

T *HUNDERBOLT INC.*
WOOD TREATING

WE TREAT
WOOD RIGHT™





- Particularly suited for applications:
 - Decking components such as joists, railings and stringers
 - Walkways
 - Raised bed gardens
 - Outdoor furniture - benches, outdoor tables and chairs
 - Fencing
 - Gazebos
- Can be used in all applications in which ACQ was approved
- Long-term protection against termites, rot, and fungal decay
- Available in a wide selection of timber species including hard-to-treat species such as Douglas fir
- Ground contact general use, fresh-water immersion, and salt-water splash applications
- Easy to paint or stain
- Listed in the Standards of the American Wood Protection Association (AWPA)
- Field-tested, proven-to-last, and accepted as an industry standard
- Building code compliant (2012 IRC and IBC)
- Does not contain arsenic or chromium



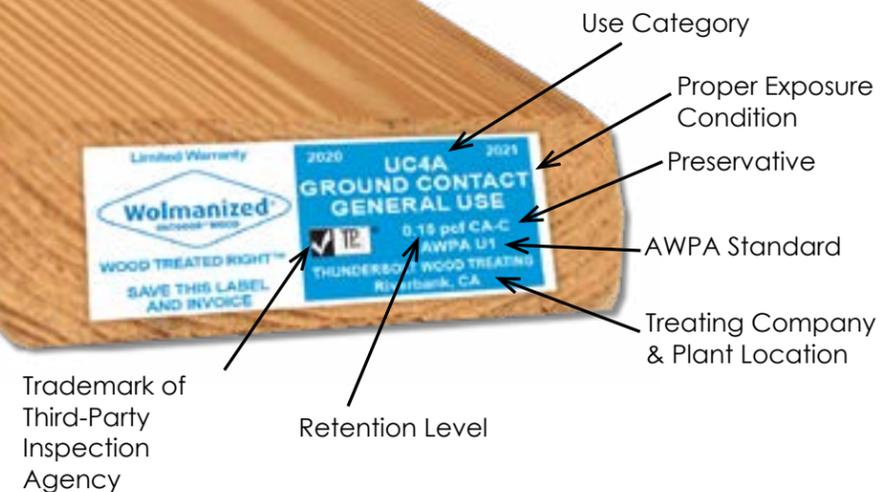
Wolmanized® Outdoor® Wood Preservation You Can Count On

Wolmanized® Outdoor® Wood combines the natural beauty of real wood with long-lasting resistance to termite damage and fungal decay. It is preserved with Wolman® E copper azole (CA-C) and does not contain any California Prop. 65 or EPA-listed hazardous chemicals.

Wolman® E (CA-C) copper azole renders wood useless as food source for termites and fungal decay. Its main active ingredient is copper, which has long been established as the most cost effective preservative component used in timber preservation.

Our Type C formulation also incorporates a combination of protective azoles that are commonly used by farmers to fight fungal growth on fruits, vegetables and nuts as well as to prevent rot and decay on flowers, shrubs and other agricultural applications.

Understanding a Wolmanized® Outdoor® Wood End Tag



Be sure to check the end tag stapled on each piece of wood as it is identified for a specific use. This information will help you decide the correct material to buy for each part of your outdoor project.

Treated Lumber and Plywood Specifications, Approvals, Registrations, and Awards

- AASHTO
- Standardized by the American Wood Protection Association (AWPA) U1, T1
- Preservative components registered with the United States Environmental Protection Agency
- Australian Standard AS-1604 1997
- Listed in Canadian Standard Association (CSA)
- AQIS – Australian Quarantine Service
- JIS Japanese Standards
- NWPC – Nordic Wood Preservation Council
- Approved in Germany, Holland, Denmark, Sweden and Spain
- Awarded Wisconsin Department of Industry, Labor, and Human Relations Approval
- Awarded Wisconsin's Governor's Commendation
- Awarded Wisconsin's Department of Natural Resources Commendation

Nails, Fasteners and Fittings

The International Building Code and International Residential Code require metal fasteners in contact with any preservative treated wood to be hot-dipped galvanized material meeting ASTM A 153. Code requirements should be observed.

Connectors should be made from galvanized steel sheet conforming to ASTM A 653 Class G185. For Permanent Wood Foundations, use 304 or 316 stainless steel fasteners.

Indoors, and where wood will remain dry in service, corrosion is less likely to occur than outdoors. The model code permits use of standard galvanized strapping or mild steel anchor bolts 1/2" diameter and larger for fastening Wolmanized® wood to foundations.

Painting, Staining, Maintenance

When dry on its surface, Wolmanized® wood can be stained like ordinary wood, and, once dry internally, can be painted. For thorough internal drying, purchase material that has been re-dried after treatment or, after the project has been completed, allow several months of good drying weather prior to painting.

Many light-colored latex paints can be used successfully, following brush application of an oil-based primer. Primer should not be applied by sprayer, nor should coatings be used if their manufacturer advises against an oil-based primer. Always follow the manufacturer's directions and take special care in coating end grain, holes, and cuts.

For protection against moisture damage, regular application of a topical water repellent is recommended. Periodic cleaning can revive the color of preserved lumber.

Handling and Safety Information

Follow guidelines similar to those for handling untreated wood. For example: wear a dust mask to control inhalation of sawdust; wear gloves when working with wood; wear goggles to protect eyes from flying particles; and wash after working with wood and before eating, drinking, toileting, or using tobacco products. Do not use treated wood under circumstances where the preservative may become a component of food or animal feed. For other precautions, see www.thunderboltwoodtreating.com.



Applications Suited for Wolmanized® Outdoor® Wood

- **Residential Use & Homeowner Projects**
 - Decking components such as joists, railings and stringers, porches, arbors, gazebos, fences, walkways & retaining walls
 - Raised garden beds, planter boxes, outdoor furniture, picnic tables & play sets
- **Commercial Project Use**
 - Shakes & shingles
 - Boardwalks, bridges & permanent wood foundations
 - Structural columns, building poles & guardrails
 - Timber lagging
- **Agricultural Use**
 - Tomato & grapevine stakes and livestock fencing
 - Post frame structures, pole barns, stables & corrals

Specification Guide for Treated Wood End Uses

		AWPA Use Category	CA-C Preservative Retention (lbs pounds per cubic foot)
AGRICULTURE, FARM USE	Round poles and posts as structural members	4B	0.31
	Sawn poles and posts as structural members	4B	0.31
	Posts, Fence		
	Round, half & quarter round	4A	0.15
	Sawn four sides	4B	0.31
	Lumber, in soil contact	4A	0.15
	Lumber, not in soil contact	3B	0.060
	Plywood, in soil contact	4A	0.15
	Plywood, not in soil contact	3B	0.060
	Grape stakes, sawn	4A	0.15
BUILDING CONSTRUCTION MATERIAL	Sill plate	2	0.060
	Flooring, residential		
	Damp environment	2	0.060
	Dry environment	1	0.060
	Framing, interior	1, 2	0.060
	Lumber		
	Interior, above ground	1, 2	0.060
	Exterior, above ground	3A, 3B	0.060
	Ground contact and fresh water use	4A	0.15
	Permanent Wood Foundation		
	Lumber & Plywood	4B	0.31
	Plywood		
	Sub-floor, damp above ground	2	0.060
	Exterior, above ground	3B	0.060
	Ground contact and fresh water use	4A	0.15
	Poles, building		
	Round	4B	0.31
	Sawn	4B	0.31
Poles, utility (Southern pine, western red cedar)	4A, 4B	0.31	
Piling, foundation, land & freshwater			
Round timber (Southern pine)	4C	0.41	
*DECKS	Decking, rails, steps, specialties (Above Ground)	3B	0.060
	Decking, posts, joists, beams, posts (Ground Contact)	4A	0.15
	Posts (Heavy Duty Ground Contact)	4B	0.31
FENCES	Pickets, slats, trim	3A, 3B	0.060
	Posts, sawn	4A	0.15
HIGHWAY MATERIAL	Lumber and timbers for bridges, structural members, decking, cribbing, & culverts	4C	0.31
	Handrails and guardrails	4B	0.25
	Posts, general use		
	Round, half-round, quarter round	4A	0.15
	Sawn	4A	0.15
	Posts, guardrail		
	Round	4B	0.25
	Sawn	4B	0.31

FAQ

Some frequently asked questions about Wolmanized® Outdoor® Wood

Why purchase Wolmanized® Outdoor® Wood?

Wolmanized® Outdoor® Wood combines the natural beauty of real wood with long-lasting resistance to termite damage and fungal decay. It is preserved with Wolman® E copper azole (CA-C), innovated by industry leading Lonza Wood Protection and proven globally for decades. Plus, it does not contain any California Prop. 65 or EPA-listed hazardous chemicals.

What species of wood is used?

Wolman® E CA-C preservative has been proven in multiple species including Douglas fir, ponderosa pine, and hem-fir. It is used to treat millions of board feet per year.

Where can I use Wolmanized® Outdoor® Wood?

It is ideal for decks, play structures, fencing, freshwater docks, picnic tables, and a wide range of other backyard projects. It can be used in above ground, ground contact and freshwater applications.

How long will it maintain its color?

Over time, Wolmanized® Outdoor® Wood will weather from a golden brown to a natural silver gray. This weathering process does not indicate any loss of preservative protection.

Can I clean moldy or dingy wood?

Mold growth may occur on building products, including untreated and treated wood. To remove mold or mildew from a treated wood surface, use mild soap and water or commercially available cleaners.

What are the environmental benefits of Wolmanized® Outdoor® Wood?

Unlike plastics, steel, and concrete, this material is made from a renewable resource that is versatile enough to be used in all types of natural environments. A life cycle assessment prepared by AquAeTer, Inc., for the Treated Wood Council confirmed copper azole treated wood uses less energy and resources, has a lower environmental impact, decreases greenhouse gas levels, and offsets fossil fuel use, when compared to composite decking.

What are the strength properties of Wolmanized® Outdoor® Wood?

Wolmanized® Outdoor® Wood has the same strength properties as untreated wood of the same species, grade, and moisture content.

How should I dispose of Wolmanized® Outdoor® Wood?

In California, at the end of its useful life, wood treated with copper-based preservatives (among others) must be properly managed and disposed as Treated Wood Waste. Refer to the following fact sheet for complete management and disposal requirements:

<http://www.dtsc.ca.gov/HazardousWaste/upload/Treated-Wood-Waste-Generators-Fact-Sheet.pdf>

Is any maintenance necessary?

No maintenance is needed to renew resistance to fungi and termites. Wolmanized® Outdoor® Wood has a limited warranty against these organisms.

See www.thunderboltwoodtreating.com.

To help protect your project against moisture and UV damage, apply a stain with water repellent. Re-apply every year or two.

How is Wolmanized® Outdoor® Wood produced?

Wolmanized® Outdoor® Wood is treated in a pressurized cylinder using a closed system that recycles excess preservative for future use. The treating process is highly controlled to ensure a quality product.

1. Lumber, timbers, or plywood is loaded onto small rail or tram cars. The trams are moved into a large, horizontal treating cylinder.
2. The cylinder door is sealed and a vacuum is applied to remove air from the cylinder and the wood cells.
3. Preservative solution is pumped into the cylinder.
4. The pressure is raised to about 150 pounds per square inch, forcing the preservative into wood.
5. Treating time varies depending on species of wood, commodity being treated, and the amount of preservative to be impregnated.
6. At the end of the process, excess treating solution is pumped out of the cylinder and back to a storage tank for later re-use.
7. A final vacuum removes excess preservative from wood cells. The cylinder door is opened and the trams are pulled out. The wood is wet, so it is kept on a concrete pad until any dripping ceases.



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