

MicroPro®
Construction Product Specification Guide



PRESERVATIVE TREATMENT

Koppers Performance Chemicals

PO Drawer O

1016 Everee Inn Road

Griffin, GA 30224-0249

Phone: (800) 241-0240

Phone: (770) 233-4200

Fax: (770) 229-5225

E-mail: treatedwood@koppers.com

<http://www.kopperspc.com>

This document describes the MicroPro micronized copper azole based preservative system for wood products protected from termites and fungal decay, manufactured by the Performance Chemicals division of Koppers Inc. These products may be marketed under the MicroPro® trademark or other brand names. Recommended applications include: above ground decking, rails, spindles, trim and fascia, framing, flooring, sill plates, trellises, gazebos, fencing; ground contact deck support posts and fence posts; and critical structural members, including permanent wood foundations and building poles. Typical uses may include structural lumber, sill plates, outdoor furniture, patios, decks, garden edging, landscaping structures and fresh water boat docks.

PRESERVATIVE TREATMENT (PRESERVATIVE-TREATED WOOD)

PART 1 GENERAL

Specifier Note: MicroPro 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 Decking. Maximum nominal size of 5/4 inches × 8 inches 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 the ICC Evaluation Services, Inc. ESR - 2240. MicroPro 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. Carbon steel fasteners may be used for interior, above ground, weather-protected applications such as sill plates, interior framing and interior trusses. 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 Koppers Performance Chemicals for further information on aluminum contact use in commercial, industrial, and specialty applications such as boat construction.

MicroPro products are not currently approved for saltwater immersion applications.

PART 2 GENERAL



Product Highlights and EPP (Environmentally Preferable Product) Benefits

First Wood Treatment Process to Receive EPP Status – 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 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 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 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.scs-certified.com.



NGBS Green Certified

MicroPro wood preservative technologies have been certified for points toward NGBS Green Certification to the ICC 700 National Green Building Standard.

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 <http://www.greenapprovedproducts.com>.



GREENGUARD Gold Certification

MicroPro wood preservative technologies have earned GREENGUARD Gold Certification from UL Environment.

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

UL Environment 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. UL Environment is an American National Standards Institute (ANSI) authorized standards developer.

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

SUMMARY

Section Includes: termite and fungal decay protection treatment for wood products specified in other sections, including:

Specifier Note: Edit subparagraphs below to suit project requirements and specifier practice.

1. Above ground: Decking, rails, spindles, trim and fascia, framing, flooring, sill plates, trellises, gazebos, fencing.
2. Ground Contact and Fresh Water Immersion: Deck support posts, fence posts and fresh

water boat docks.

3. Critical Structural: Permanent wood foundations, building poles.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

REFERENCES

A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. American Wood Protection Association (AWPA) Standards used for quality control of MicroPro 1. AWP Analytical Standards A2-06, A3-05, A9-01, A-11-93, A17-03, A18-05, A21-00, A36-04, A37-05.

C. ICC Evaluation Service Inc.

1. ICC-ES Report No. ESR-2240.

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional, not dimensional, tolerances of a complete system. Limit descriptions to composite and operational properties to extent necessary to link multiple components of a system together and to interface with other systems.

SYSTEM DESCRIPTION

A. Performance Requirements: Provide micronized copper azole wood preservative treatment that will [Perform in accordance with manufacturer's stated performance criteria without defects, damage or failure.].

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Submittal Procedures Section.

SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Submittal Procedures Section.

B. Product Data: Submit product data, including manufacturer's product sheet, for specified products.

C. Quality Assurance Submittals: Submit the following:

1. Evaluation Report:

- a. ICC Evaluation Services, Inc. ESR - 2240.

- b. [Specify model code evaluation report submittal to suit project requirements.]
 - c. Environmentally Preferable Product certified SCS-EPP-01699
(www.scs-certified.com).
- 2. Certificates: Certification from treating plant certifying wood treatment applied complies with the criteria and physical requirements for micronized copper quaternary preservative-treated wood products as specified herein.
- 3. Closeout Submittals: Submit the following: [Insert requirements.].
- 4. Warranty: Warranty documents specified herein.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate below article with Quality Assurance Section.

QUALITY ASSURANCE

A. Source Quality: Obtain micronized copper preservative-treated wood products from a single approved source.

B. Wood Treatment Plant Qualifications: Wood treatment plant experienced in performing work of this section which has specialized in the treatment of wood similar to that required for this project, licensed by the manufacturer and listed on ICC Evaluation Services, Inc. ESR – 2240.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Regulatory Requirements Section. Repetitive statements should be avoided. Edit paragraph below to suit project requirements.

C. Regulatory Requirements: Provide preservative treatment that complies with the following regulatory requirements:

- 1. [Insert name of applicable code.], requirements for termite- and fungal decay-preservative-treated wood.

Specifier Note: Retain quality mark requirement below for all micronized copper azole preservative-treated wood product applications.

D. Quality Mark: All micronized copper azole preservative-treated wood members shall bear an end tag or permanent ink stamp indicating the following:

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

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Product Requirements Section.

DELIVERY, STORAGE & HANDLING

A. General: Comply with Product Requirements Sections.

B. Exposure: Allow materials exposed to incidental moisture to dry thoroughly prior to covering with vapor or moisture-retarding finish materials.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section.

1.07 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements. Koppers Performance Chemicals offers a limited lifetime warranty against structural failure caused by fungal decay or termites under "The MicroPro Residential & Agricultural Limited Warranty." Consult manufacturer for complete details.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements.

1. Warranty Period: MicroPro Residential & Agricultural Limited Warranty.

PART 2

PRODUCTS

Specifier Note: MicroPro Preservative is used to treat sapwood species and Incised Hem-Fir.

Specify appropriate product(s) below. MICRONIZED COPPER AZOLE

PRESERVATIVE-TREATED WOOD PRODUCTS, [MicroPro 200C or MP 200-A]

Specifier Note: Retain first 3 paragraphs below for specification. Add product attributes performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

A. Manufacturer: Koppers Performance Chemicals.

1. Contact: PO Drawer O, 1016 Everree Inn Road, Griffin, GA 30224-0249; Telephone: (800) 241-0240, (770) 233-4200; Fax: (770) 229-5225; E-mail: treatedwood@koppers.com; Web site: www.kopperspc.com.

B. Proprietary Product(s)/System(s):

1. MicroPro Preservative-Treated Wood Products:
 - a. Preservative Treatment: Waterborne, micronized copper azole preservative system meeting the following standards:

1) AWWA Analytical Standards used in the quality control of MicroPro/EverGuard treated wood: A2-06, A3-05, A9-01, A-11-93, A16-93, A17-03, A18-05, A21-00, A36-04, A37-05.

PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted.

RELATED MATERIALS

A. Provide the following related materials:

1. End Cut Preservative:
 - a. Material Type and Name: [Acceptable to manufacturer of micronized copper azole preservative].
 - b. Manufacturer: [Acceptable to manufacturer of micronized copper azole

preservative].

2. Adhesive:

a. Material Type and Name: [Acceptable to manufacturer of micronized copper azole preservative].

b. Manufacturer: [Acceptable to manufacturer of micronized copper azole preservative].

SOURCE QUALITY

Specifier Note: Coordinate paragraph below with Quality Control Section.

A. Tests, Inspections: [Specify tests, inspections and other source quality requirements.]

PART 3

EXECUTION

Specifier Note: Revise article below to suit project requirements and specifier's practice.

MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

INSTALLATION

1. Select micronized copper azole preservative-treated wood members in accordance with appropriate untreated lumber and plywood span tables.
2. Provide ventilation of building cavities as required by code.

Specifier Note: Retain, edit or delete paragraph below to suit project requirements and specifier practice.

B. 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 Koppers Performance Chemicals for further information on aluminum contact use in commercial, industrial, and specialty applications such as boat construction.

C. Install micronized copper azole preservative-treated wood in accordance with requirements of applicable codes. Avoid milling operations that could adversely affect preservative characteristics of micronized copper azole preservative-treated wood.

D. End Cut Treatment: Brush-on endcoat wood preservative is recommended on all saw cuts and

drill holes during construction of wood projects. Also apply on areas where moisture can collect. Always follow manufacturer's recommendations.

Specifier Note: Verify requirements of building code authority having jurisdiction and edit paragraph below as required.

E. Sill Plate: Where applicable, provide sill plate of [micronized copper azole preservative-treated wood] [Specify sill plate material.]. Carbon steel fasteners may be used for interior, above ground, weather-protected applications such as sill plates, interior framing and interior trusses.

Specifier Note: Verify fastener requirements of building code authority having jurisdiction and edit paragraph below as required.

F. Install treated wood using hot dipped galvanized steel, stainless steel, or other fasteners and hardware as recommended by the hardware manufacturer and in compliance with code authority having jurisdiction.

FINISHING

Specifier Note: Complete application recommendations are available from the manufacturer. Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing and machining treated wood, wear a dust mask. When power sawing or machining, wear goggles to protect eyes from flying particles. Surfaces must be clean and dry before application.

A. Prepare micronized copper azole preservative-treated wood for application of finishes in accordance with manufacturer's recommendations. Sand surfaces lightly, clean and verify proper moisture content prior to finishing.

B. Apply paint or stain in accordance with Division 9 Section "Painting." If you desire to apply paint, stain, clear water repellent or other finish to our preservative treated wood, we recommend following the manufacturer's instructions and label of 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.

C. Refer to www.kopperspc.com for additional information or contact:
Koppers Performance Chemicals, PO Drawer O, Griffin, GA 30224-0249;
Telephone: 800-241-0240; Fax: 770-229-5225; Email: treatedwood@koppers.com

3.04 PROTECTION

Protection:

1. Protect micronized copper azole preservative-treated wood from damage due to subsequent construction activity.
2. Protect from moisture prior to installation of finishes.

MicroPro® is a registered trademark of Koppers Performance Chemicals.
www.kopperspc.com