

## UNDERSTANDING PRODUCT USE



Detailed technical treatment information will help decide the appropriate products needed for any project that includes design, construction and maintenance of treated wood structures.

### ADDITIONAL DOCUMENTS TO REVIEW

- Product Warranties address fungal decay and termite attack, and when applicable, color retention.
- Safe handling guides that feature treated wood precaution and proper disposal recommendations.

Many concepts discussed within this document are taken directly from the warranty policies. Please note, the information in this document does not alter any written warranties in any way.

End tags are attached to each piece of wood that is manufactured by ProWood. These end tags play a critical role in identifying products, preservatives, intended use, and its applicable warranties. Please see Page 5 for a detailed description of each component.

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## UNDERSTANDING TREATED WOOD – WHAT IS IT?

Not all treated wood is the same. In this section, we will review the difference between above-ground, ground contact, and light duty product uses.

### ABOVE-GROUND PRODUCT VS. GROUND CONTACT

A primary difference between treated products is that some can only be used in aboveground applications. These are not intended to be used in, on or near the ground. By contrast, other products are made for ground contact and have a significantly higher concentration of preservative to protect the wood in these more challenging conditions.

#### WARRANTY TIP

**IF AN ABOVE-GROUND PRODUCT IS USED IN A GROUND CONTACT APPLICATION, ANY DAMAGE FROM FUNGAL DECAY OR TERMITE ATTACK IS NOT COVERED BY WARRANTY.**

Additionally, products may not resist fungal decay (rot) if they are used in ways that approximate ground contact, like in poorly ventilated areas where they are damp for extended periods of time or where they are exposed to accumulated debris for long periods of time. One rule of thumb is to have at least 6 inches of clearance between the ground and the treated wood. Special care must be taken when using under-deck ceiling systems to avoid these pitfalls. To provide more detailed help, a special FAQ bulletin on these systems is available at [ProWoodLumber.com/UnderDeck](http://ProWoodLumber.com/UnderDeck).

#### WARRANTY TIP

**IF AN ABOVE-GROUND PRODUCT IS USED IN AN APPLICATION THAT CAN SIMULATE GROUND CONTACT, ANY DAMAGE FROM FUNGAL DECAY OR TERMITE ATTACK IS NOT COVERED BY WARRANTY. THESE APPLICATIONS REQUIRE THE USE OF MATERIAL TREATED FOR GROUND CONTACT.**

### LIGHT DUTY PRODUCTS

Light Duty covers an internal standard that we treat to that we call UFPB. It not meant for structural uses (not critical to the integrity of a structure) and does not conform to the AWPA/ESR standards. It is easily replaced and maintained and is generally backed by a 1-year warranty (some products 10 - 20 years). Lumber with a Light Duty designation can be used in above ground and in some ground contact settings. This can be used for West Virginia split rail fencing, any RP/DF/non-KD SYP fencing products/components, any specialties (spindles, lattice, etc.) and round posts.

### WATER-BASED PRESERVATIVE DELIVERY SYSTEM

There are basically two types of liquids we come across in our normal daily lives: polar (like water) and non-polar (like mineral spirits). In the science of wood preservation and wood protection, we have the same basic choices. As it turns out, water is the best carrier to deliver our wood preservatives deep into the wood where they can provide long-term protection. There are many benefits to using water, including a very clean and stain-free surface without any oily residue or strong odor, plus the best environmental scorecard. However, there is one drawback: when we treat the wood, we fully saturate the wood

fiber and the wood swells in the same way a sponge swells when you get it wet.

The water in the treated wood will evaporate naturally, but this will only happen once air can circulate around the individual piece. Often this does not happen until the wood is purchased or even after your project is built. This means the wood will likely be in its swollen state when you are building your project. (This is also why treated wood feels heavy.)

The amount of swelling is governed entirely by Mother Nature and can vary quite a bit. A good rule of thumb is to expect a 6 inch deck board to shrink between a 1/4" and 3/8", but it can be more. This has nothing to do with the way the product is treated or the preservative it is treated with. It is a characteristic of that particular piece of wood.

Some ProWood® products have been kiln dried after treatment. They are referred to as KDAT, for Kiln Dried After Treatment.

KDAT products will be purchased with a moisture content much closer to the one they will naturally attain, typically around 12%.

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**KEY FACTS:**

- Wood swells as its moisture content goes from zero (bone dry) to about 30% (referred to as “fiber saturation”)
- The amount of swelling is solely a characteristic of that individual piece of wood
- Wood used outdoors will achieve equilibrium with its environment over time, reaching a moisture content of about 12%
- Most of our treated wood will be at fiber saturation when purchased
- ProWood® KDAT will be purchased with about 19% moisture content.

Wood also picks up water during the life of the project when exposed to rain or standing water, then dries out again as conditions permit. As it does, it will swell and shrink. This wet-dry (swell-shrink) cycle is part of the natural weathering of any wood and can contribute to checking and splitting, among other undesirable conditions.

**WARRANTY TIP**

**THE SHRINKING OF DECK BOARDS THAT RESULTS IN GAPS IS NOT COVERED BY WARRANTY. THIS SHRINKING SHOULD BE ACCOUNTED FOR DURING CONSTRUCTION.**

**WOOD TREATMENT FROM OUTSIDE TO INSIDE**

When pressure-treated products are machined (cross cut, ripped or machined), unprotected or weakly protected areas can be exposed, lessening the wood's ability to resist attack from decay fungi or termites. Here's why...

ProWood® products are pressure treated in a process that forces chemical preservatives deep into the wood through the application of vacuum/pressure inside a closed cylinder. The preservative starts on the outside and pushes its way deep into the wood. Generally speaking, the sapwood is penetrated but the heartwood is not penetrated. Industry standards clearly define the required preservative penetration into the wood, as well as the way in which each batch must be tested after treating.

- Southern Pine is the predominant species used for ProWood® products. Southern Pine has many desirable qualities. It's a strong, renewable building material and very receptive to treatment. This species is comprised mainly of treatable sapwood with relatively small amounts of heartwood. Often the sapwood adjacent to the heartwood can be difficult to penetrate during the treating process, a fact reflected in the industry standards.

Finally, as the treating solution makes its way through the wood fiber toward the middle, some preservative is deposited in a higher concentration on the outside compared to the center.

The purpose of this information is to help users of our pressure-treated products understand why anytime the product is machined, care should be taken. First, one should be aware of the impact machining has on the warranty. The use of a brush on wood preservatives during construction, and the extra care required by these exposed surfaces during the life of the structure, should be considered. Finally, do not place the exposed surface in direct contact with the ground or in similar environments.

**WHY ROT AND TERMITES CAN'T GET A Foothold**

One of the primary ways our preservatives protect wood from decay fungi is by making it very difficult for spores to take root on the wood surface. However, if the decay fungi has settled into an untreated piece of wood that is touching a piece

**WARRANTY TIP**

**IF OUR TREATED WOOD IS CUT LENGTHWISE OR SURFACED, POSSIBLE DAMAGE RESULTING FROM DECAY FUNGI OR TERMITE ATTACK IS NOT COVERED BY WARRANTY.**

of treated wood, the fungi are better able to challenge—and maybe even overcome—the protection offered by the preservative treatment. There are a couple ways this can happen. If our product is in contact with an untreated piece of wood, the fungi may attack the treated product. Similarly, if aboveground treated wood is used in contact with the ground, it may succumb due to reasons described earlier. This piece can then threaten adjacent pieces of treated wood, even though they were used in the correct application (i.e., aboveground treated wood used in an aboveground application).

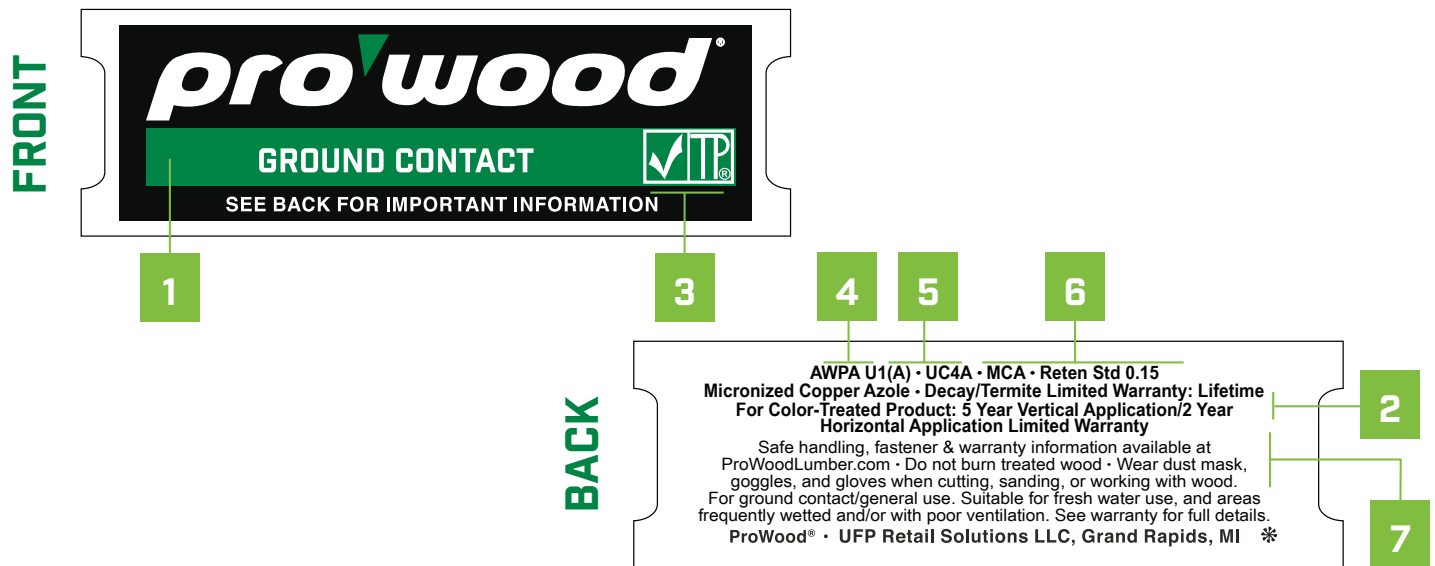
The situation is similar for termite attack. Untreated wood can draw termites to the properly treated product en masse and make it more likely for them to penetrate the protection afforded by the preservative treatment.

**WARRANTY TIP**

**IF OUR TREATED WOOD IS IN DIRECT CONTACT WITH UNTREATED WOOD OR IMPROPERLY USED WOOD, POSSIBLE DAMAGE FROM DECAY FUNGI OR TERMITE ATTACK IS NOT COVERED BY WARRANTY.**

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## HOW DO YOU KNOW WHAT YOU'RE BUYING? READ THE END TAG!



### 1. DESCRIPTION OF USE:

This label specifies if the product is being treated per ESR or AWPA (American Wood Protection Association) standards and is compliant with model building code requirements.

### 2. WARRANTY STATEMENT:

ProWood offers a Lifetime Limited Warranty for Ground Contact and Above-Ground lumber as long as you own it.

### 3. 'DOUBLE-BOX' SYMBOL:

Required for building code compliance; indicates the AWPA standard and the third-party inspection agency.

### 4. CODE FOR STANDARD:

MCA-treated decking, lumber, and timber meet AWPA (American Wood Protection Association) standards at UFP-affiliated treating plants. AWPA is the wood-treating industry's consensus-based, standard-setting body with industry experts, researchers, educators, users, and producers. AWPA specifies the level of MCA treatment according to specific categories and end uses.

### 5. CODE FOR USE/EXPOSURE CATEGORY

The code represents the building category for structural use.

### 6. PRESERVATIVE SYSTEM

This states the chemical used to treat the wood.

### 7. PRODUCT CARE

This section provides specific details on safe handling, fastener and warranty information, and resources to learn more.

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## DESIGN YOUR PROJECT FOR SUCCESS

Some simple rules can have long-lasting impacts—good or bad—on your treated wood structure. In light of our description of what treated wood is and how it works, these may seem obvious, but they're worth repeating.

### CHOOSE THE RIGHT PRODUCT FOR YOUR PROJECT

For long-term structures that are difficult to replace, it's recommended to use ground contact products. It's best to use above-ground products only for areas that will not devolve to ground contact overtime. For decorative landscape projects that are easier to replace, use light duty products.

### DEBRIS ACCUMULATION

If your project requires above-ground products, keep in mind that areas where debris can accumulate over months or years can simulate ground contact conditions. Factoring this into the design of the project and selection of material on the front end can pay dividends over the life of the project.

Other common culprits that fit this category are mulch used around fences or decks or vegetation that is allowed to grow up around the treated wood. These can quickly turn an aboveground exposure into one that presents the same challenges as direct ground contact.

### VENTILATION

Providing good ventilation is very important in the design of a treated wood structure. Decay fungi tend to thrive in dark, damp areas. This is especially important when decks are built within two feet of the ground or elevated with an under-deck ceiling. Again, factoring this in on the front end of the design is important to the long-term life of the project.

## MAINTENANCE

So far we have covered things that help keep the project structurally sound and fit for its intended purpose. However, keeping a project looking good is just as important. In this section, we will relate some of the attributes of our pressure-treated products to maintenance.

### NEW PROJECT, LOOKS GREAT, NOW WHAT?

Our preservative treatment is designed to provide protection from decay fungi and termite attack. However, as soon as your project is built, Mother Nature begins her assault, weathering your beautiful new project. Her primary weapons are the sun's ultraviolet (UV) rays and the wet-dry cycle (rain/high humidity, then drying out). Even with the use of ground-contact products, routine maintenance will make the biggest impact for long-lasting performance.

One added benefit of our copper-based preservatives is that they offer real protection from the sun's ultraviolet (UV) rays. UV exposure is less damaging to these products than to untreated wood.

In addition to the preservative, we offer some products with built-in water repellent (see the end tag to know for sure) and/or an infusion of color as an alternative to the typical light green tone of most treated wood.

Applying a good quality brush-on or spray-on product is never a bad idea. These products are readily available. Look for penetrating products that boast water repellency, UV protection, and if desirable, color. Generally we would not recommend film-forming products like paints or other "long term products." The wood must be fairly dry to apply these penetrating products successfully. Except for KDAT products, this will generally take several weeks after the project has been installed. When you believe the wood is dry enough, apply a small amount and test for ready absorption into the wood. Generally these products will also have directions for confirming the wood is ready for the application of the product. For best results, the first application should be within 90 days of completing your project.

Products containing built-in water repellent will be better able to handle exposure over the first year or two. However, the more help you can give the product, the better the long-term appearance and performance of your wood project.

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**LONG TERM CARE**

Re-application of a good penetrating product every year or two will be a great help in keeping your outdoor structure looking good for many years. For more information, visit: [ProWoodLumber.com/Maintain](http://ProWoodLumber.com/Maintain).

**PROWOOD® COLOR-TREATED PRODUCTS**

ProWood® color-treated products are a go-to-choice for any outdoor building project that would typically use standard pressure-treated products. This in-solution colorant penetrates the wood deep beyond the surface and is backed by an industry-leading 2-Year Limited Warranty for significant color changes.

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