Achieving A Wood Grain Finish With Smooth-Cast 320™ Resin

A wood grain finish can be attained through the process of mixing urethane resin with various colors of pigment. These castings will have the appearance of natural wood. Wood grain finishes can also be achieved by the addition of pecan shell flour to the resin. Different wood finishes such as oak, pine, maple and mahogany can be achieved by varying the amount of pigment and/or pecan shell flour. Finished castings can be stained and clear-coated to achieve a realistic appearance. Casting wood pieces in urethane gives the benefit of being fast, realistic and less expensive (labor, time, materials) than hand carving.

Overview - To make a wood grain casting, first a rubber mold (negative) must be made of a natural piece of wood. The liquid rubber (Smooth-Sil™ 912 Silicone or PMC-121/30™ Urethane) will duplicate the finest wood grain and yield that detail into finished castings. It is important to remember that you must seal the wood with a ***SuperSeal™*** sealer to close the porosity of the wood. Once a working mold has been completed, we can begin preparing our casting resin mixture. This mixture consists of urethane resin, pigment and/or pecan shell flour. Once the desired color effect is achieved, the mixture can be poured into the mold. In about 15 minutes the finished casting may be removed from the rubber mold.

Materials Needed: **A. Smooth-Cast 320™ Casting Resin B. Liquid Pigment (Brown)* C. Pecan Shell Flour** D. Ease Release 200 Release Agent**

Our **Smooth-Cast 320™ Urethane Resin** works well because it is inexpensive, has extremely low viscosity (pours like water), and sets up quickly. Adding a dark pigment (brown or dark brown) to the resin/pecan shell flour mixture will give the final casting added definition and dimension. If casting into a urethane mold, a mold release agent is required. Other items that are needed include the rubber mold, measuring / mixing containers, mixing paddles and an accurate gram scale for weighing components.

Amounts of resin, pecan shell flour and pigment required will vary depending on the desired effect. Most customers will experiment by varying the amounts of resin, pecan shell flour and pigment used in combination to attain a desired effect. For this example, we will use the following:

Part A of Resin:	100 Parts	**Pecan Shell Flour:**	100 Parts
Part B of Resin:	100 Parts	**Liquid Pigment (Brown):**	5 Parts

1. **Apply Release Agent To Rubber Mold*** ** - To prevent resin mixture from sticking to rubber mold, thoroughly apply mold release agent over entire mold surface. Brush into all surface detail let dry and follow with a second coat. Let dry.

2. Mix Pecan Shell Flour And Pigment With Part B Of Resin – If using pecan shell flour in the urethane resin, it is necessary to bake the pecan shell flour (150 F for 30 minutes) to eliminate any residual moisture. Let flour cool to room temp. before using. To allow ample mixing time, mix pecan shell flour and brown pigment thoroughly with Part B of Smooth-Cast 325 (Blue Label) prior to adding Part A (Yellow Label). Dispense 100 parts of Resin - Part B into clean mixing container. Add 100 parts of pecan shell flour and 10 parts of brown pigment to Part B and mix thoroughly. Mixture will be very thick.

3. Add 100 Parts Resin - Part A to the Part B/pecan shell flour/pigment mixture and mix thoroughly.

4. Pour Mixture into the mold cavity. For best results, pour the mixture in a single spot at the lowest point of the mold. Let the resin seek its level inside the mold. A uniform flow will help minimize entrapped air.

5. Entire casting should be thoroughly cured before demolding. Remember, the resin/pecan shell mixture or filled resin will take longer to harden than unfilled resin. Cure time depends on size of casting, mold configuration, amount of fillers used, etc. Generally, 30 to 40 minutes is sufficient. Applying mild heat will accelerate cure time. Let cool to room temperature.

6. Demold - remove casting from mold.

7. Post Finish – Remove release agent from casting with Cascade dish washing gel & water or acetone. Dry the casting. Next, lightly abrade casting with fine steel wool to promote better surface adhesion of stain and shellac. Apply desired wood stain on to the surface of your finished casting. Let this coat dry thoroughly and apply a second coat. After drying, apply two coats of clear gloss shellac spray to prevent scratches or nicks on the surface of the casting.

*Liquid pigment used for this illustration is **Smooth-On Brown Pigment**. Using other pigments may vary results. Some experimentation may be required.

** **Pecan Flour Is Available From:** **American Wood Fibers**, Schofield, WI.
Tel. (715)-355-1900 Fax: (715)-355-5721

***Use only a release agent specifically made for mold making and casting such as **Universal Mold Release or Mann Ease Release 200** (both available from Techno-Industrial Products Co.).

For technical help you can reach us at:

Telephone: (800) 255-9847 or (262) 524-0440
Fax: (262) 524-0150

Or Visit Our Website at : www.techno-industrial.com