

PENTACRYL™

“The Green Wood Stabilizer”

PENTACRYL, a compound of modified polymers, was originally developed for the treatment of waterlogged wood. It has since been marketed for woodcarving, woodturning, furniture making and other general woodworking to keep green wood from cracking and splitting as it dries. PENTACRYL is formulated to penetrate green, wet wood as the moisture in the wood helps the penetration.

PENTACRYL works by completely saturating the wood cells and displacing the water. Once the wood dries, the PENTACRYL leaves a thin coating on the wood cell walls. This process keeps the cells from shrinking, which reduces cracking, checking and irregular drying. Shrinkage is reduced up to 600% depending on the orientation of the wood grain.

PENTACRYL is non-toxic, non-hazardous, does not contain silicone, will not discolor the wood, is non-hygroscopic (meaning it will not retain water), will not oxidize, decompose or migrate in the wood when exposed to different degrees of temperature and relative humidity. It also contains a UV protectant.

Tests have been carried out for over 20 years with excellent results. Many types of wood have been treated including Eastern White Pine, Basswood, Tupelo, Walnut, Apple Wood, Hawthorne, Cherry, Rock Maple, Soft Maple, Ash, Madrone, Bamboo, Exotic Wood and others.

PENTACRYL can be brushed on or the wood can be immersed (soaked) into a 100% solution of PENTACRYL. Although soaking is the preferred method, excellent results are still obtained by using the brushing method. The key is to completely saturate the wood.

When the PENTACRYL treated wood has dried, the wood can be finished with various finishes. Easy soap and water clean up.

The following are some of the most common questions and answers relating to the use of PENTACRYL.

Q: How long will it take for the wood to dry when using PENTACRYL?

A: There is not a specific answer to drying time. Drying time differs depending on the original moisture content, drying temperature, relative humidity, type of wood and its thickness. If the piece is a turning that is thin, then it may be dry enough to finish in 1-3 months. If the piece is a carving that is large, it may take 1-3 years to completely dry. Note that the wood must be dried *slowly* in an unheated area away from direct sunlight and any air movement. To help slow the drying time, wood can be covered with a cardboard box (leave a gap on the bottom to allow air to still reach the wood).

By displacing moisture in the wood, PENTACRYL does help to speed the drying process by up to 30%.

To help determine if the wood is dry, a moisture meter can be used (PENTACRYL will not effect the reading). Keep in mind a moisture meter will only read the moisture content of the wood surface and is not a good indicator for measuring the inside of large pieces.

Q: Can wood treated with PENTACRYL be stained and finished with conventional finishes and stains?

A: Yes. Wood treated with PENTACRYL can be finished with urethane varnishes, water borne varnishes, lacquers, tung oil, linseed oil, and waxes have all been successfully used. The wood can also be stained with aniline dyes or oil stains. The key factors are to be sure that the wood has *thoroughly dried* and to lightly clean the surface of the wood with mineral spirits, or acetone before finishing. Allow the cleaned wood to dry overnight.

Q: Can a colorant be added to PENTACRYL?

A: Yes. A colorant can be added to PENTACRYL. Aniline dyes, oil base dyes and stains, and pigments may be mixed with PENTACRYL. The amount used depends upon the desired effect.

Q: Does PENTACRYL absorb all the way through the wood?

A: Yes. PENTACRYL will absorb all the way through the wood by soaking or brushing it on. The time it takes depends upon the type of wood and size of the piece. Keep in mind that most of the absorption is through the end grain. When using the brushing method, keep applying until the wood can no longer absorb PENTACRYL.

In between brushing applications, the wood should be wrapped in plastic in order to help absorption and prevent premature evaporation of the moisture and PENTACRYL. To prevent mold growth under the plastic, try to fully saturate your wood by brushing it on within 3-7 days. **Remove the plastic when drying.**

Q: How much PENTACRYL does this take?

A: The amount of PENTACRYL the wood will absorb depends upon the type and size of the wood. For very dense grained hardwoods, it will take as little as 1 ounce per board foot and for very soft open grained wood it will take as much as 8 ounces per board foot. There is a wood calculator on our website to help determine the amount needed: www.preservation-solutions.com

Q: Does PENTACRYL have to be absorbed all the way through the wood to be effective?

A: In most cases the wood should be completely saturated with PENTACRYL. In some cases however, woods that are quite stable by themselves may only require several coatings to the surface, while other woods with wild grain, a lot of tension, or those that are unstable such as fruitwoods, require full saturation. The individual user will have to determine whether or not to completely saturate the wood.

Q: Can too much PENTACRYL be applied?

A: No. Too much PENTACRYL cannot be applied. The wood will absorb so much until it is saturated. Any excess can be cleaned off the surface. *Note: If using the soaking method, any PENTACRYL left over in the soak can be reused to treat other wood.*

Q: How do I know when PENTACRYL is done soaking?

A: Using the soaking method, 2-3 days is generally sufficient for a piece 1-4 inches thick. It will not hurt the wood to soak it longer.

Q: Will wood treated with PENTACRYL weigh more?

A: Depending upon the type of wood, it will weigh only slightly more when the wood is dry. On average, a cubic foot of wood will weigh approximately 10-12 ounces more than wood that was untreated.

Q: Will turning and carving be easier with wood treated with PENTACRYL?

A: Yes. The wood will turn and carve easier because PENTACRYL also acts as a lubricant for your tools until it dries. Note that before sanding, the wood should be completely dry. If the sand paper clogs up, it is an indication that the wood is not dry yet.

Q: Will PENTACRYL stabilize rotted or spalted wood?

A: Yes. PENTACRYL will stabilize rotted or spalted wood. However, it will not harden soft areas. See information on POLYCRYL for hardening soft, punky or spalted wood.

Q: Does PENTACRYL reduce shrinkage and distortion?

A: Yes. PENTACRYL does reduce the shrinkage up to 600%. Distortion is also significantly reduced.

Q: Does PENTACRYL change the color of the wood?

A: PENTACRYL may in some cases alter the color slightly. In woods with a high tannic acid content it may show a slight graying on the surface. This is only superficial and will sand off.

Q: Can PENTACRYL be used to treat fruitwoods?

A: Yes. PENTACRYL can be used to treat fruitwoods. Remember that all wood treated with PENTACRYL must be allowed to **dry very slowly**. Be sure drying conditions are not too hot or too dry with no air movement. Ideal drying conditions are between 60°-70°F and 50-55% relative humidity.

To help slow the drying, smaller pieces of wood can be placed in a paper bag and larger pieces in a cardboard box both loosely open so the wood can breathe. Larger pieces can also be treated with the END GRAIN SEALER to help slow the drying.

Q: Can wood treated with PENTACRYL be glued?

A: Yes. Wood treated with PENTACRYL can be glued. Tests have been successful using carpenter's glue, cyanoacrylates, and epoxies. The shear strength, however, has not yet been determined. Again, it is **important** to clean the wood surfaces with solvent and be sure that the solvent has completely evaporated prior to gluing.

Q: Can PENTACRYL be used on bowls and eating utensils?

A: Although PENTACRYL is considered non-toxic, it is not registered as food grade. Therefore, we cannot endorse or recommend that it can be used on items intended for use with food.

Q: If PENTACRYL freezes, will it lose its properties?

A: No. PENTACRYL has been run through 16 freeze-thaw cycles. Some solids may settle after being frozen 2-3 times, but will readily disperse when brought back to room temperature and shaken well.

Q: Will PENTACRYL keep the bark on?

A: It will help. Since PENTACRYL will reduce the shrinkage of the wood it will help to keep the wood from pulling away from the bark. However, there is no guarantee that the bark will stay on. For best results to keep bark on, the tree should be cut during the dormant period (winter) when the sap stops running and the wood has hardened off.

Q: Can wood treated with PENTACRYL be woodburned?

A: Yes. Wood treated with PENTACRYL can be woodburned. Be sure that the treated wood be completely dry first.

Q: How is PENTACRYL different from PEG?

A: PENTACRYL will penetrate the wood in one day where it could take PEG 6 months to do so. PEG needs to be soaked with heat elements to keep it hot while applying. PEG acts as a humectant and encapsulates the water molecules by drawing in moisture from the air and makes the wood sticky and hard to apply a finish. PEG treated wood is heavier and darker. PENTACRYL treated wood does not have these issues.

Q: Does the odor of PENTACRYL remain in the wood after the wood has dried?

A: 95% of the odor will dissipate. The time it takes depends upon the type of wood, size, and the length of time it takes for the wood to completely dry.

Q: What can I use to clean brushes used to apply PENTACRYL or to clean up a spill?

A: PENTACRYL can be cleaned off/up with soapy water or any mineral solvent.

ADDITIONAL WOOD TREATMENT PRODUCTS

END GRAIN SEALER

END GRAIN SEALER is a non-toxic wax emulsion that is applied to the end grain of green wood or the face grain of turning blanks or carvings. Since up to 70% of the drying is through the end grain of the wood, it is beneficial for slowing down and evening out the drying of green wood.

This product can be used on logs, timbers, lumber, turning blanks carvings and other green wood items.

END GRAIN SEALER can also be applied to wood that has been treated with PENTACRYL, WOOD JUICE or LOG & BEAM TREATMENT. This will help during the drying process.

EXTERIOR WOOD SEALER

This is a sealer with low VOCs, made for use on exterior wood. When applied after using our wood stabilizer products, it will prevent the product from leaching out over time, while still allowing the wood to breathe. Especially beneficial during the drying of the larger wood pieces

LOG & BEAM TREATMENT™

This product was specifically designed for use on larger logs, beams and timbers to reduce or eliminate cracking, splitting, checking and/or warping caused by shrinkage as the wood dries. It is great for use on log homes, post & beam or timber frame homes and structures. Popular for treating wood accent pieces, log archways and stairs.

LOG & BEAM TREATMENT will penetrate deep and will not darken the wood. It contains a UV protectant. Formulated for use on interior wood, but can be used on exterior logs or timbers, as long as the wood is sealed to prevent it from leaching out in the weather. Available in 1 gallon size or larger.

POLYCRYL™

This is a concentrated, high molecular weight acrylic polymer that will fill and strengthen soft or spalted wood. It will dry clear and will not yellow. POLYCRYL is water-soluble and penetrates best when the wood is wet. It will help make carving and turning easier by fortifying the soft areas of the wood.

Penetration varies depending on the density of the wood. Note that it will not penetrate the hard areas of wood.

Since POLYCRYL is water-based, a finish will need to be applied to prevent the product from leaching out.

WOOD JUICE™

This wood treatment was formulated specifically for use on dry or semi-dry wood to prevent *future* cracking, splitting or warping. It can be used in place of PENTACRYL on *stable* green wood such as

Basswood, when the moisture content of the wood is 25% or lower *OR* when the wood has been sawn into boards which removes much of the stress.

Once dry, wood can be treated afterward with any type of stain, finish or glue.

WOOD JUICE is popular for treating pen blanks, knife handles and small turning blanks.

Our wood products are available in the following quantities:
Quart • Gallon • 5-Gallon Container
30-Gallon Drum • 55-Gallon Drum

Dear Woodworker,

Just wanted to share the following information with you.

Since PENTACRYL's development in 1996, Health Canada and Air Resources Board of California have approved it for resale into their respective areas. We feel honored by their approval, as they are strict environmental agencies.

PENTACRYL is currently available through a variety of over twenty-five leading woodworking stores and catalogs both in the U.S. and abroad. Many of these companies tested PENTACRYL themselves before including it in their catalog and/or stores.

Favorable articles have been written on the results of using PENTACRYL in many "new products" and "product reviews" journals and catalogs.

Developed and Manufactured in the U.S.A. by

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