PENTACRYL™

"The Green Wood Stabilizer"

PENTACRYL, is a compound of modified polymers. It will keep green wood from cracking and splitting as it dries and is popular with carvers, wood turners, furniture makers, builders and others working with green wood. PENTACRYL is formulated to penetrate green, wet wood with a moisture content above 25-30%, as the moisture in the wood helps the penetration. If you have wood that is semi-dry with a moisture content between 15-25%, use our WOOD JUICE.

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. Quarter grain shrinks less than flat grain.

PENTACRYL is 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 natural UV protectant.

Tests have been carried out for over 25 years with excellent results. Many types of hard and soft woods have been treated including pine, fir, basswood, tupelo, walnut, oak, apple wood, hawthorne, cherry, rock maple, soft maple, ash, madrone, yellow cedar, bamboo, exotic wood and others.

PENTACRYL can be brushed/rolled 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/rolling method. The key is to completely saturate the wood.

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 (how much water in the wood to start with), 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 1-2 months. If it is a thick carving, slab or other large piece, it may take 1-2 years to completely dry. Note that the wood must be dried ***slowly*** in an area with no direct heat and away from sunlight and any air movement. Do not put a fan on the wood as this rapid drying will cause cracking. To slow drying, wood can be covered with a cardboard box (leave a gap on the bottom to allow air to still reach the wood), loosing wrapped in brown paper or buried in dry wood shavings. END GRAIN SEALER can also be applied to treated wood to slow drying.

By displacing moisture in the wood, PENTACRYL will speed the drying time by up to 30%. To help determine if the wood is dry, a moisture meter can be used as PENTACRYL will not affect 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, lacquers, tung oil, linseed oil, and waxes – all have been successfully used. The wood can also be stained with aniline dyes or oil stains. We do not recommend applying water-based stains and finishes as these products add moisture back into the wood and may leave the surface tacky. Prior to sealing, be sure that you have allowed the wood to **thoroughly dry**, meaning all the moisture/water is out. If a finish is applied before the wood is completely dry, it will trap the moisture in and having no way to escape, the wood will eventually rot from the inside.

Q: Can a colorant be added to PENTACRYL?

A: Yes. A colorant can be added to PENTACRYL. Analine dyes, oil base dyes and stains, and pigments may be mixed with PENTACRYL. Again, we do not recommend water based products. The amount used depends upon the desired effect. Test a small amount first.

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/rolling 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 will no longer absorb any more PENTACRYL. See the product directions for treatment information. ***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 3-4 ounces per board foot and for very soft, open grained wood it will take as much as 8-10 ounces per board foot. Refer to the ***Wood Calculator*** on our website to help determine the amount needed for your size and type of wood: 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, a lot of exposed end grain or those that are unstable such as fruitwoods, require full saturation.

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 re-used to treat other wood.

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

A: Using the soaking method, 1-2 days per inch of thickness is generally sufficient. 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 8-10 ounces more than wood that is 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 sandpaper clogs up, it is an indication that the wood is not dry yet.

Q: Will PENTACRYL stabilize rotted or spalted wood?

A: PENTACRYL is not intended for use on rotted or spalted wood as these areas act like a sponge, absorb the product and prevent the wood from drying. See information on POLYCRYL for hardening soft, punky or spalted wood. PENTACRYL and POLYCRYL can be used together on the respective areas of 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: In most wood species, PENTACRYL will help keep the wood looking natural and bright. In some cases it may alter the color slightly. Wood such as Birch that has a very light color and highly absorbent bark, may leave stains on the bark. In woods with a high tannic acid content, there may be a slight graying on the surface. This is only superficial and will sand off when the wood is dry.

Q: Can PENTACRYL be used to treat fruitwoods?

A: Yes. PENTACRYL can be used to treat fruitwoods, which have a high amount of tension and can be challenging to stabilize. Remember that all wood treated with PENTACRYL must be allowed to ***dry very slowly***. Drying areas should not be too hot or too dry, with no air movement. Ideal conditions are between 55°-65°F and 45-50% relative humidity.

Q: What if mold starts growing on my treated wood?

A: If the wood is left in plastic too long, or is being dried in a high humid area, you may see mold on the wood. This is generally just on the surface and can be treated with Lysol to kill the mold spores. The mold can also be sanded off when the wood has dried.

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. 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 and approved as food grade. Therefore, we cannot endorse or recommend that it can be used on items intended for direct use with food or beverage.

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

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

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 wood burned?

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

Q: How is PENTACRYL different from Polyethylene Glycol, PEG?

A: PENTACRYL will penetrate the wood in one day where it could take PEG 6 months to do so. PEG may need 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: Once completely dry, 95-100% of the odor will dissipate.

Q: Will PENTACRYL kill bugs in the wood?

A: To keep PENTACRYL non-toxic, it does not contain an insecticide. If your wood has bugs, we recommend treating it first with Borate. This is a safe product that will kill insects and also act as a fungicide to prevent mold growth. Note, PENTACRYL treated wood will not attract insects.

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

A: Brushes can be cleaned with soapy water or mineral solvent. Small spills can be wiped up with paper towels.

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 85% of drying is through the end grain of the wood, END GRAIN SEALER 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 slow the drying.

EXTERIOR WOOD SEALER

This is a sealer made for use on exterior wood. When applied after using our wood stabilizer products, it will prevent the product from leaching out, while still allowing the wood to breathe and dry. This is especially beneficial when drying large 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 ideal for use on log homes, post & beam or timber frame homes and structures. Popular for treating log furniture, wood accent pieces, log archways, fireplace mantels, stairs, etc.

LOG & BEAM TREATMENT will penetrate deep and will not darken the wood. It contains a natural UV protectant to help keep the wood from fading. 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, nor will it fortify super degraded wood.

WOOD JUICE™

This wood treatment was formulated specifically for use on semi-dry wood to prevent ***future*** cracking, splitting or warping. It can be used on wood with a moisture content below approximately 25% but higher than 15%. Do not use on completely dry wood.

Once dry, wood can be sanded, stained, glued or sealed. Oil or alcohol base products are recommended as water base may leave the wood tacky (as it adds moisture back into the wood).

Our wood products are available in the following quantities:
Quart • 1 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 55 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, website and/or stores.

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

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