

## Exploring inserts in woodturned objects – Walt Wager

I titled this article exploring because while I love messing around with different ways to embellish woodturnings, I don't consider myself an expert at it. I am learning as I go, but I am happy to share what I have learned.

Very simply an insert or inlay is something that is added to a turned object. This might be another piece of wood, ceramic or minerals, colored material, or any number of other materials. In this article I will describe a few ways I make inserts as embellishment to bowls and platters.

The easiest inserts are those made to flat (horizontal) surfaces, like platter rims and the top edge of bowls. Here the inserts can be glued or epoxied into channels turned into the turned pieces. Photo 1 shows a coaster where a groove was turned close to the rim and filled with abalone shell then over-filled with resin.



photo 1

Coasters are good projects to practice on. You can see what the results will look like without investing a lot of time and materials.

For the coasters I cut a groove about  $\frac{1}{2}$ " inch wide and  $\frac{1}{8}$ " deep next to the outer rim of the coaster (photo 2a).

Need photo 2a here ....

Next, I coat the groove with a base color that will complement the inlay material. In this case I am using black acrylic paint (photo 2b).



photo 2b



Photo 3



photo 4

Then the insert material, (shown turquoise inlay), is put into the groove (photo 3) and glued down with thin superglue (photo 4).

If a finer material is used to fill gaps, it is added now. In this case I used ground abalone shell to fill in around the turquoise (photo 5) then glued it in with thin superglue. This is sometimes an iterative process as the fill powder may shrink into the voids necessitating another fill. The groove was then sealed with fresh medium superglue and allowed to set – no accelerator. It is best to keep the top of the inlay material close to the top surface of the wood (not overfill), to avoid chipping it out in the next step.

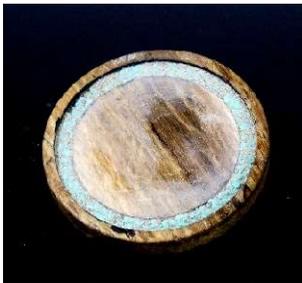


Photo 5



Photo 6



photo 7

I return the coaster to the lathe and level it with a parting tool or scraper (photo 6), then sand it from 120 to 600 grit sandpaper.

The last step is to apply a finish like lacquer or resin (photo 7).

Minerals like turquoise, and calcite shown in photo 8 make decorative mineral fills for inserts. They are soft enough to be crushed into small pieces and powder. You can do this by placing the mineral into a coffee can and using a steel bar to break up the stone, or you can buy crushed stone for inlays from commercial woodturning sources and on Amazon (photos 9-11).



Calcite rocks photo 8



Powdered (crushed) minerals photo 9



Easy Inlay Gold Metal Foil- photo 10



Inlay Turquoise with Abalone powder – photo 11

Steven Hatcher (2002) [\(add a link here or in a side bar\)](#) wrote the definitive article on the topic of minerals for inserts. He also lists minerals appropriate for inserts and their relative hardness, Some minerals, like agate and quartz are very hard and are difficult to work with.

From his article I gathered a few other suggestions:

1. The notch for the inlay needs to be very well defined. If the notch has tear-out in its sides, the inlay edge will look sloppy. On soft woods use a wood hardener to get cleaner cuts.
2. Start filling the notch with the larger pieces of stone first, securing them with thin CA glue, then filling in voids with smaller pieces.
3. Use wax on the top of the wood to keep CA glue from staining the wood.

Hatcher uses CA glue as the filler for the inlay. The advantage of CA glue is that it sets up quickly. However, using accelerator to harden it can cause bubbles or clouding. I've been experimenting with epoxy resin as a substitute for CA glue. The advantage is that the resin fills in nicely around the inserts and is self-leveling. The disadvantages are that resins don't set quickly and generally need to be left to harden for 24-72 hours. There are many different types of resin. I've tried coating resins used to coat art work and they work well but are relatively soft and don't sand and buff well. However, a coat of

lacquer over top of the resin gives a good clear finish. Casting resins seem to set harder but are generally brittle and likely to chip when turning.

Other materials that can be used as inserts include polymer clay. When baked, polymer clay becomes hard (think PVC pipe) and can be turned or shredded. If the insert is thin (1/8"-1/4") the clay can be baked after being inserted into the wood, as long as the wood can stand being in an oven at 275 degrees for 20 or 30 minutes.

Veneers make nice inserts. There are many decorative commercial veneer inserts (photo 12-15) available with patterns and different woods that can be glued into shallow grooves. Or make your own wood inserts from scraps around the shop.



Photo 12 strip inlay veneers



photo 13 – Sauer & company veneers



Photo 14 – Bowl with strip inlay



photo 15 – rim with pieces of veneer

Other craft items, like the stars on the card, are also candidates for inserts (photo 16).



Photo 16



photo 17

Even, glitter makes interesting insert material (photo 17).

One interesting product I use is an epoxy called Milliput (photo 18), an epoxy puddy in the form of two soft sticks, one being the resin and the other being the hardener. Photo 19 shows two strips of Milliput twisted together to make a rope that is pressed into a groove on the edge of a bowl (photos 19 -20).



Photo 18



photo 19



photo 20



photo 21

The two sticks are massaged together and then inserted into the notch. Milliput comes in a few different colors: white, black, terracotta, turquoise, silver-gray and standard. The epoxy sets hard in about 4 hours and can be turned and sanded after 24 hours along with the wood ( Photo 21.) Finished bowl Photo 22 (bowl with edge) – **need photo here.**

When the epoxy is still soft in the notch created in the turned object, minerals or other materials can be pressed into it for the embellishment. Photos 23 & 24 show a bowl with a milliput insert and turquoise in the rim of a bowl.



Photo 23 bowl with a milliput and turquoise insert -- Photo 24 detail of rim

There are so many ways to use inserts it would be impossible to describe them all. For me inserts are an exploration in ways to embellish a turning. I suggest that you explore different materials and see how much fun you can have with inserts.

Reference -Hatcher, Steve (2002) *American Woodturner*, Stone Inlay: There's nothing hard about it. V. 17.4, pp 22-25