HOLD FAST™

V821-D AND V831-D SERIES WOOD STABILIZATION SYSTEM

Resin Stabilizing wood gives new life to woods that would normally not be usable for turning. Woods that tend to crack and check, such as spalted woods, now can become solid. Dyes added to the stabilizing resin creates dramatic coloring effects.

The V821 and V831 systems provides the optimum in small to large batch economy in wood stabilization. The vacuum pulls the ***STICK FAST™*** stabilizing resin into the soft wood fibers to change it into pieces that can be easily turned.

Components

- Ultra High Strength Tempered Glass Cover
- **V821** chamber 6" diameter x 8",12", or 18" tall
  Or **V831** chamber 8" diameter x 8",12", or 18" tall
- Anti-float plate for size of chamber

Optional *HOLD FAST™* items

- V812 Vacuum Generator with Vacuum Hose
- V825 Vacuum Bag system for extra large pieces and includes all required fittings in two sizes.
  Note: vacuum chamber is required for bag system.
- Vacuum Control and gauge assembly
- Drain Hose Assembly 2 feet
- V846 Vacuum Hose 3/16" ID x 4 feet.

Components

Vacuum chamber: 6" or 8" diameter x 8", 12" and 18" standard. Custom size chambers are available. Chambers have two ports: vacuum top port with hose barb elbow , and bottom port used to drain/ fill the chamber and/or use with the V825 vacuum bag system.

Anti-float plate: Stainless steel hold down plate keeps wood completely submerged during the stabilization process. Locks with cam action.

Clear viewing top: ultra high strength tempered glass.

Note: a vacuum hose is not included with the vacuum chamber but is included with the V812 Vacuum Generator or as an accessory.

Optional or Accessory Components

Drain Valve: Drain or fill resin without tipping chamber over. Thread into bottom port of chamber.

Drain Hose Assembly: Fitting and 2 foot hose

Vacuum Control: On/off valve and vacuum gauge to capture vacuum in the chamber after turning off vacuum source as well as to control vacuum when using other brand vacuum pump systems.

V812 Vacuum Generator:
High efficiency vacuum venturi that can be used with economical air compressors: Generator includes vacuum hose.

V825-20:20"x20"; **V825-30:**28"x30": Vacuum bags for stabilizing larger and varied shaped projects (vacuum chamber is required to catch resin into the chamber - attach vacuum bag hose to bottom drain valve)

V846: 3/16" ID 5/16" OD x 4' vacuum hose.

Set Up

- ***HOLD FAST™*** Vacuum Generator: Follow separate generator instructions. Can also be used for Vacuum Chucking.
- Vacuum Chamber Seal: position seal over top lip. The seal is removable for cleaning and emptying the tank.
- Connect the vacuum hose to the to the hose barb and the other end to the vacuum source. Center the Clear Viewing Cover on chamber.
- **Note**: brass fittings on chamber are bonded into place. Do not tighten or loosen. Put wrench on fittings when tightening other fittings to keep from moving.
- Turn vacuum on and check for leaks.
- Turn vacuum generator off to release vacuum.

Optional Set Up Items:

V821 Drain Valve: Remove bottom plug if installed. Thread in valve. Attach user supplied hose to valve to drain or fill resin to and from resin container without tipping chamber. Optional drain hose is available

V821 Vacuum Control: Remove elbow hose barb on chamber and thread onto Vacuum Control assembly. Thread Vacuum Control Assembly into vacuum port on chamber. On/Off valve maintains vacuum in the chamber when turning off the vacuum source or as a basic control of vacuum with an additional 1/8" street T-fitting if using a vacuum pump.

Stabilizing Wood

Loading The Chamber

- Place pen blanks or other wood pieces into tank vertically to achieve max loading. Always fill to a loose stack, leaving space for the resin to contact all of the wood surfaces.
- Place the anti-float plate on top of the wood. Use a flat screw driver in the slot to rotate the cam to lock against side of tank to prevent floating. Note: if the cam does not lock well, release and rotate to a different spot in the tank.
- Add catalyzed resin, filling approximately 1/2" above the plate. Add more resin if required to keep wood submerged.

Vacuum Cycle

- Center the tank lid in position. Turn the vacuum generator on - adjust vacuum to 10" to minimize initial foaming.
- View the reaction through the top. The resin will start to bubble and foam as air is pulled out of the wood.

⇒**Caution**: If the resin foam rises near the top vacuum port; reduce the vacuum before the resin overflows into the Vacuum Generator.

- As the foam recedes, increase the vacuum again. You may have to do this a few times until excess foaming ceases. Air bubbles will continue to be visible throughout the process.
- Increase the vacuum from the generator slowly, watching the foaming action not to overflow the container. Continue until the maximum vacuum is reached.
- Continue the vacuum cycle until the air bubbles stop forming.
- Weigh wood before and after the process to determine the amount of resin in the wood.

♦.The amount of time needed to achieve maximum saturation varies in relation to the size and density of the wood. Badly spalted wood will generally be completed in 30-60 minutes. Large or dense woods may take 2-4 hours or more to fully saturate the wood. Stabilizing resin with dyes may take longer to saturate the color.

♦At times releasing all vacuum assists the saturation process. Turn off the generator and return to atmospheric pressure for a few minutes, then resume the vacuum cycle.

⇒**Caution:** Maintaining vacuum for more than 10 hours without releasing the vacuum may cause the resin to cure without heat.

Small Batch Processing

When only a few pieces are to be stabilized, a smaller container can be placed inside the chamber to place the wood and resin in during the process. A weight will be needed to keep the wood submerged.

Coloring Wood Without Using Stabilizing Resin

♦Wood dyes can also be pulled into woods using this system that do not need stabilizing to achieve dramatic results.

♦Dyes that are in soluble solvent are recommended. Note: ***STICK FAST™*** Resin Dye is not soluble in denatured alcohol or water and is **NOT** recommended for this technique. One to two days may be required to the dry wood after being submerged in denatured alcohol. Water based dyes will take even longer to dry the wood after being submerged.

⇒ **Caution:** Using strong solvents such as Acetone or MEK will damage system components and vacuum system.

Resin Curing Process

♦***STICK FAST*** stabilizing resin requires 190-200F heat to cure.

♦After vacuum cycle has been completed, remove the wood pieces and wipe off excess resin. Wrap the wood individually in aluminum foil or plastic wrap to keep from bonding together during curing.

Option 1: Place wrapped wood in 4 mil bag and put bag into boiling water with the open end of the bag above the water level. Ensure the wood is lower than the surface of the water by adding a weight or other means. Cure time is about half using boiling water instead of an oven and a temperature gauge is not required. Less resin will be forced out using this option because the heat transfers faster and cures the interior wood faster.

Option 2: Place the wood in an oven set to 190-200F. A separate gauge is recommended to insure correct temperature. A small toaster oven works well. Space between each piece reduces cure time.

♦The curing time varies with the type of wood, the density and the thickness of the wood. Even two pieces of wood from the same tree can have different cure times. Generally 30-40 minutes in boiling water or 1-2 hours at 190-200F in an oven is required. The thicker or more dense the wood typically requires more cure time. If uncured resin is present on the surface additional cooking time is required, about 15 minutes or more before checking again to see if it has cured. Some uncured resin is forced out of the wood during the curing process. Another indication that the resin has cured is when the resin coming out of the wood end grain is crusting or crystalizing.

⇒**CAUTION: Do not over cook. Some resin will be forced out of the wood during the curing process. Over cooking will continue to force more resin out.**

⇒**WARNING: Keep unmixed Stabilizing Catalyst away from all heat sources including the curing oven.**

Drying Wood

♦***STICK FAST™*** stabilizing resin tends to work best with dry wood to be able to completely saturate the wood. A moisture reading of 8-12% is preferred. The water in green woods may restrict or dilute the resin in the wood and may require additional curing time. Tests have shown that dry and wet woods can achieve excellent results but each piece of wood, even from the same log, has unique characteristics that can give varying results. Our ***DRY FAST*** system is also available to dry wood within 24 hours.

♦In addition, generally the harder the wood, the less the resin is likely to penetrate and the longer it takes to cure.

Dyeing Wood

♦***STICK FAST™*** Dyes: Red, Yellow, Blue, Violet, and Black specially formulated for the ***STICK FAST™*** stabilizing resin. Every piece of wood is unique and will pick up the colors differently. Often the wood should be left in the vacuum chamber longer to assure dye penetration. Releasing the vacuum and then reapplying the vacuum will also help the dye and resin penetrate into the wood fibers.

♦The different colors of dye may be mixed to achieve different colors.

♦Note: Other types of dye may or may not dissolve into the resin and possibly make the resin unusable.

Checking *Stick Fast™* Stabilizing Resin Penetration into the Wood

♦An inexpensive black light with a light transmission of 395nM will detect ***STICK FAST™*** stabilizing resin before or after it has been cured. In a completely dark room shine the black light on the wood to see evidence of the stabilizing resin.

Maintenance

- **Clean with soap and water only.**

⇒**Caution:** Solvents will damage components.

- Wash Cover, Tank, Seal and Float Plate after each use.
- Do not store resin in vacuum chamber. Unused ***STICK FAST™*** resin may be used again. Keep left over resin in separate container in a cool place out of direct sunlight.
- Remove the seal before pouring unused Resin into a storage container or use bottom port V821-Drain Valve.
- Seal can be easily repaired with ***STICK FAST™*** CA Adhesive. Replacement seals are available.

Safety Precautions

⇒Always use Eye Protection
⇒Use nitrile gloves (blue gloves)
⇒Do not use if modified or damaged
⇒Follow Stabilizing Resin safety instructions
⇒Always add entire container of catalyst to resin

⇒**WARNING: Keep unmixed Stabilizing Resin Catalyst away from heat sources** - including the curing oven used. Unmixed catalyst as a dry powder may start to produce hazardous fumes above 120F. Add water to catalyst to bring back to a liquid if required.

Manufactured in the USA
by
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www.TMIProducts.net

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