Professional Finishing of CCA Pressure-Treated Wood

by Alan Ross, Steven Bussjaeger, Richard Carlson, and William Feist

Preservative pressure-teated wood has been in commercial use in the United States for over a hundred years. Today it is widely used in such applications as utility poles, railroad crossties and marine pilings. However, the greatest growth of pressure-treated wood in the past fifteen years has come in the residential and commercial decking market. [1,2]

Most of the pressure-treated wood used in decking and other home construction projects is factory treated with chromated copper arsenate, more commonly known as CCA.

Lumber which has been treated with CCA bears the familiar green-to-light-brown appearance and is imparted with a resistance to decay and insects which provides an almost indefinite service life.

Originally, manufacturers of CCA-treated wood promoted their lumber as a "maintenance free" product. However, it was soon recognized that preservative treatment alone did little to address the important performance properties of surface appearance and dimensional stability. Consumers realized that the aesthetic appearance of their decks was just as important to them as the long-term structural integrity.

Thus, a need arose for the development of surface finishes for CCA-treated wood which could address the special requirements of this substrate and provide protection against the ravages of water, sunlight, mildew and other aspects of weathering and wear.

Initially, this need went unaddressed; most wood preserving companies had little expertise in surface finishes and most coatings manufacturers saw the CCA-treated lumber market as too narrow to justify major product development efforts. As a consequence, "all-purpose" type products were sometimes shoe-horned into the CCA-deck category with less than optimum performance results.

In the past few years, however, the dialogue between the wood preserving and coatings industries has improved significantly, and there are now several quality finishes on the market designed specifically for use on CCA-treated lumber.

The challenge today is to communicate to consumers, contractors and architects the special requirements of coatings for CCA-treated lumber and the

proper techniques for their application.

CCA treatment of wood

What pressure treatment does to wood: Today most CCA is composed of a mixture of the oxides of chromium, copper and arsenic.

Each component has a specific function: copper as a fungicide, arsenic as an insecticide, and chromium as the bonding agent which "fixes" everything to the wood.

The CCA treating mixture is supplied to the treating plant as a liquid concentrate. It is diluted with water to the appropriate level and then injected into the wood under high pressure in large, steel treating cylinders.

After the wood has taken up all of the treating solution it can absorb, the pressure is removed and a short vacuum is applied to pull off any excess liquid. The wood is then air dried or kiln dried before shipment to the lumber yard.

Once inside the cellular structure of the wood, the CCA treating solution undergoes a complex series of chemical reactions with the major wood components-cellulose, hemicellulose and lignin.[3] These reactions result in a bonding of the CCA ingredients to the wood fibers, rendering these chemicals insoluble and resistant to water-leaching.

Although the original treating solution is a hazardous substance, the level of fixation of CCA to the wood is so strong that the resulting treated wood is safe to handle and use around the home. It is not classified as a hazardous substance.

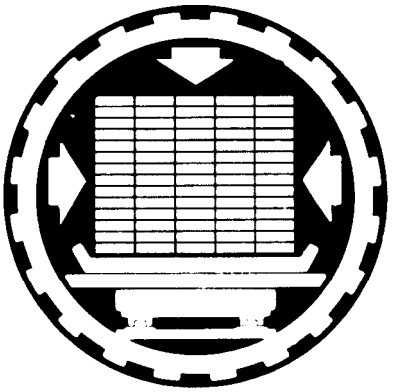
Since CCA treatment involves both the physical process of pressure impregnation and the chemical process of fixation, it is not surprising that the wood itself is both physically and chemically affected.

In order to accept the preservative solution, green lumber is usually dried to a moisture content of 25 percent or less. This is accomplished by either kiln drying or air seasoning.

During treatment the wood fiber becomes completely saturated with the preservative solution, which is mostly water. After the treating process is complete, the wood is still virtually 100 percent saturated with water.

The highest grades of treated wood are kiln dried after treatment to bring the moisture content down to 19 percent or less. However, it is more typical to allow the wood to air dry to reach an equilibrium moisture content.

Dried lumber to be pressure-treated is loaded onto small railcars and rolled into large steel treating cylinders. The cylinder door is closed, and a vacuum is pulled on the chamber to evacuate air in the wood cells, thus making it easier for the treating solution to penetrate the wood. While this vacuum is held, the chamber is flooded with the CCA treating mixture, and hydraulic pressure is used to force more treatment into the cylinder and therefore into wood cells. Then the pressure is removed, and a short vacuum is used to pull off excess liquid. Finally the lumber is air- or kiln-dried.



In some cases treated wood will reach the lumber yard while still very wet. Although the preservative itself is fixed to the wood, excess residual moisture can have a negative effect on finishability of subsequently applied coatings.

The treating cycle of drying, saturating and redrying has a marked physical effect on the wood. Internal stresses from localized areas subjected to alternating shrinking and swelling can result in cracking, checking, splintering, and grain raising.

Chemical interactions of CCA with the wood also result in changes. In general, the wood becomes weaker and more brittle, again giving rise to splintering and cracking.

Thus, while CCA treatment renders wood resistant to decay and insect attack, it also causes changes in the wood structure which affect its physical properties and its finishability.

Grades and Species of Treated Wood: Many types of softwood can be pressure treated with CCA preservative; however, the species most commonly treated is southern yellow pine. In the West, hemlock, hem-fir, ponderosa pine, jack pine and red pine are also subject to CCA treatment.

Some species, such as Douglas-fir, have difficulty accepting waterborne treatments; these are said to be refractory. In order to promote penetration of the preservatives, these woods are sometimes mechanically incised before treatment. Treated lumber will then have the characteristic rows of incising marks. Redwood, cedar and most hardwoods are not normally pressure treated with wood preservatives.

The standards-setting organization for pressure-treated wood in the United States is the American Wood Preservers' Association (AWPA), and the primary specification governing treated lumber is AWPA Standard C-2.[4] This standard sets the requirements for preservative level in the wood, depth of penetration, species which may be treated, and other important treating parameters.

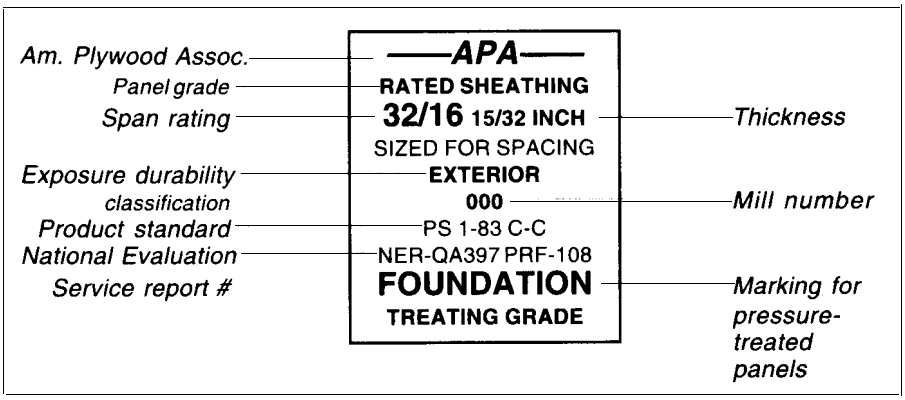
Adherence to standard is checked via third party inspection at the treating plant. Those treaters who consistently meet the AWPA standard are allowed to display the AWPA mark on their lumber, along with that of the third party inspection agency.

Treated lumber will also often bear a grade stamp and a mark designating the level of CCA treatment. Grade stamps are similar to those for untreated lumber. CCA level is listed as a retention number which represents the pounds per cubic foot (pcf) of preservative in the wood. For above-ground applications, the specified retention of CCA is 0.25 pcf, for ground contact uses it is 0.40 pcf, and for treated plywood it is 0.60 pcf.

Preservative-treated Plywood: Plywood used in most construction applications requires no preservative treatment. However, in certain uses and climates it may require the protection from fungi and insects provided by preservative pressure treatment. The most prominent use of preservative-treated plywood is in permanent wood foundations.

In addition to CCA, two other waterborne inorganic preservatives can be used to treat plywood for permanent wood foundations. These are Ammoniacal

Treated lumber will often bear a grade stamp and a mark designating the level of CCA treatment. A typical stamp, like the one shown above, will bear the AWPA mark if the treaters have consistently met the AWPA requirements. It will clearly indicate whether the lumber is intended for above ground or ground contact use.



Typical APA Registered Trademark, this one indicating pressure-treated panel.

Copper Arsenate (ACA) and Ammoniacal Copper Zinc Arsenate (ACAZA). Required preservative retention for all of these treatments is 0.60 pounds per cubic foot, which is 50 percent higher than the code requirements for normal ground contact applications.

The finishing requirements and performance characteristics for ACA and ACZA are generally similar to those for CCA. All of these preservatives are readily paintable when dried after treatment. The American Plywood Association has several publications available concerning the finishing of plywood treated for use in permanent wood foundations.[5–7]

Advantages of coating CCA-treated wood

Coating CCA-treated Wood: Wood which has been pressure treated with CCA can be used in a variety of applications in residential and commercial construction.

Most commonly it is used for decking and railing, but it also finds application in lattice work, permanent wood foundations, docks, gazebos, playground equipment and similar wooden structures.

In all of these uses the appearance of the wood can be enhanced and protected by the application of a surface coating of paint, stain or water repellent. Unlike most other wood preservatives, CCA readily accepts coatings and can actually help to increase the service life of some finishes.

Enhancement of Appearance: CCA treating solution is light yellow in color and when the wood comes out of the treating cylinder it also has a light yellow color.

However, within a few hours of treatment the wood's appearance changes to its well known flat greenish hue. While this is pleasing to some users, many prefer to have a more natural cedar, redwood or driftwood appearance to their wood.

Coating with protective stains or wood "toners" is the best way to accomplish this. Toners are generally more transparent than stains and they highlight the wood grain. Finishing with any of these coatings will provide a more even appearance to the treated wood, since board-to-board color varia-tions are not uncommon with CCA treatment.

Protection: As noted previously, pressure treatment with CCA provides wood with long-term resistance to decay and insects but it does little to protect wood from the effects of the elements–rain, snow, sunlight-and mildew. The best way to protect against these enemies of wood is with properly designed and applied wood coating systems.

The ideal finish will have water repellent properties to protect against rain and snow, contain pigments or UV absorbers to resist sunlight, and be fortified with mildewcides to resist surface molds and stain.

Problems in coating CCA-treated wood

Unlike most other wood preservtives, CCA does not adversely affect wood finishes. It not only readily accepts most coatings, but it has been shown to enhance the service life of paints, stains and water repellents.[8] In spite of CCA-treated wood's general compatibility with most coatings, there are some potential problems which users need to be aware of.

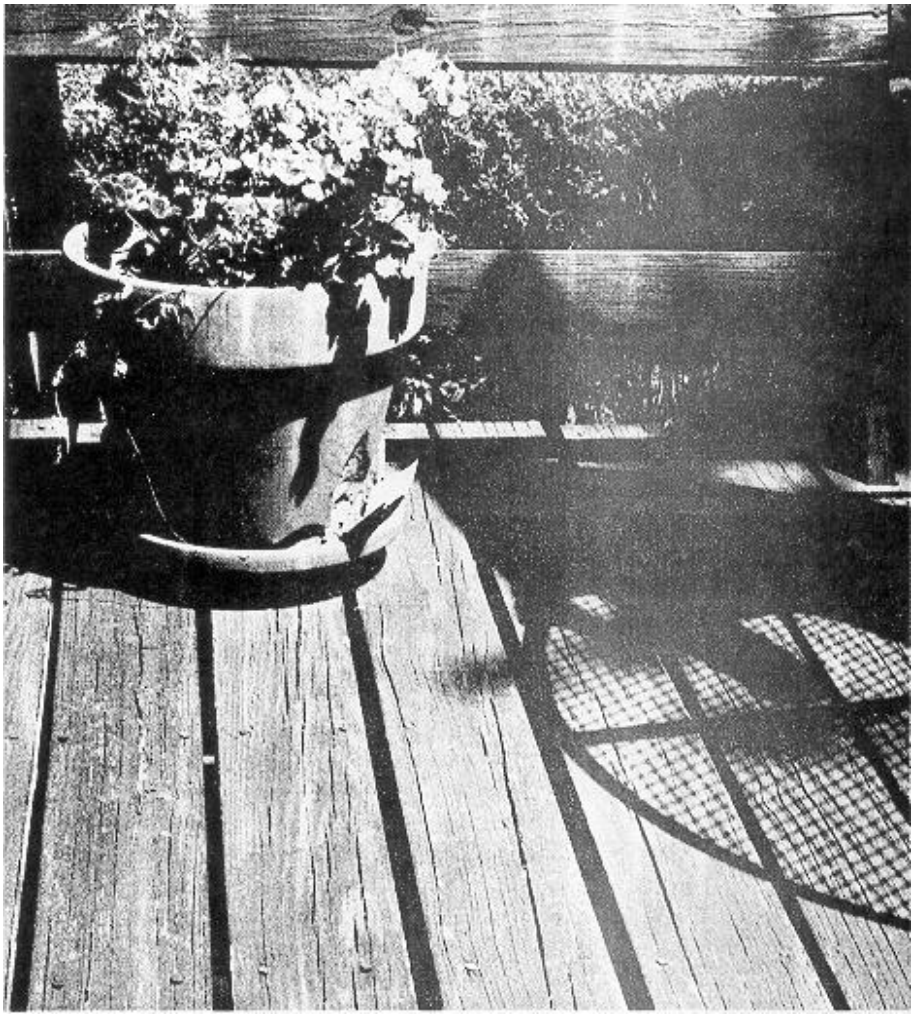
Lack of Penetration: Many types of nonfilm-forming wood finishes such as stains and water repellents must be able to penetrate the wood's surface in order to work effectively. The presence of 0.25, 0.40, or even 0.60 pounds of CCA per cubic foot of wood is not sufficient to hinder penetration.

However, excessive moisture, which can be present if treated wood is not sufficiently dried, can impede penetration of these finishes. Lumber which is saturated with water should be allowed to air dry before coating is attempted. In most cases, two to three weeks of seasoning in dry weather should bring the moisture content down to an acceptable level.

Substrate Limitations: Southern yellow pine, as previously mentioned, is the most common species subject to treatment with CCA. It is a relatively permeable wood with wide latewood bands and flat-grained characteristics.[9] While these properties enhance the treatability of southern yellow pine, they work against it as a coatings substrate.

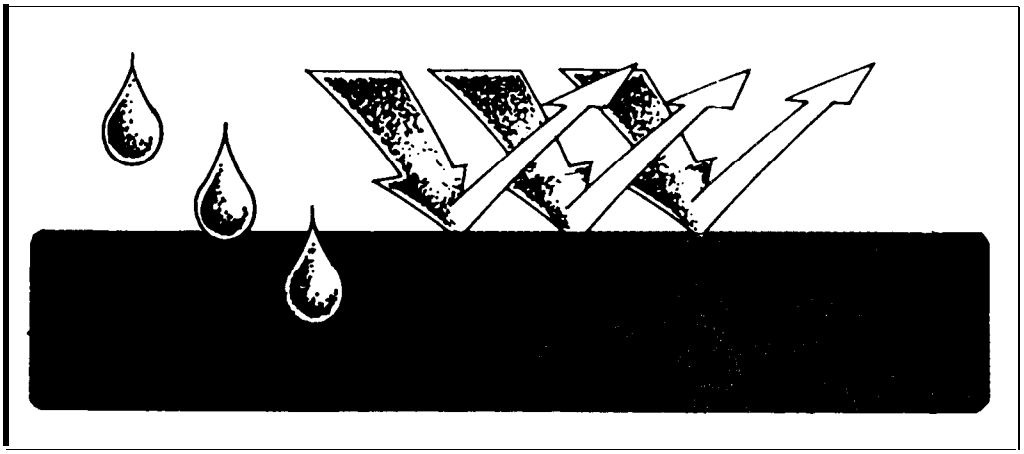
In general, this type of wood has poorer finish-holding capabilities than species such as cedar and redwood. However, these deleterious effects are somewhat offset by the performance-enhancement properties of the CCA.

Color Bleed-through: CCA-treated wood will take on a color of anywhere from a light brown to a bluish-green. The color is a consequence of the reaction of the treating chemicals with the wood components. Since wood is tremendously variable, the color of CCA-treated wood can vary significantly from board to board and sometimes even within the same board.



The majority of CCA-treated wood in home construction goes into decks. Most paints, varnishes, and solid color stains are not recommended for exposed horizontal deck surfaces, regardless of whether the lumber is pressure-treated or untreated. Film-forming coatings have a tendency to peel, blister and mar when coated on horizontal substrates subject to weathering and traffic, as illustrated in the top photo.

Clear or pigmented water repellents, wood toners, and semi-transparent stains are the recommended finishes because they give protection against moisture and UV sun rays. Remember that CCA-pressure treatment gives the wood long-term protection against decay and insects, but it does little to protect wood from the effects of rain, snow, sunlight and mildew.



As might be expected, application of a clear or lightly pigmented finish will do little to mask the color or even-out the appearance. In light colored coatings the CCA green will appear to "bleed-through" the finish. This is not a physical bleeding of the treatment but, rather, an optical show-through effect. The use of darker colors, more opaque finishes and/or a second coat can reduce or eliminate the green show-through and even-out the substrate appearance.

Products used to coat CCA-treated wood

For Decks: The majority of CCA-treated wood in home construction goes into decks. Most paints, varnishes, and solid color stains are not recommended for exposed horizontal deck surfaces, pressure-treated or untreated.

Because they are film-forming coatings, they have a tendency to peel, blister and mar when coated on horizontal substrates subject to weathering and traffic.

Clear or pigmented water repellents, wood toners, and semi-transparent stains are the finishes most often used on either treated or untreated decks. In order to work properly, they must be able to penetrate the surface. Due to the permeability of pine this is usually not a problem.

For Other Surfaces: CCA-treated wood is compatible with most coatings products. Solid color stains and paints can be used successfully on vertical surfaces such as siding, trim, plywood foundations and lattice work.

Both solvent-borne and waterborne coatings can be used to finish CCA-treated lumber. With the increased emphasis on VOC-compliant coatings, several waterborne stains and water repellents have recently been introduced for use on pressure-treated wood.

Test methods for evaluating performance of finishes

Finishes for CCA-treated wood can be evaluated by the same standards and test methods used for other types of coatings.

Water Repellency: This is an important property due to the need to protect CCA-treated wood from the absorption of water which can cause splitting, checking and warping. A

widely used industry standard for water repellent effectiveness is Federal Specification TT-W-572B.[10]

The water repellent effectiveness of a coating is evaluated on a device called a swellometer which measures the amount of water taken up by a coated endgrain wafer of Ponderosa pine. It is expressed as the percentage of water repelled in the coated sample compared to that of an uncoated control. To meet the specification, a coating must have a water repellent effectiveness of at least 60 percent.

Mildew Resistance: Although CCA treatment protects lumber from decay, it provides little resistance to surface molds and mildew. These fungal organisms can deface both the surface of the wood and the coatings themselves.

Thus, it is important that finishes for CCA-treated wood contain additives which control the growth of mildew. Mildew resistance of coatings can-be evaluated both in the laboratory and in field exposures.

In a typical laboratory mildew test, such as ASTM D3930,[11] a sheet of filter paper coated with the finish under evaluation is placed in a petri dish in a nutrient medium consisting of potato-dectrose agar. The paper is then inoculated with a concentrated sample of mildew spores and allowed to incubate for a week at 85°F and 90% relative humidity, ideal conditions for mildew growth. If the finish is mildew resistant, the fungi will grow on the surrounding nutrient but not on the coated paper itself. If it is not resistant, the coated paper will exhibit mildew growth. Variations of this method using wood wafers as the substrate are also utilized.

Outdoor field exposures are another way of evaluating the mildew resistance of coatings for CCA-treated wood. Though they take longer than laboratory tests, they are usually more meaningful since they take into account the effects of sunlight and weathering which can degrade many mildewcides. Wood panels or boards are coated with the products under test and placed on exposure outdoors. To speed up results, they are often placed on racks facing south at a 45 degree angle for maximum sun exposure. In addition, mildew exposure tests can be run in tropical or subtropical environments, such as Florida or Puerto Rico, to further accelerate mildew growth.

Weathering Resistance: This is an important property for any exterior finish. In the laboratory, artificial weathering machines are used to evaluate the performance of finishes over CCA-treated wood.[12–15] Generally, these are cabinets containing a source of artificial sunlight such as a carbon arc, a Xenon arc or fluorescent UV lamps, along with spray heads to simulate rainfall and humidity cycles. Coated CCA-treated panels are placed in these machines and exposed over periods ranging from 200 to 2,000 hours.

Coating performance is periodically evaluated for fading, erosion, peeling and discoloration and is compared to that of panels coated with known controls. This technique is most useful as a comparative method for evaluating performance of coatings. Generally, it is not successful as a means of predicting long-term coating durability in service. For that purpose exterior weathering is preferred.

Exterior weathering performance is evaluated on outdoor test panels in a manner similar to that for the outdoor mildew tests described above. Since sunlight plays a major roll in coatings failure, accelerated testing is often conducted by having exposures in high sunlight level climates such as Arizona and Florida.

It can take 1-2 years before long-term coating performance can be adequately evaluated for water repellents, clear finishes and semi-transparent stains. For paints and solid color stains, test periods of five years and longer are sometimes needed to separate excellent from average finishes.

Field Testing: The ultimate performance evaluation of any finish is on actual exposure in the end use for which it is intended. Since most finishes for CCA-treated wood are used on decks, it is critical that new products be thoroughly evaluated on deck exposure. This is a harsh environment for most finishes; many products which perform adequately on siding will fail much sooner on decks. In addition to the horizontal surface which maximizes exposure to sunlight, rain, snow and standing water, deck coatings are subject to abrasion from foot traffic, which can also lead to premature failure.

Costs: The cost of a CCA-treated wood deck is a significant investment for most builders and homeowners. Although several brands of treated wood are now available with long-term warranties against decay and insect attack, this material is still subject to water damage and defacement from sunlight and mildew. Thus, many consumers find it prudent to protect and beautify their deck investment through the use of a protective surface finish.

As with most painting projects, the majority of the cost in finishing CCA-treated lumber is in the labor of application rather than in the materials.

Labor costs will vary depending upon the condition and design of the deck, its location, and local market conditions. Typically, the cost (1990) for surface preparation and coatings application is on the order of $1.00 to $1.50 per square foot of deck surface. Thus, the labor to prepare and finish a 300 square foot deck would range from $300 to $450. Obviously, this overshadows the cost (1990) of materials which, for the approximately two gallons of coating needed for this deck, could run anywhere from $20 to $50 ($10 to $25 per gallon).

From the example above, it should be clear that the use of premium performance finishes is the most economical course of action. An additional $30 investment in premium quality materials will likely result in increased service life and thus longer time until recoat, thereby providing reduced maintenance costs. For this reason, the use of quality products specifically designed for pressure-treated decks, though possibly more expensive than all-purpose coatings, is more cost effective in the long run.

Do-it-yourselfers, who make up a large portion of deck-care finish users, do not have direct labor costs. However, they should consider the costs involved in their own time and effort to apply coating products. Again, the up-front investment in a higher quality finish will have an ultimate payback of longer time until recoat and less need for maintenance.

Painting contractors also need to consider the consequences of using less expensive, lower quality deck coatings. Ultimately, these can lead to complaints, re-do expenses, and the hidden cost of lost sales.

Performance expectations: As noted previously, CCA-treated wood is mainly used in home deck construction, and wood decks are one of the more difficult substrates to adequately protect.

The major performance expectations for these coatings are aesthetic appearance and durability-protection of the wood from the effects of water, sunlight and mildew.

Depending upon exposure, application technique and deck use conditions, water repellents and clear finishes can perform for up to two years before the need to recoat. Since these are transparent finishes, application is usually easy, requiring no more than one to two hours for the typical deck.

Pigmented stains are more heavy duty products designed to last up to four years on exterior deck surfaces. They are a little more difficult to apply than clears and thus will require slightly longer application times.

A successful coating will provide the CCA-treated wood deck with water repellency, mildew resistance, and resistance to graying from sunlight. In addition, pigmented finishes will provide color retention and will help resist peeling or marring.

All finishes for decks should have good recoatability. This means that when it's time to reapply, surface preparation will be minimal and the new coating will have good compatibility with and adhesion to the finish on the deck.

In the past, some coatings manufacturers and painting contractors have expressed concern about the ability of CCA-treated wood to accept most finishes. However, a recent investigation at the U.S. Forest Products Laboratories has demonstrated that CCA treatment not only does not interfere with coating performance but, in fact, it enhances the service life of most surface finishes.

The study showed that clear water repellents, semi-transparent stains, wood toners and even paints all performed much better on CCA-treated wood than they did on untreated lumber of the same species.

Thus, owners of CCA-treated wood decks can expect excellent performance and service life from high quality deck finishes.

Field hints

For the most part, finishes for CCA-treated wood can be applied in the same manner as coatings for any exterior wood substrates. However, there are a few field hints which are especially important for CCA-treated wood and the products applied over it.

Surface Preparation: Proper surface preparation is an important factor in the ultimate performance of coatings for pressure-treated wood or any wood surface. Surfaces should be clean, dry, and free of mildew before coatings are applied.

Recommendations for preparing the wood are usually found in the label directions on the coating containers.

While bleach, cleansers and trisodium phosphate are sometimes suggested for preparing weathered wood, many manufacturers are now recommending the use of one of several deck brightener and wood restorer products which have recently become available.

Most of these products are specifically designed to renew the surfaces of weathered decks and prepare them for subsequent coatings application. The better deck preparation products will remove dirt, mildew, grayed wood, loose fibers and coating particles in one step. As always, label instructions regarding safety and environmental concerns should be closely followed.

Weathering or seasoning: Contrary to the belief of many consumers and paint companies, it is not necessary to allow newly installed pressure-treated wood to weather or season for long periods of time before applying a coating. Most newly built CCA-treated wood decks can and should be protected with a water repellent, toner or semi-transparent stain as soon as possible after construction. Recent research[16,17] has shown that exposing unprotected wood to weathering for even short periods of time can cause surface damage.

This damaged surface reduces the ability of the wood to hold onto subsequently applied coatings-a situation which can ultimately lead to premature coatings failure. Thus, unless the new treated wood is still very wet, it should be coated as soon as possible after deck construction. If the wood is obviously wet, no more than two to three weeks of air drying should be allowed before a coating is applied.

Over-application: A major source of problems and complaints for all wood finishes is over-application of the coating. Many do-it-yourselfers and some painting contractors believe that when it comes to coating, more is better. This is simply not the case and is particularly a problem for decks. Most deck finishes are designed to penetrate the surface of the wood. Putting too much of these coatings on the wood leads to a buildup of material, forming a film which can ultimately peel or crack. For water repellent products, over-application can result in a surface which is overly waxy, sticky, or slick. Over-applied stains will often result in sticky surfaces, since the coating buildup interferes with their ability to dry properly.

In all cases, it is important to follow the manufacturer's label suggestions regarding coverage. Rough sawn surfaces are able to absorb more coating than smooth sawn substrates. However, since most CCA-treated wood will have a smooth surface, particular care should be taken against putting too much material on it. One coat is usually sufficient for most deck finishes. If two coats are desired, it is important to be sure that the first coat properly penetrates the surface before the top coat is applied.

Application Methods: Coatings for CCA-treated wood can be applied by a variety of methods including brush, spray, roller and pad. Brushing is considered to be the best technique for detail work such as spindles and railings.

However, for large horizontal deck surfaces, spray application is quickest and easiest. Either airless power sprayers or pump hand-held sprayers can be used.

It is important when spray applying pigmented finishes to backbrush the wet coating with a brush or pushbroom. This evens out the finish and eliminates drips and lap marks.

Pads are also well suited to coat CCA-treated decks. Individual boards should be coated along their entire length to prevent lap marking.

Paint rollers are more suitable for applying siding finishes than for deck coatings. However, they can be used successfully to apply clear finishes and water repellents to CCA-treated decks.

As for most exterior coatings, it is vital that deck finishes be applied under proper weather conditions. Solvent-borne coatings are a bit more forgiving than water-based formulations and can usually be applied when outside temperatures are in the range of 40-90°F. Water-based products should not usually be applied if outside temperatures will fall below 50°F within 24

hours after application. Deck coatings ideally should not be applied if precipitation is forecast for the 12-24 hour period after coating. This will prevent the possibility of water spotting or wash-off.

Once they dry, of course, these finishes will be resistant to precipitation.

Label Instructions: Since each commercial formulation is a little different, the manufacturer's label instructions should be consulted and understood before the product is used. This is important not only from an application and performance standpoint but also with regard to user safety and environmental considerations.

Unfortunately, many consumers fail to read the product label until after they experience a problem, at which point it may be too late for easy corrective action.

Research needs

The paint industry and the forest products industry have independently conducted quite a bit of research over the years in the respective areas of coatings and wood treatment. However, relatively little work has been done in the area of coatings for treated wood itself. The U.S. Forest Products Laboratory in Madison, Wisconsin has carried out a large portion of the work in this field.[18]

In the previously mentioned study evaluating the performance of a variety of finishes on untreated wood versus CCA-treated wood,[8] the CCA treatment was shown to enhance the service life of subsequently applied coatings. In almost every case, coating performance over CCA-treated pine and hemlock exceeded that of the same coating on untreated pine and hemlock.

A second phase of this project is just beginning. It will evaluate some of the newer VOC-compliant coatings over CCA-treated versus untreated wood.

One significant research need is the development of coatings which would provide even greater dimensional stability to CCA-treated wood than can be obtained with current water repellents or stains.

CCA-treated pine readily absorbs water which can lead to cracking, warping, grain raising, etc. Most surface coatings today will provide some measure of protection, but the internal stresses on the wood are so great that cracking and checking will ultimately occur. Thus, there is a need for coatings products which can penetrate further into the wood and interact with it to provide enhanced dimensional stability.

Manufacturers of treated wood have begun to address some of the performance issues of their products by incorporating water repellent and mildew resistant additives into the wood during the pressure treatment process. These ingredients provide initial protection which may last from a few months to a few years. Ultimately, treatment with surface coatings is required to provide ongoing protection.

There is a need to evaluate the performance of surface finishes over these newer treated wood products.

Conclusion

Preservative pressure-treated wood is a valuable and widely used commodity especially in the growing area of home deck construction. While the CCA treatment provides long term protection for the wood against decay and insect infestation, it is not very effective in resisting damage and defacement from the effects of water, sunlight, temperature variation and mildew.

Surface finishes go a long way toward providing this protection, and they can also improve the aesthetic appearance of CCA-treated lumber.

Most exterior wood coatings products are compatible with CCA-treated lumber.

The treatment does not interfere with coatings compatibility unless the wood is coated before it is adequately dried from the moisture introduced during the treating process.

In that case, an air drying period of two to three weeks during dry weather is usually sufficient to allow for successful finish application.

There is now evidence that CCA treatment actually enhances the performance of subsequently applied finishes.

Critical factors for successful finishing of CCA-treated wood are: proper surface preparation, correct application procedures, and correct coverage rate. As with many finishes, more is usually not better and over-application can lead to early coatings failures.

Timely application of protective finishes to new CCA-treated wood is an important consideration. Allowing new wood to weather or season for more than two to three weeks without a protective finish can damage the surface to the point where it impairs the performance of subsequently applied coatings. Thus, most new wood should be protected with a finish as soon as possible after it is in place.

Finally, since most CCA-treated wood is used in deck construction, the choice of protective and decorative finishes which are especially designed for use on decks will provide the best performance results.

These products usually have advantages over "all purpose" type stains and water repellents in that they contain ingredients which are specifically suited for use on decking lumber.

Because the major cost of most coatings projects is in the labor to apply, the use of high quality premium performance finishes is ultimately more cost effective to the contractor as well as the do-it-yourselfer.

Endnotes:

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Fourth in a series of technical articles:

This technical article is the fourth in a series to deal with the basics of painting and finishing exterior wood surfaces on houses and commercial buildings.

The artciles were written by a joint committee made up of about 20 technical representatives of the Federation of Coatings Technology and the National Forest Products Association.

"Professional Finishing of CCA Treated Wood' was written by the Finishing CCA-Treated Wood Task Group of this joint committee. Task Group members were:

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–Steven Bussjaeger, Davis Paint Co., Kansas City, MO;

–Richard Carlson, American Plywood Association, Tacoma, WA; and

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Sources of additional informatioon:

–American Plywood Association, P.O. Box 11700, Tacoma, WA 98411; phone (206) 565-6600.

–American Wood Preservers' Association, P.O. Box 849, Stevensville, MD 21666; phone (410) 643-4163.

–Federation of Societies for Coatings Technology, 492 Norristown Road, Blue Bell, PA 19422-2350; (215) 940-0777.

–Forest Products Research Society, 2801 Marshall Court, Madison, WI 53705; phone (608) 231-1361.

–National Forest Products Association, 1250 Connecticut Avenue, N.W., Washington, DC 20036; (202)463-2700.

–National Paint & Coatings Association, 1500 Rhode Island Avenue, N.W., Washington, DC 20005; (202) 462-6272.

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