

Creating Imagery with Stone Inlay

by Stephen Hatcher

This article is the original draft published in Woodturning Design magazine Design in winter and spring of 2005.

I attended the 1998 Utah Woodturning Symposium just several months after starting to turn wood. There I saw many incredible demonstrations, but one truly inspired me: Kip Christensen and Lane Philips were inlaying bowls and platter rims with stone. I was impressed with the effect and, although my materials and design ideas have evolved since then, I have pursued this design enhancement technique since. These days I inlay scenes inspired by Mother Nature. The forests, wetlands, and oceans here in the Pacific Northwest suggest endless design motifs as the different seasons progress through their four separate stages. Nonetheless, I owe Kip and Lane my sincere thanks for introducing me to this idea.



Stone (or more specifically, minerals) can add breathtaking imagery to already beautiful wood. I prefer to use translucent crystals inlaid into big leaf maple.

My preference for maple is founded in its exceptional figure, color variation, and abundance here in western Washington State. The piece made for this article literally grew in my neighborhood before dropping in a winter storm.

This particular species of maple is about the same hardness as the minerals I favor, so the sanding process results in a surface that is level between the wood and minerals rather than domed. I have used redwood and spalted woods, but have found them to be a little too soft; however, if they are well saturated with wood hardener or thin cyanoacrylate glue (CA or superglue), they will work well too.

SELECTING STONE

The Moh's hardness scale is used by rock hounds and geologists to describe a mineral's hardness on a scale of 1 to 10. A hardness of 1 is talc (chalk), while a hardness of 10 is diamond. Aluminum oxide (corundum) that is used in abrasive paper has a hardness of 9.

The stone selected for inlay needs to be soft enough to finish with normal power sanding tools, yet be durable enough to provide lasting beauty. There are several minerals that are readily available, brightly colored, and/or translucent with high reflectivity that range from 3 to 4 on the hardness scale. This range of hardness (about equivalent to a copper penny) is fairly easy to work while still remaining durable. My favorites in this range include azurite, malachite, calcite, and fluorite. Turquoise (with a hardness of 5 to 6) is popular, but not as intensely colorful as the other minerals, and usually more expensive. All these minerals are quite common and can be found in most local rock shops or online (see Materials Recommendations).

Options certainly exist to use other types of stone, but just beware. Soapstone (with a hardness of 1 to 2) is fun to turn by itself and pretty, but too soft for durable inlay. Minerals harder than 6 are very difficult to finish, but that doesn't necessarily preclude their use. You can layer these beneath a softer translucent material (like calcite) and the color of the harder mineral will show through, while the surface mineral is readily finished.

Minerals can be mixed randomly, uniformly, or in patterns. The addition of brass or aluminum filings can enhance the overall effect as well. However, when adding metals, I have found that "less is more." A small amount of metal adds a beautiful gold or silver glint whereas too much metal tends to wash out the color of the minerals.

THINGS TO CONSIDER BEFORE STARTING

The inlay results in various woods (ranging from soft spalted alder to hard maple) are always great as long as the wood is relatively dry (about 12% moisture content or less). At this range, any movement of the finished piece through the different seasons is small enough that I've never had the stone inlay disfigure.

