

Summary of Changes (v20.02)

1. The reason for revising this Specifications Section is the requirements of Act 045, Session Laws of Hawaii 2018, Relating to environmental protection, which took effect on July 1, 2018. The law restricted the use or application of any pesticide containing chlorpyrifos as an active ingredient, beginning January 1, 2019; and prohibited its use or application on December 31, 2022.
2. Under section 1.04 SUBMITTALS, new paragraph 1.04E was added, Act 045, Session Laws of Hawaii 2018, Contractor Temporary Permit.
3. New section 1.06 D ACT 045, SESSION LAWS OF HAWAII 2018, RELATING TO ENVIRONMENTAL PROTECTION was added.
4. Under section 1.07 QUALITY ASSURANCE, new paragraph 1.07E was added, regarding use of the pesticide containing chlorpyrifos.
5. For section 2.03 PRESSURE TREATMENT WITH OIL-BORNE PRESERVATIVES, Specifier's Note was revised to delete reference to Permethrin products as a banned product.

Wood Treatment TECHNICAL GUIDE

TG 06070

1. COORDINATION ISSUES: (Not Used)

1.1 Incising lumber results in approximately 20 percent reduction in the modulus of elasticity in nominal 2 inch thick lumber. Size wood members used for structural application accordingly.

2. DESIGN ISSUES:

2.1 In addition to the use of physical barriers specified in **Section 02361 - Termite Control**, Termite Resistive Construction (TRC) shall also be employed where practical. The intent of TRC is to eliminate wood and wood products, which are the termite's food source, wherever practical. However, if using steel as an alternate to wood, the exposure of the facility to salt air in coastal environments must also be considered since the repair and maintenance of metal corrosion may exceed that of wood damaged by termites. Examples of TRC are as follows:

- 2.1.1 Galvanized steel or aluminum door frames. (Note: Door can remain as wood.)
- 2.1.2 Full surround jalousie window frames. (See TG 08527 - Aluminum Jalousie Windows).
- 2.1.3 Whiteboards and tackboard frames constructed of standard aluminum trims.
- 2.1.4 Furniture, including counters, cabinets, shelving and files, constructed of materials such as metal, plastic or phenolic plastic.
- 2.1.5 Metal roofing, decking or roof framing.
- 2.1.6 Galvanized steel studs and framing members.

2.2 Prohibited chemicals:

- 2.2.1 Do not specify treatments containing arsenic or other chemicals banned by the EPA.
- 2.2.2 Do not specify Perma-Clear 65 or other zinc naphthanate ~~and permethrin~~ products.

3. DRAWING NOTES: (Not Used)

4. STANDARD DRAWINGS: (Not Used)
5. SPECIFICATION NOTES: (Not Used)
6. GUIDE SPECIFICATION:

6.1 Section 06070 Wood Treatment

SPECIFIER'S NOTE: Blue colored italicized text is used for notes to the specifier and should be completely deleted from the final text. Where [Red colored italicized text in parentheses] is shown in this specification section, insert wording, numbers, etc. as appropriate and delete parentheses. Where <Red colored text in brackets> is shown, a choice is indicated. Make the appropriate choice and delete the brackets. Maintain footer notation with the current version used (e.g. TG06070 v20.02+2.02). Verify that section titles cross referenced in this Section correspond to this Project's specifications; Section titles may have changed.

SECTION 06070 – WOOD TREATMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Plant preservative and insecticide treatment of lumber and other wood products specified in other Sections of this Specification by pressure and dip methods.
- B. Field treatment of field cut or drilled lumber.

SPECIFIER'S NOTE: Include appropriate related sections. Where the building code requires the use of fire treated materials within rated construction, use borate treatments such as Hoover Dri-Con.

1.02 RELATED SECTIONS

- A. Section **<06100 - Rough Carpentry>**: Lumber products and fire retardant treatment of lumber products.
- B. Section **<06410 - Custom Casework>**: Factory termiticide treated board products suitable for application of high pressure laminate veneers.

SPECIFIER'S NOTE: Include reference standards for fire retardant treatment when applicable.

1.03 REFERENCES

- A. American Wood-Preservers' Association
 - 1. AWPA C2-00: Lumber, Timber, Bridge Ties and Mine Ties-Preservative Treatment by Pressure Processes.
 - 2. AWPA C9-00: Plywood-Preservative Treatment by Pressure Processes.
 - 3. AWPA C31-00: Lumber Used out of Contact with the Ground and Continuously Protected from Liquid Water-Treatment by Pressure Processes.
 - 4. AWPA M4-01: Care of Preservative-Treated Wood Products.
 - 5. AWPA C20-99: Structural Lumber- Fire Retardant Treatment by Pressure Process.
 - 6. AWPA N1-01: All millwork, Preservative Treatment by Non-Pressure Process.
 - 7. AWPA N2-00: Composite Wood Products, Preservative Treatment by Non-Pressure Process.

1.04 SUBMITTALS

- A. Product Data: Provide data on all treatment products, including field application instructions if applicable.
 - 1. Provide manufacturer's Material Safety Data Sheets on all products, and hazardous materials.
- B. Preserver Certifications:

1. Provide a Certificate of Treatment showing compliance with these specifications for the following:
 - a. Kiln drying
 - b. Method of treatment performed, including dip treatment.
- C Contractor's Certification: Provide a certification letter stating that all wood used on this job including cuts and penetration were treated and coated with preservatives in compliance with requirements of this contract.
- D. Guarantee: Guarantee form for written guarantee.

E. Act 045, Session Laws of Hawaii 2018, Contractor Temporary Permit: If a permit is required by the Act, submit copy of Contractor Temporary Permit authorizing the use or application of chlorpyrifos as an active ingredient until December 31, 2022, as specified under section 1.06 ACT 045, SESSION LAWS OF HAWAII 2018, RELATING TO ENVIRONMENTAL PROTECTION.

1.05 REGULATORY REQUIREMENTS

- A. Comply with State OSHL (Occupancy Safety and Health Law) and pollution controls regulations of the State Department of Health and EPA.

1.06 ACT 045, SESSION LAWS OF HAWAII 2018, RELATING TO ENVIRONMENTAL PROTECTION

- A. Act 045, Session Laws of Hawaii 2018 was signed into law by the Hawaii State Governor on June 13, 2018. The law requires that all uses of chlorpyrifos and products which contain chlorpyrifos require possession of a permit, issued by the Hawaii Department of Agriculture Pesticides Branch, beginning January 1, 2019. On January 1, 2023 all uses and sale of chlorpyrifos in the State of Hawaii are banned and permitting of its use will cease at that time. Any chlorpyrifos permits that extend past December 31, 2022 will be terminated as of that date.
- B. The application for a permit to use chlorpyrifos includes all products that will be used in an Agricultural setting (which include cattle ear tags) or for a Non-Agricultural Use. Those who desire to use products which include chlorpyrifos as one or more active ingredients are required to fill in Form C-45 from the Hawaii Department of Agriculture.
- C. The permit application Form C-45, may be requested from the Pesticides Branch at the Hawaii Department of Agriculture following email address: HDOA.PB@hawaii.gov.
- D. If you have any questions about this, you may contact the Pesticides Branch at (808) 973-9411 or email at HDOA.PB@hawaii.gov.

SPECIFIER'S NOTE: Delete paragraph A below if not using fire-retardant-treated wood.

1.067 QUALITY ASSURANCE

- A. Source Limitations for Treated Wood: Obtain each type of fire-retardant-treated wood product through one source from a single producer.
- B. Comply with the American Wood-Preservers' Association standards as described in the applicable building or residential code. Preservatives shall be EPA registered.

- C. Do not use preservatives containing arsenic or other EPA banned chemicals.
- D. Do not use Perma-Clear 65 or other zinc naphthanate ~~and permethrin~~ products.

E. Do not use the pesticide containing chlorpyrifos as an active ingredient if Contractor did not obtain a Contractor Temporary Permit authorizing the use or application of chlorpyrifos. Refer to section 1.06 ACT 045, SESSION LAWS OF HAWAII 2018, RELATING TO ENVIRONMENTAL PROTECTION.

1.078 DELIVERY STORAGE AND HANDLING

- A. Protect AWPA C31 inorganic boron treated wood from contact with the ground, rain or other sources of liquid water until permanent installation of covering construction.

1.089 GUARANTEE

- A. Provide a two year guarantee to replace all treated wood which is attacked by subterranean termites.
- B. Provide a five year guarantee to replace all treated wood which is attacked by dry wood termites or deteriorates due to dry rot. This guarantee period supersedes the guarantee provisions of the Interim General Conditions (IGC). The Surety shall not be held liable beyond two years of the project acceptance date.
- C. Guarantee periods shall commence on Project Acceptance date.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Mill lumber to finish size and shape prior to treating, and treat before assembly. Plywood may be treated in regular panel sizes.

SPECIFIER'S NOTE: Delete option in subparagraph 2.01.B below if authorities having jurisdiction require quality mark on all materials.

- B. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
 - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece, or omit marking and provide certificates of treatment compliance issued by inspection agency.

SPECIFIER'S NOTE: Borate is a generic name for wood treated with Disodium Octoborate Tetrahydrate, also known as SBX (DOT). The active ingredient is Boron.

2.02 PRESSURE TREATMENT WITH WATER-BORNE PRESERVATIVES

- A. Treating solutions:
 - 1. Copper azole, Type A (CBA-A).
 - 2. Inorganic boron (SBX).
- B. Treatment Methods:
 - 1. General:
 - a. All water-borne treatment methods require incising of lumber of nominal 2 inch thickness (1-1/2 inches actual dimension).
 - b. Choice of treatment method and conditions of use of each treating solution shall conform to the treatment schedule contained in Part 3.

2. CBA-A: Treatment methods, depth of penetration and treating solution retention shall conform to AWPA C2 for lumber and C9 for plywood.
3. SBX: Treatment method shall conform to AWPA C31. Treating solution retention shall be a minimum of 0.28 pounds per cubic foot (equivalent to 0.42 DOT).

C. Drying:

1. Before Treatment:
 - a. CBA-A Treatment: Wood shall be air dried or kiln-dried before treatment to an average moisture content of 28 percent or less per AWPA standards.
 - b. SBX Treatment: Wood having a moisture content higher than 28% is acceptable when treating with SBX.
2. After Treatment:
 - a. All 1 inch and 2 inch lumber and all plywood shall be dried to a moisture content of 19 percent or less after treatment.

SPECIFIER'S NOTE: Subparagraphs 2.03.A and B describe Trib II, Poly-Clear 2000 and other brands of oil base preservative treatments. Perma-Clear 65 and other Zinc Napthenate and Permethrin products are no longer available or permitted.

2.03 PRESSURE TREATMENT WITH OIL-BORNE PRESERVATIVES

A. Treating Solution:

1. 0.50 percent by weight chlorpyrifos, 0.75 percent by weight 3-iodo-2-propynyl butyl carbamate (IPBC). The solvent used in formulating the preservative solution shall meet the requirements of AWPA hydrocarbon solvent Type C, Standard P9, Paragraph 3.1.
2. For interior application use low odor mineral spirits as solvent.

B. Treatment Methods: 1. Treated wood shall attain the following net retention requirements: 0.0175 pounds of Chlorpyrifos per cubic foot of wood, 0.035 pound of 3-iodo-2 propynyl butyl carbamate per cubic foot of wood.

C. Drying:

1. Before Treatment: All wood treated with oil-borne preservatives shall be kiln-dried to an average moisture content of 12% to 15% per AWPA standards.
2. After Treatment: Wood shall be thoroughly dried and virtually odor-free prior to installation.

2.04 PRESERVATION BY DIP TREATMENT

A. Treating Solution:

1. Any of the Oil-Borne Preservatives listed above.
2. A solution of 1 quart chlopyrifos in 55 gallons of a 0.50 percent IPBC solution.

B. Treatment Methods:

1. Immersion treat for a minimum period of 15 minutes.
2. Do not incise lumber scheduled to be left unpainted or receive a clear finish.

- C. Drying:
 - 1. After Treatment: Wood shall be thoroughly dried and virtually odor-free prior to installation.

2.05 FIELD TREATMENT

- A. Treatment Method:
 - 1. Treat in accordance with AWPA Standard M4-98 using two heavy brush coats of a treating solution.

PART 3 - EXECUTION

3.01 SCHEDULE OF TREATMENTS

- A. Species:
 - 1. Treat all wood species except all-heart redwood.
 - 2. All water-borne and oil-borne treatment solutions are applicable to douglas-fir and hem-fir species except for CBA-A treatment which is acceptable for hem-fir species only.
- B. Application:
 - 1. Pressure Treatment:
 - a. General: Unless otherwise stipulated, all lumber and plywood shall be pressure treated.
 - b. Hardwood flooring and exposed lumber 1-1/2" (net thickness) and over that will be unpainted or receive a clear finish shall be and pressure treated with oil-borne preservative. Do not incise lumber.
 - c. SBX treated wood shall not be used in areas exposed to direct precipitation (e.g. exposed decking, trellises, fencing, etc.) unless painted or covered with a finish material.
 - 2. Dip Treatment: All finish lumber under 1-1/2 inch net thickness (except hardwood flooring); finish plywood; and mill work items, such as for cabinet work, shelving and similar wood work that will be exposed to view in the finished work.
 - 3. Field Cuts: Treat end cuts, notches and penetrations into treated lumber or plywood. Exception: Cuts and penetrations made in SBX treated wood 2 inches or less in nominal thickness need not be field treated.

END OF SECTION 06070