

PRESERVATIVE TREATMENT SPECIFICATION



1. Product Name

MicroPro®/LifeWood® Preserved Wood

2. Manufacturer

Osmose, Inc.

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3. Product Description

BASIC USE

MicroPro/LifeWood® preserved wood is a product offered as an alternative to wood products treated with Alkaline Copper preservative treatments. MicroPro/LifeWood preserved wood products provide retailers, treaters, consumers, builders, and architects an option in their selection of pressure treated wood products.

For many backyard and commercial projects, such as decks, fences, landscaping, and fresh water boat docks, MicroPro/LifeWood products are an alternative to traditional pressure treated wood for these reasons:

- Long term field testing shows that MicroPro treated wood provides effective protection against fungal decay and termite attack.
- First Wood Treatment Process to Complete Life-Cycle Assessment Studies - The Osmose MicroPro wood treatment process systems were analyzed by Scientific Certification Systems under an exhaustive environmental review process called Life-Cycle Assessment (LCA), in accordance with rigorous international standards set by ISO, the leading international standards setting organization. The MicroPro LCA studies are in compliance with ISO standards 14044 and 14025.
- Lighter, more natural wood appearance.
- Improved painting and staining qualities.
- Better corrosion resistance for code-approved fasteners and hardware.
- Carbon steel fasteners may be used for interior, above ground, weather-protected applications such as sill plates, interior framing and interior trusses.
- End uses include interior and exterior above ground, ground contact, and fresh water immersion.
- MicroShades®, innovative micronized pigment color choices – pressure treated wood colors similar to redwood & cedar.
- Treated wood warranty programs (See warranty for details*).

- Approved for aluminum contact.**
- Building code compliant. ICC-ES Report, ESR-2240.

COMPOSITION & MATERIALS

The MicroPro/LifeWood wood preservative is a waterborne, micronized copper azole system developed to provide protection of wood exposed in interior or exterior applications. The MicroPro/LifeWood system is based on the well-established effectiveness of copper combined with an organic quaternary compound and is applied to wood by pressure treatment. Copper and azoles are effective fungicides and termiticides. Together they provide protection from a broad spectrum of decay fungi and termites.

Depending on the desired product application, wood species and exposure hazard, the MicroPro/LifeWood preservative system may be formulated with a number of specialty additives, such as water repellents, to enhance product performance.

COLORS

Freshly treated MicroPro/LifeWood products begin with a light green color and will, over time, turn to a honey tan color after exposure to sunlight. As with most outdoor wood products, MicroPro/LifeWood products will eventually fade to gray over time. Because of its lighter color, it has better paint and stainability. MicroPro/LifeWood treated wood products are also available in popular consumer colors similar to redwood and cedar products with the MicroShades™ color pigment system.

LIMITATIONS

MicroPro/LifeWood micronized copper azole preservatives are used to pressure treat the following materials:

- Dimensional lumber and timbers of the following species - Southern Pine, Ponderosa Pine, Red Pine, Incised Hem Fir, Radiata Pine, Caribbean Pine and German Scots Pine
- Maximum nominal size of 5/4" × 8" in all listed species for decking use only
- Southern Pine and Douglas Fir plywood
- Round and sawn posts and building poles of Southern Pine and Red Pine

Minimum preservative retention levels are provided in ICC Evaluation Services, Inc. ESR - 2240. MicroPro/LifeWood preserved wood products are designed for long-term performance in outdoor applications and; therefore, require high quality corrosion resistant nails, screws, and other fasteners. Use hot dip galvanized, stainless steel, or other fasteners and hardware as recommended by the hardware manufacturer and meet building code requirements.

Aluminum building products may be placed in direct contact with MicroPro treated wood products used for interior uses and above ground exterior applications such as decks, fencing, and landscaping projects. Examples of aluminum products include siding, roofing, gutters, door and window trim, flashing, nails, fasteners and other hardware connectors. However, MicroPro treated wood in direct contact with aluminum products should only be used in code compliant construction applications that provide proper

water drainage and do not allow the wood to be exposed to, or remain in contact with a continual moisture source, standing water or water immersion. In addition, MicroPro treated wood should not be encased, sealed, or wrapped with aluminum products where trapped moisture or water can occur so as to avoid pitting or other unwanted results. We recommend you contact the aluminum building product manufacturer for their recommendations regarding their aluminum products in contact with MicroPro treated wood used in ground contact applications or when MicroPro treated wood is exposed to salt water, brackish water, or chlorinated water, such as swimming pools or hot tubs. Also check with the aluminum product manufacturers regarding compatibility with other chemicals and cleaning agents. Contact Osmose for further information on aluminum contact use in commercial, industrial, and specialty applications such as boat construction.

MicroPro/LifeWood products are not currently approved for saltwater immersion applications

4. Technical Data

APPLICABLE STANDARDS

American Wood Protection Association (AWPA)

AWPA Analytical Standards used for quality control of MicroPro/LifeWood treated wood A2-06, A3-05, A9-01, A11-93, A16-93, A17-03, A18-05, A21-00, A36-04, A37-05

ICC Evaluation Services, Inc. ESR – 2240.

APPROVALS

MicroPro/LifeWood products, as described in ICC-ES ESR-2240, meet all major model building code requirements. The preservative technology in MicroPro/LifeWood products is registered by EPA as a non-restricted use pesticide and does not require Proposition 65 labeling in California.

ENVIRONMENTAL CONSIDERATIONS

This preservative is registered with the Environmental Protection Agency (EPA).



Product Highlights and EPP (Environmentally Preferable Product) Benefits

First Wood Treatment Process to Receive EPP Status – The Osmose MicroPro technology is the first treated wood process to be certified under Scientific Certification Systems' Environmentally Preferable Product (EPP) program based on Life-Cycle Assessment.

First Wood Treatment Process to Complete Life-Cycle Assessment Studies – The Osmose MicroPro wood treatment process systems were analyzed by Scientific Certification Systems under an exhaustive environmental review process called Life-Cycle Assessment (LCA), in accordance with rigorous international standards set by ISO, the leading international standards setting organization. The MicroPro LCA studies are in compliance with ISO standards 14044 and 14025.

Reduced Energy Use – The Osmose MicroPro treated wood process reduces total energy use by approximately 80% and greatly reduces greenhouse gas emissions.

Largely Eliminates Copper Releases – Wood products treated with the Osmose MicroPro process result in the release of 90% to 99% less copper into aquatic and terrestrial environments when compared to standard treated wood products. The very small amount released bonds readily to organic matter in the soil and becomes biologically inactive, thus effectively eliminating eco-toxic impacts.

Reduced Air Emissions – The solution containing the MicroPro copper preservative formula is four times more concentrated than the industry standard. As a result, fewer trucks are required for transport. Fewer trucks, combined with the absence of monoethanolamine (MEA) in the production process, result in a reduction of air pollutants from tailpipe emissions and associated impacts, including: soot, nitrous oxide, volatile organic compounds (VOC's), particulate matter, and reduced impacts of acid rain, smog, and oceanic acidification.

Reduced Greenhouse Gas Emissions – The absence of MEA in the production process, combined with the reduced use of fuel and fewer trucks, means that using MicroPro technology in lieu of standard wood treatment formulations reduces an estimated 20,000 tons or more of greenhouse gas emissions each year. (This is the equivalent to the annual emissions of approximately 2,200 SUV's.)

For more information, visit www.scscertified.com.

NAHB Green Approved Product Certification

MicroPro wood preservative technologies have earned Green Approved Product certification from the National Association of Home Builders (NAHB) Research Center under the National Green Building Standard™ program.



The National Green Building Standard program is an American National Standards Institute (ANSI) approved consensus-based standard that defines the criteria for certifying a building (single-family or multifamily; new construction, addition, or renovation) as "Green."

For more information on the NAHB Research Center, visit www.nahbgreen.org. For information on the MicroPro Green Approved Product certifications, visit www.greenapprovedproducts.com.

GREENGUARD Children and Schoolssm Certification

MicroPro wood preservative technologies have earned GREENGUARD Children and Schools Certification from the GREENGUARD Environmental Institute (GEI).



GREENGUARD Children & Schools Certification indicates that a product has undergone rigorous testing and has met stringent standards for low volatile organic compound (VOC) emissions. Products certified to this criteria are suitable for use in schools, offices, and other sensitive environments.

The GREENGUARD Environmental Institute is an industry independent, third-party not-for-profit organization that oversees the GREENGUARD Certification programs. The mission of the institute is to protect human health and quality of life through programs that reduce chemical exposure and improve indoor air quality. GEI is an American National Standards Institute (ANSI) authorized standards developer.

For more information about the GREENGUARD Environmental Institute, visit www.greenguard.org.

PHYSICAL/CHEMICAL PROPERTIES

Additional product information on MicroPro/ LifeWood products is available from Osmose, Inc., upon request. MicroPro/ LifeWood treated products should carry the following information:

1. Name of wood treating company
2. Treatment plant city and state
3. Symbol “Micronized Copper Azole”
4. Preservative retention level
5. Approved use
6. ESR number
7. Third party inspection agency

PREPARATORY WORK

Handle and store product according to Osmose, Inc. recommendations. Allow materials exposed to incidental moisture to dry thoroughly prior to covering with vapor or moisture-retarding finish materials.

METHODS

MicroPro/LifeWood products are workable with common tools. Complete installation recommendations are available from the manufacturer.

For interior or exterior applications use fasteners and hardware that are in compliance with the manufacturer’s recommendations and the building codes for their intended use. As with any good design and construction practices, MicroPro treated wood should not be used in applications where trapped moisture or water can occur. Where design and/or actual conditions allow for constant, repetitive, or long periods of wet conditions, only stainless steel fasteners should be used.

Certain adhesives add extra holding power. Apply adhesives in accordance with manufacturer's directions.

As a general rule, attach boards bark side up (annual rings arc upward) to reduce cupping; however, the best face should be placed up when a defect of the wood is apparent. Fasten thin boards to thicker boards to maintain structural integrity.

Drill pilot holes especially when fastening near the edge or end of a board. Pilot holes will help minimize splitting.

Should the wood become wet during construction, butt deck boards together. As drying occurs, some shrinkage can be expected. If the wood is dry, allowing for shrinkage is not necessary.

Brush-on end coat wood preservative is recommended on all saw cuts and into drill holes during construction of wood projects. Also apply on areas where moisture can collect. Always follow manufacturer's recommendations.

For exterior applications, the application of a quality clear water repellent or semi-transparent stain which contains water repellent will help minimize the cycles of moisture take-up and loss the wood goes through outdoors.

First, determine if the MicroPro/LifeWood product has been pressure treated with a factory applied water repellent by looking at the end tag. If not factory water repellent treated, thoroughly clean the project with a deck cleaning product. Clear water repellent can be immediately applied to wood. If you choose a semi-transparent stain which contains a water repellent, first check to insure surface is dry. If not, either wait until the surface is dry or immediately apply clear water repellent and wait approximately 8 weeks before applying a chosen color of semi-transparent stain.

If the MicroPro/LifeWood products contain a factory water repellent, an oil based stain can be applied after 30 - 60 days and water based stains can be applied after 6 months. Check that the wood surface is dry before applying stain. In all instances, follow the manufacturer's directions when applying water repellents or semi-transparent stains, which may contain water repellent.

IMPORTANT INFORMATION

MicroPro/LifeWood Treated Wood Handling and Use Recommendations.

- MicroPro/LifeWood pressure treated wood has corrosion rates on metal products similar to CCA (chromated copper arsenate) pressure treated wood and untreated wood. Use fasteners and hardware that are in compliance with the manufacturer's recommendations and the building codes for their intended use. When using aluminum products in conjunction with MicroPro/LifeWood treated wood, refer to the MicroPro/LifeWood Fastener and Hardware information Sheet for additional information.
- Do not burn preserved wood.
- Wear a dust mask and goggles when cutting or sanding wood.

- Wear gloves when working with wood.
- Some preservative may migrate from the treated wood into soil/water or may dislodge from the treated wood surface upon contact with skin. Wash exposed skin areas thoroughly.
- All sawdust and construction debris should be cleaned up and disposed of after construction.
- Wash work clothes separately from other household clothing before reuse.
- Preserved wood should not be used where it may come into direct or indirect contact with drinking water, except for uses involving incidental contact such as fresh water docks and bridges.
- Do not use preserved wood under circumstances where the preservative may become a component of food, animal feed, or beehives.
- Do not use preserved wood as mulch.
- Only preserved wood that is visibly clean and free of surface residue should be used.
- If the wood is to be used in an interior application and becomes wet during construction, it should be allowed to dry before being covered or enclosed.
- Disposal Recommendations: Preserved wood may be disposed of in landfills or burned in commercial or industrial incinerators or boilers in accordance with federal, state, and local regulations.
- If you desire to apply a paint, stain, clear water repellent, or other finish to your preservative treated wood, we recommend following the manufacturer's instructions and label for the finishing product. Before you start, we recommend you apply the finishing product to a small exposed test area before finishing the entire project to insure it provides the intended result before proceeding.
- Projects should be designed and installed in accordance with federal, state, and local building codes and ordinances governing the construction in your area and in accordance with the National Design Specifications (NDS) and the Wood Handbook.
- Mold growth can and does occur on the surface of many products, including untreated and treated wood, during prolonged surface exposure to excessive moisture conditions. To remove mold from the treated wood surface, wood should be allowed to dry. Typically, mild soap and water can be used to remove remaining surface mold. For more information visit www.epa.gov.
- For more information visit www.osmosewood.com.

BUILDING CODES

Properly processed MicroPro/LifeWood products meet the requirements of most applicable building codes. Micro Pro/ LifeWood products are building code compliant, ICC Evaluation Services, Inc. ESR - 2240. Current data on building code requirements and product compliance maybe obtained from Osmose, Inc., technical support specialists. Installation must comply with the requirements of all applicable local, state, and national code jurisdictions.

6. Availability & Cost

AVAILABILITY

Contact manufacturer for information on local firms which apply the MicroPro/LifeWood treatment.

COST

Budget installed cost information may be obtained from a MicroPro/LifeWood pressure treatment firm or through a retail distributor of MicroPro/LifeWood products.

7. Warranty

A Lifetime Residential and Agricultural Limited Warranty is offered on MicroPro/LifeWood products at 0.060 pcf and 0.150 pcf retention levels for material used in residential and agricultural applications. See Warranty for specific provisions. An independent third-party quality control agency is required for the use of the MicroPro/LifeWood trademark and MicroPro/LifeWood Lifetime Residential and Agricultural Limited Warranty.

8. Maintenance

There are no specific maintenance requirements for MicroPro/LifeWood treated materials, except the periodic inspection and application of a water repellent or stain as described in the Methods section. Periodic building inspection by a qualified individual to ensure sound material may be advisable in high risk service environments.

9. Technical Services

A staff of trained service personnel offers design assistance and technical support. For technical assistance, contact Osrose, Inc., P.O. Drawer O, 1016 Everee Inn Road, Griffin, GA 30224-0249; Telephone: (800) 241-0240, (770) 233-4200; Fax: (770) 229-5225; E-mail: treatedwood@osrose.com; Web site: www.osrosewood.com.



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