

STONE INLAID WOODTURNING ~ MATERIAL SUPPLIERS

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Mineral Crystals

Minerals with a hardness of 3-4 are durable but soft enough to readily crush and sand. Inlaid crystals have 'depth' and a natural glitter. Try to get specimens preferred by rock collectors as they have fewer impurities. Sometimes the impurities (matrix) is ugly and difficult to sand - as in granite-like. I prefer the minerals listed below and use them almost exclusively but there are many others. My source is Great South Gems and Minerals at www.greatsouth.net (or 888-933-4367) but there are other sellers at internet rock collector sites, including eBay.

Azurite - deep blue (opaque)

Black Mica - grind in a coffee bean grinder to soft powder (high sparkle)

Calcite - in green, yellow, blue, red, and black (all are translucent)

Dolomite - white, pink, red (opaque)

Fluorite - in green, purple, red (all are very translucent)

Howlite - white (opaque)

Malachite - deep green (opaque)

Additives

The Inlace Company offers a variety of crushed stone and powdered metals. Any of these can be combined with minerals. These are available from most woodturning suppliers, I usually get mine from Craft Supplies USA at www.woodturnerscatalog.com or 800-551-8876.

Earth pigments are used in paints, concrete coloring, wood dyeing, etc. These are fine powders with colors like red ochre, burnt sienna, Mexico yellow, etc. Any of these can be combined with minerals. I usually get mine from Lee Valley Tools at www.leevalley.com or 800-871-8158.

Auto paint additives, in powder form, can add dazzling effects. I sometimes mix Hotcoat Powder Prism Additive (normally used in metallic flake paints) with mineral powders. This and other additives are available from the Eastwood Company at www.eastwoodco.com or 800-343-9353.

Adhesives

I use very thin Starbond CA Glue from CPH International at www.starbond.com or (800)-900-GLUE.

Wood

I prefer bigleaf maple and cannot strongly recommend any other wood for inlay except bloodwood. Maple and bloodwood have the right hardness and color for my projects. I have found walnut and magnolia are a little soft and porous. Exotics like cocobolo, blackwood, paduak and ebony contain wax that seems to invade the inlay and discolor it. For maple I either cut my own locally or buy it from Bow River Specialty Woods at www.bowriverwoods.com or 866-795-3462. Bloodwood is available from Tropical Exotic Hardwoods of Latin America at www.anexotichardwood.com or (888) 434-3031.

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Abrasives

Silicon carbide sandpaper is the best type for cutting through a large amount of stone. I buy silicon carbide hook & loop paper in 5" disks from Rossini Marble Supply at www.rossinimarble.com or 1-888-716-8878.

I also get aluminum oxide and silicon carbide sanding disks from Super Grit at www.supergrit.com or 800-822-4003. Order a catalog - not everything is shown on their website. You can buy hook&loop paper from them in 1 meter widths and cut your own.

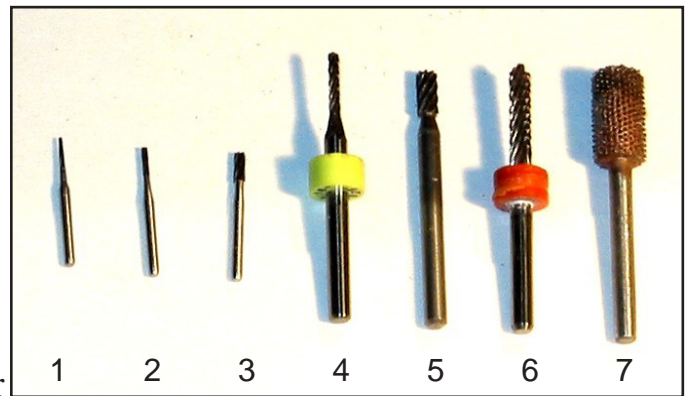
I also get aluminum oxide and silicon carbide sanding disks from Klingspor's, usually the E-paper which is the highest quality. Klingspor's is at www.woodworkingshop.com or 800-228-0000.

You can find good quality and prices at many other sources, including eBay sometimes.

Cutting Burrs

I buy most of my burrs from Widget Supply at www.widgetsupply.com. They only sell on-line, there is no phone number listed. On their site go to Dremel, then Burrs and look around. These are suggestions, anything close in size will usually work. Be sure to get collets too.

1. 1.2 x 4.4mm Cone HSS Cutter
2. 1 x 4mm Medium Cut Cylinder HSS Cutter
3. 0.9 x 3.9mm Cylinder HSS Cutter
4. 1/16 inch Double Cut Carbide Cutters
5. 1/8 inch Square End Carbide Straight Cutter
6. 1/8 inch Double Cut Carbide Cutters
7. 1/4 x 3/8 inch Cylinder Titanium Nitride Burr



You can find similar burrs at most woodworking stores and online from Treeline at www.treelineusa.com or 800-598-2743. Also Wood Carvers Supply at www.woodcarverssupply.com/store/ or 800-284-6229.

Power Sanding

Rossini Marble Supply (above) sells excellent sanding pads for 5" paper but they only fit a 5/8" right angle grinder. These are pads intended for finishing granite counter tops and such.

I get smaller sanding pads and hook-loop conversion sheets from Super Grit (above).

For most inlay work the power sanding is done just as with wood. Use a drill or angled drill with firm sanding pads. I prefer to use a Flex L1506VR 5Inch Variable Speed Angle Grinder



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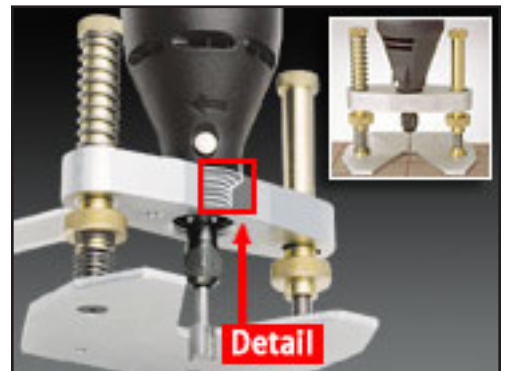
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Inlay Power Carvers

I prefer Dremel brand power carvers. Not only are they a good value cost-wise, but they seem to last forever. I've been using the same old model two-speed for years with constant use. For occasional work, or just to give it a try, you can get knock-offs made in China for a fraction of the cost from Widget Supply at www.widgetsupply.com. My only complaint about these cheap-o Dremel copies is the lock mechanism for changing bits wears out quickly - it's soft steel. So I keep a bunch around with different carving bits installed and rarely change them unless a bit wears out or breaks. You can buy about 6 of these variable speed models from Widget for about the same price as a Dremel. Just don't expect them to be especially reliable.

I do use several other power carving tools including pneumatic power carvers. But this is not piercing type woodworking in soft and/or thin wood. This is deep recess carving where a vertical side wall is required and the woods are pretty hard. Therein lies one of the great advantages of Dremel brand tools or equivalents: Dremel brand offers a large number of router-type attachments for different applications. These are the attachments I use all the time:

Stewart-MacDonald sells musical instrument building tools. They sell a Precision Router Base that holds a Dremel tool without wobbling. It works great on flat surfaces. There's a built-in nozzle to blow away dust that connects to an airpump they also sell. Find them at www.stewmac.com or 800-848-2273.



Stewart-MacDonald also sells a Purfling/Soundhole Router Guide for Dremel Tools that's great for routing out inlays around irregular shapes. I also invert this little gem and use it as a handle when doing freestyle work.



Dremel makes a little plastic router head that works well. Craftsman (Sears) makes a similar one shown here. I modify the basic design so the openings are large and drill a hole, glue in a fitting, and pump air at the cutting tip with an aquarium pump to clear away dust. Both Dremel and Craftsman can be found at many woodworking stores, Sears, and online from Widget Supply at www.widgetsupply.com.



MINERALS FOR INLAY

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Mineral	Azurite	Biotite	Calcite	Chrysocolla	Dolomite	Fluorite	Howlite	Malachite	Turquoise
Common Name	same	Black Mica	Alabaster	same	same	same	same	same	same
Color	Deep Blue	Black	Light blue, green, red, orange, black	Light blue to green	White, pink, brown	Purple, red, green, blue	White	Green with streaks	Blue, green
Color Depth	Excellent	Medium	Poor	Excellent	Medium	Poor	Excellent	Excellent	Excellent
Clarity	Poor	Medium	Excellent	Poor	Medium	Excellent	Poor	Poor	Poor
Hardness	3.5 - 4.0	2.5 - 3.0	3.0	2.0 - 4.0	3.5 - 4.0	4.0	3.5	3.5 - 4.0	5.0 - 6.0
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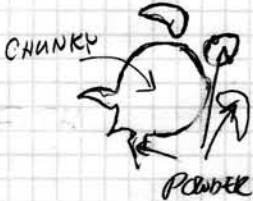



Color depth refers to how well the color is maintained as the mineral is crushed into smaller sizes (or inlaid in a shallow layer). Clarity refers to how well the crystals reflect and refract light. Excellent clarity is needed for translucent inlays.

To research other suitable minerals try these on-line references or check books on mineral properties.

www.theimage.com/mineral/minerals1.html (an excellent site with mineral names, properties, and photos)

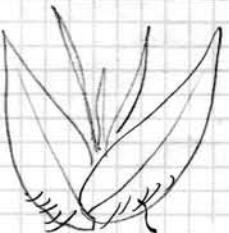
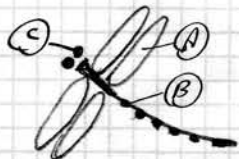
www.greatsouth.net/ (my preferred source for buying on-line and an excellent reference)

Look for minerals in the hardness range of 3 to 6. A fingernail is 2.5 and that's getting a little soft while quartz crystals are 7+ and much too hard. The best range is 3 to 4 as it will finish well with hard woods like maple and cherry yet be durable. There are many options.

DESIGN ELEMENT	CHUNKY (1)	POWDER (2)	ADDITIVES & ACCENTS
<p><u>TURTLE</u></p>  <p>CHUNKY</p> <p>POWDER</p> <p>AZURITE or BLACK FIN TIPS, ETC.</p>	MALACHITE	MALACHITE	AZURITE POWDER (1) or BLACK POWDER (2) or MALACHITE POWDER & METAL DUST (2)
<p><u>FISH</u></p>  <p>CHUNKY</p> <p>POWDER</p>	ABALONE CHIPS (2)	AZURITE (1)	BLACK EYES, SILVER METAL DUST
<p><u>AUTUMN LEAVES</u></p>  <p>RANDOM MIX OF CHUNKY AND POWDER + ADDITIVES</p> <p>BLACK</p>	RED DOLOMITE or (1) RED INLACE NUGGETS (2)	RED POWDER FROM CHUNKY PLUS FINE CALCITE CHIPS & GOLD LEAF	METAL DUST (RED, SILVER or GOLD)
<p><u>BLOSSOMS</u></p>  <p>MIX OF CHUNKY AND POWDER - USE PINK/WHITE OR WHITE/RED or WHATEVER</p>	RED + WHITE DOLOMITE (1) or INLACE WITH CALCITE CHIPS	CRUSH CHUNKY ALL TOGETHER IN COFFEE BEAN GRINDER AND USE IT ALL TOGETHER	ADD METAL DUST or OTHER ADDITIVE

(1) BUY MINERALS AT GREAT SOUTH GEMS AND MINERALS AND CRUSH AS REQUIRED TO FIT EASILY IN CARVED RECESS.

(2) BUY INLACE POWDER AT CRAFT SUPPLIES OR ELSEWHERE OR USE EARTH PIGMENTS (LEE VALLEY), CRUSHED MINERAL POWDER, OR PEARL-EX. DON'T USE JEWELRY ENAMEL (POWDERED GLASS).

DESIGN ELEMENT	CHUNKY	POWDER	ADDITIVES / ACCENTS
<p><u>FERNS + GRASSES</u></p>  <p>JUST A LITTLE RED POWDER OR BLACK POWDER FOR SHADOW</p>	<p>MALACHITE or TEAL INLAY WITH GREEN CALCITE CHIPS</p>	<p>MALACHITE POWDER</p>	<p>METAL DUST</p>
<p><u>DRAGONFLY</u></p> 	<p>(A) CLEAR CALCITE (B) AZURITE (C) BLACK INLAY or BIOTITE</p>	<p>(A) GOLD PEARL-EX or GOLD METAL DUST AND CLEAR CALCITE POWDER " " " "</p>	<p>SILVER METAL DUST</p>
<p><u>BRANCH / TREE</u></p>	<p>GREEN CALCITE</p>	<p>GREEN CALCITE AND BLACK POWDER</p>	<p>METAL DUST or PEARL-EX</p>
<p><u>SNOW</u></p>	<p>WHITE INLAY or WHITE DOLOMITE or HOWLITE</p>	<p>PINCH OF AZURITE AND CLEAR CALCITE POWDER (USE ABOUT 1/2 AS MUCH AS WHITE CHUNKY STUFF)</p>	<p>BLUE AND/OR SILVER METAL DUST or PEARL-EX FOR "FROSTY" EFFECT</p>