I would for wood.

11. Here's the result. Polish with 0000 wire wool.

12. I mounted the other piece, trimmed it up and chased the male thread as per usual. One handy thing with pewter is if you need to reduce the diameter and re-cut the thread you don't have to change the speed it cuts fine at 350 - 450 rpm.

13. Once the male threads were cut I fitted the female and cut the shoulder. They get quite hot and you have to let them cool down before they will separate.
Here's the two pieces.

14. And they fit!

15. All the swarf and the remains of the pewter (lots!) in the pan

16. I turned out the lid and fitted the ring. I used medium superglue, I would have used the thick stuff but I didn't have any. Then I ran some thin around the join at the back of the ring. A quick spray with accelerator and I was able to skim off the face and edge and cut a small chamfer on the edge. Looks like a whisper of swarf there which I took away afterwards.

17. The next task nearly went very, very wrong! I screwed bottom into the top and proceeded to cut the shoulder and face off the front which all went well as you can see. Then I tried to unscrew it! It was stuck as the forces of turning had locked it together. I had to very carefully fix my molegrips onto it to get enough leverage to release it. Fortunately it worked. Next time I'll put a slip of paper or thin card in between the two to stop that happening. I thought it had just expanded at first and then realised it was more serious - I was a lucky boy at this stage!

18. Here's the male part fitted. One thing to note here is grain alignment. I made sure the insert fitted the base (having hollowed it first). Then I fitted the male to the female, applied glue and then twisted the male into the base until the grain aligned. I let it set and then ran thin superglue between the box and the insert in the same way as I did for the female part.

19. After that it's a simple box turning exercise. Here's a view of both parts finished.

20. Here it is finished.

(Note to self - must get to grips with adjusting the white balance on the camera).

I'm pleased with the insert and learned a lot about the process: a little pewter goes a long way; smaller pieces would melt faster; you need to clean all the swarf out of your chuck (which means dismantling the Supernova chuck; using a little cutting oil makes the cutting process easier; if you fix one to another make sure you put a slip of paper between them so they don't get stuck.

As far as the box goes the usual turning rules apply: take care to match the grain; get the proportions right, the lid on this box is a bit big for the body; when you sand be careful as it is very easy to get pewter deposits on the timber which makes a nasty grey line!

It's great fun and very pleasing when you've had success. Similar techniques could be used for inserts in boxes, tops for hollow forms and rims for bowls.

Take care because it's very hot, even when it's gone from liquid to solid.

By the way it got 1st place in the competition.