

Stabilizing Wood

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Objective of Presentation

- Offer ideas on how to make woods that may not be interesting or machinable useable.
- Touch on the use of wood hardener or CA to solidify and fill soft defects in woods.
- Introduce a process for stabilizing or enhancing wood using a heat cured pre-activated resin under vacuum to solidify and enhance woods.



Resin Stabilizing and Enhancing









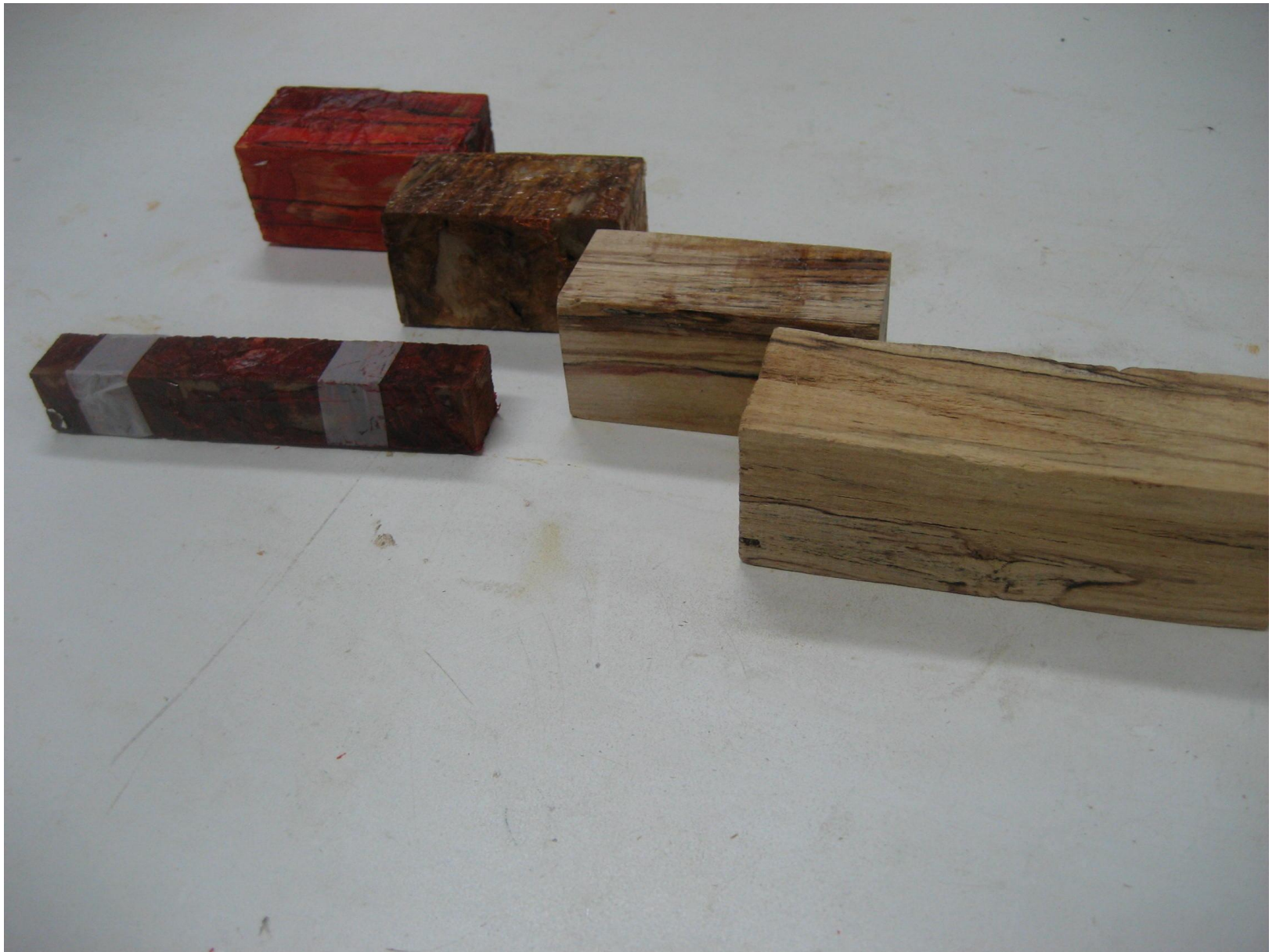
Equipment: vacuum chamber, oven, vacuum pump, various containers.











Stabilizing using resin.

- First Step!
 - Gather all your patience.
- Prepare blanks
 - Cut to rough size, just over project requirements.
 - Allow ALL green wood to dry naturally, Moisture should be below 5%, 0 is best.
 - Put blanks in oven at 220 degrees for several hours.
 - When removed from the oven put in an airtight container or plastic bag to prevent moisture absorption.
- Prepare resin
 - Resins are pre-activated if less than ½ gal.
 - Mix dye(s) if you are coloring. I use Alumilite, others brands are available. Alumilite is the recommended.
 - You will find that it requires more dye than expected, Don't skimp.
 - Put blank(s) in container with plenty of resin over top (weight down).
 - Allow to cool, the resin process will fail if blanks are hot.



- Apply Vacuum
 - Low at first at first, then full.
 - Continue vacuum until bubbles are minimal (generally 3 hours or more, could be several more depending on wood).
 - When satisfied, release vacuum, leave blanks in resin.
 - Leave blanks soaking for as long as you can. Some species will benefit from extended soaking periods up to a week.
 - Most of mine I leave them 24hrs.
- Bake it
 - Remove and wrap blanks in aluminum foil.
 - Preheat oven, put blanks in oven at 200 degrees (190 to 200+). Note , moderately higher temp won't hurt.
 - Bake for 2 to 3 hours or more depending on size. Pens 2hrs, stopper blanks 3+... Judgment call....

- Clean-Up
 - When removed and cooled, remove foil and clean up blank (sand, flatbed) or machine.
 - Store excess juice, as it can be reused. Do not store in air tight containers. I use health juice plastic containers. Shelf life a year or more if stored properly.
- Costs
 - Vacuum pot/chamber/bag. Homemade <120, commercial 200-300 mine 250 **
 - Vacuum pump \$150 at harbor freight (about ½ the price of other comparable units).
 - Materials plan for \$50+ Really depends on your goal.
 - ** Pot was less as I acquired the aluminum pot from a friend.



Notes

- Toaster ovens are notoriously inaccurate so be sure to have an oven thermometer available to be in the oven.
- Reducing the moisture content in the blanks is a must. Moisture will cause pump fluid (Mineral oil) to be contaminated and foam... Then it has to be drained and replaced.
- Don't use Oily woods. Contamination from oils will result in total failure.
- Part if not all the procedures mentioned in this presentation can be used on solid wood.

Resources

- Turn Tex woodworks Turntex.com
- Best Value Vacs bestvaluevac.com
- Hold Wood Stabilizing System stickfast.net **Video**
<http://stickfast.net/stick-fast-stabilizing-resin.html>
- Zak at NV Woodworks **Video**
 - Part 1
<https://www.bing.com/videos/search?q=wood+stabilizing&docid=608011043807038919&mid=BD35C91AEF02BB73BA29BD35C91AEF02BB73BA29&view=detail&FORM=VIRE>
 - Part 2
<https://www.bing.com/videos/search?q=wood+stabilizing&docid=608026389685666337&mid=8B6A17F18A766DE74EAB8B6A17F18A766DE74EAB&view=detail&FORM=VIRE>