TABLE OF CONTENTS

1. GENERAL SPECIFICATIONS
   - PART I - Introduction and Definitions
   - PART II - Heat Treating and Heat Treating/Kiln Drying Facilities
   - PART III - Wood Packaging Material Manufacturing Facilities

APPENDICES

A. POSTED NOTICE

B. SAMPLE CHECKLISTS
   - HEAT TREATMENT CHECKLIST
   - RECOMMENDED CHECKLIST FOR MANUFACTURE OR REPAIR OF EXISTING UNITS
   - RECOMMENDED CHECKLIST FOR PRODUCTS MADE WITH “HT” LUMBER

C. SAMPLE RECORDS
   - RECORD OF HEAT TREATED LUMBER - INBOUND PURCHASES
   - RECORD OF HEAT TREATED WPM & LUMBER SHIPPED

D. QUALITY CONTROL FORMS

E. IPPC/ISPM SIGNATORY COUNTRIES

F. ISPM GUIDELINES

G. DEBARKING REQUIREMENTS
GENERAL SPECIFICATIONS
Part I. GENERAL SPECIFICATIONS

1. Introduction
The West Coast Lumber Inspection Bureau is accredited by the American Lumber Standard Committee Incorporated (ALSC) to provide certification and auditing services to lumber mills, custom drying facilities, and wood-packaging fabrication facilities for compliance with the heat treatment of wood packaging material requirements as referenced in the memorandum of understanding (MOU) between the United States Department of Agriculture Animal and Plant Health Inspection Service (USDA APHIS) and ALSC, and further described in the ALSC Wood Packaging Material Policy, and the ALSC Wood Packaging Material Enforcement Regulations.

The purpose of the heat treatment certification and quality control program is to provide third party monitoring of facilities engaged in the heat treatment of wood packaging and wood packaging materials and components to meet the applicable phytosanitary requirements of the International Plant Protection Convention (IPPC) standard ISPM-15, Guidelines for Regulating Wood Packaging Material in International Trade.

2. Definitions
2.1 Wood Packing Material (WPM) - wood packing other than that comprised wholly of wood-based products such as plywood, particle board, oriented strand board, veneer, wood wool, etc., which have been created using glue, heat and pressure or a combination thereof.

2.2 Heat Treatment (HT) - lumber or wood, previously assembled or repaired wood packaging which has been placed in a closed chamber and artificial heat added until the lumber or packing achieves a minimum core temperature of 56°C (133°F) for a minimum of 30 minutes.

2.3 Kiln Dried (KD) - lumber or wood, previously assembled or repaired wood packaging material seasoned in a closed chamber by means of artificial heat to a maximum moisture content of 19% or less.

2.4 Compliant Wood Packaging - wood packaging which is fully compliant with the requirements of this manual, the ALSC Wood Packaging Material Policy, ALSC Wood Packaging Material Enforcement Regulations, ALSC/USDA APHIS Memorandum of Understanding, and IPPC ISPM 15.

3. Allowable processes
3.1 Allowable processes shall be based on those referenced in the International Plant Protection Convention (IPPC) standard ISPM-15, Guidelines for Regulating Wood Packaging Material in International Trade or other standard recognized by the ALSC Board of Review.

4. Product Specifications
4.1 All wood packaging materials certified under this program as complying, and labeled with a mark or label which includes the WCLIB trademark logo shall comply with all applicable requirements of this manual, the ALSC Wood Packaging Material Policy, the ALSC Wood Packaging Material Enforcement Regulations, and the ALSC/USDA APHIS memorandum of understanding.

4.2 All wood packaging materials labeled with a mark or label bearing the WCLIB logo shall have been heat treated to comply with the requirements of Part I section 2.3 for "HT" or sections 2.2 and 2.3 for "KD-HT".

4.3 All heat treated wood labeled with a mark or label bearing the WCLIB logo shall be marked with the appropriate approved WCLIB mark as designated for the product in the appropriate section of this manual.

Part II. Heat Treating and Heat Treating/Kiln Drying Facilities

General
1.1 Upon request, member mills and facilities engaged in the heat treatment and/or kiln drying of wood packaging materials and components may be qualified by WCLIB for compliance with the applicable provisions of this manual, the ALSC Wood Packaging Material Policy and Enforcement Regulations, and ISPM 15.

2. Certification of Kiln Drying/Heat Treating Facility
2.1 Upon application for certification, the Bureau shall determine whether the kiln drying and/or heat treating facility has adequate equipment to treat the wood packing material to the specified requirements.

2.2 The Bureau shall also determine that the quality control program employed by the facility is adequate to maintain the requirements of this manual.

3.1 Verification of Equipment. Equipment used to Kiln Dry/Heat Treat wood packaging materials and components in compliance with this manual shall be initially qualified to verify the minimum conditions necessary to meet the heat treatment requirements using one of the procedures listed in 3.1.1 through 3.1.3.
3.1.1 Time temperature data or graphs provided by the equipment manufacturer which permit determination of conditions to meet heat treatment requirements.

3.1.2 A temperature study of the heat treating equipment conducted by the member facility which provides suitable data to permit determination of heat chamber conditions to meet heat treatment requirements.

3.1.3 A temperature study conducted by the Bureau at the heat treating facility of the equipment which provides suitable data to permit determination of heat chamber conditions to meet heat treatment requirements. A time temperature study shall be required whenever:

a. heat chamber uses only dry heat and does not maintain an operating temperature of 160°F (71°C) or greater after initial temperature ramp-up. Chambers using Option C of CFIA PI-07 may be exempted from this requirement.

b. heat chambers using dry and steam (wet) heat which do not maintain a wet bulb operating temperature of 140°F (60°C) or greater after initial temperature ramp-up.

c. heat chambers which do not maintain an operating temperature of 140°F (60°C) after initial temperature ramp-up, and are monitored with thermocouples placed in the wood to be treated.

3.1.4 Other data or information suitable to permit establishment of heat chamber conditions necessary to meet heat treatment requirements.

3.1.5 Equipment Calibration. The equipment used to monitor temperature shall be calibrated as part of the qualification process. The equipment shall not indicate a variance of more than ± 5°F (2.8°C).

3.1.6 Study Report. When a verification study is conducted as part of the initial heat chamber qualification, a copy of the report shall be kept at the heat treatment facility.

3.2 Monitoring Heat Treatment Temperatures. Heat treatment temperatures shall be monitored during the heat treatment cycle in conformance with the requirements of 3.2.1, 3.2.2, or 3.2.3.

3.2.1 Wet and Dry Bulb Temperature. The wet and dry bulb temperatures in the heat chamber shall be monitored during the heat treatment cycle.

3.2.2 Dry Bulb Temperature. Heat treatment processes which only measure dry bulb temperature shall either verify that the heat treatment schedule used achieves the required time and temperature requirements or shall use a schedule equal to or greater than the specified schedule assuming the maximum wet bulb depression listed in one of the following:


b. FPL-RP-604 “Effect of Wet Bulb Depression on Heat Sterilization Time of Slash Pine Lumber”


3.2.3 Direct measurement of wood core temperature. Thermocouples used shall be installed and used in conformance with the provisions of 3.3. The heat treatment cycle shall be considered complete when all thermocouples used to monitor the treatment cycle indicate that the time-temperature requirements have been met.

3.2.4 Moisture Content. When the moisture content of the wood to be treated is not determined at the beginning of the heat treatment cycle, the time-temperature schedule used shall equal or exceed any appropriate schedule assuming the lowest initial moisture content from one of the following:

a. FPL-GTR-130 “Heating Times for Round and Rectangular Cross Sections of Wood in Steam”.


c. FPL-RP-604 “Effect of Wet Bulb Depression on Heat Sterilization Time of Slash Pine Lumber”.


3.3 Use of Thermocouples. The heat treatment process may be monitored with thermocouples. Thermocouples shall be installed, used, and monitored in conformance with the requirements of this section.

3.3.1 Thermocouples shall be maintained in good working order. Each thermocouple shall be calibrated prior to use. Worn, damaged, or broken thermocouples shall be replaced immediately.

3.3.2 Heat Chamber Thermocouples. Thermocouples shall be installed in sufficient number and locations within the heat chamber to provide representative temperature data for the heat chamber.

3.3.3 Thermocouples in Wood. Thermocouples shall be installed at a location in the board which will provide data
representative of the core temperature. All bore holes used to install the thermocouples shall be sealed at the board surface with a heat resistant caulk or other approved means.

3.3.4 A time-temperature graph or time temperature data shall be recorded for each thermocouple and charge.

3.3.5 If a thermocouple fails during a heat treatment cycle, the material in that charge shall be re-heated treated after the thermocouple is replaced, unless there was at least one properly working duplicate thermocouple in the chamber during the initial heat treatment cycle to verify that the heat treatment requirements were met.

4. Qualification Records
4.1 A report of the initial certification, including verification of equipment shall be completed by the Bureau representative. The report shall be maintained on file with the Bureau at the main office. A copy of the report shall be provided to the certified facility.

5. Treating Facility Quality Control
5.1 The quality control program utilized by the Heat Treating/Kiln Drying facility shall be sufficient to provide adequate assurance of continued compliance with the requirements of this manual.

5.2 A copy of the quality control program manual used by the facility shall be kept at the facility and be available during working hours to the quality control staff, and to agency and ALSC staff upon request.

5.3 Quality control records shall be maintained onsite by the treating facility for a minimum period of two years.

5.4 The treating facility shall make all quality control records available upon request to authorized representatives of the WCLIB and ALSC for their inspection and review during normal business hours.

6. Periodic Calibration
6.1 The heat treating equipment shall be calibrated or re-calibrated whenever the heat chamber or heat chamber equipment has been substantially modified, repaired, or when required by WCLIB or ALSC.

7. Product Labeling
7.1 Heat treated lumber shall be marked with the heat treatment stamp of an approved agency.

7.1.1 Except for lumber marked as “DUNNAGE”, heat treated lumber shall be marked with the designation “HT” or “KD-HT” within the grade stamp or heat treatment quality mark of an approved agency.

7.1.2 Heat treated lumber to be used as dunnage shall be marked with an IPPC ISPM 15 compliant mark with the designation “DUNNAGE” or “DUN” in the stamp.

7.2 Lumber shall be marked with an approved heat treatment mark only after heat treatment, except as permitted in 7.2.1.

7.2.1 WCLIB may permit the marking of lumber prior to being subjected to heat treatment provided the facility has a WCLIB approved quality control procedure in place to ensure that all marked lumber has been properly heat treated or the approved mark removed or obliterated prior to shipment from the facility.

8. Periodic Inspections
8.1 WCLIB representatives shall periodically audit the Kiln Drying/Heat Treating program at the facility to verify continued compliance.

8.2 Audit inspections shall be made 12 times a year at approximate monthly intervals when the facility heat treats lumber. If the facility does not heat treat material for one or more months during the year, then the number of audit inspections shall be equal to the number of months heat treating occurred.

Part III. Wood Packaging Material Manufacturing Facilities

1. General
1.1 Upon request, Wood Packaging Material Facilities engaged in the production of wood packaging materials in compliance with ISPM 15, the requirements of this manual, and the ALSC Wood Packaging Material Policy and Enforcement Regulations may be qualified and licensed by WCLIB to label such products with a mark bearing the WCLIB registered logo.
2. Certification of Kiln Drying/Heat Treating Procedures

2.1. Facilities which heat treat and/or kiln dry non-manufactured wood packing material shall comply with the provisions of Part II of this manual.

3. Wood Packaging Material Facility Requirements

3.1 Product Manufacture.

3.1.1 All product manufactured for compliance with the requirements of ISPM 15 shall be:
constructed using only approved heat treated and labeled lumber, and other ISPM-15 compliant components,
or
the finished product shall be heat treated in an approved heat treatment chamber in accordance with part II of this manual.

3.1.2 Multiple Inventories. When the facility purchases and inventories both heat treated and non-heat treated lumber, the facility shall have a written procedure or process to ensure that two inventories are maintained separate and are not commingled.

3.1.3 Non-conforming Product. Product found to be non-conforming shall either be remanufactured and conformance verified. or have the approved quality mark removed or obliterated.

3.1.4 Repaired or Re-manufactured Pallets, Crating, and other WPM. pallets, crating, and other WPM repaired or remanufactured by the facility must be heat treated in order to be labeled as ISPM 15 compliant.

3.2 Facility Quality Management

3.2.1 It is the responsibility of the manufacturing facility and its management to maintain continuing product conformance to ISPM 15, this manual, and the ALSC Wood Packaging Policy and Enforcement Regulations.

3.2.2 Facility internal quality control procedures shall be performed to a level that assures continuing product compliance with the IPPC ISPM 15 standard.

3.2.3 Facility management shall appoint a qualified employee to supervise the facility quality control program. The appointed employee shall have responsibility for the plant quality control system, including documentation and maintenance of QC records. The appointed employee shall also have full authority to:
- correct any condition causing non-conformance,
- remove the approved quality mark from non-complying product,
- stop shipment of quality marked product found to be non-complying,
- hold shipment of product until conformance is regained.

3.4 Facility Records

3.4.1 Unless the facility heat treats lumber or WPM in conformance with Part II of this manual, it shall maintain the following records as part of the quality control program:

a. verification that the wood used in the manufacture or repair of pallets, crates, and other wood packaging material in compliance with ISPM 15 and this manual is labeled "HT" or "KD HT" under the supervision of an approved agency.

b. verification that the volume of "HT" and/or "KD HT" labeled wood purchased or produced by the facility is sufficient to yield the volume of ISPM 15 compliant wood pallets, crating, boxes, or other wood packaging manufactured, labeled, and shipped by the facility.

3.5 Facility Record Maintenance

3.5.1 The facility shall maintain a systematic method of keeping records and in-facility quality control procedures suitable to verify compliance with the requirements of this manual. Such method shall be approved by WCLIB prior to certification of the facility.

3.5.2 All quality control records shall be maintained by the facility for a minimum of two years.

3.5.3 Quality control records and quality control manuals maintained by the facility shall be made available on request, for inspection and review during normal business hours by Bureau inspectors, ALSC inspectors, and/or their designated representatives.

3.6 Product Labeling

3.6.1 All wood packaging material pallets, crating, boxes, etc. produced in accordance with this manual shall be labeled with an approved WCLIB Quality Mark which includes the following information:
a. approved international symbol for ISPM 15 compliant wood packaging material.
b. two-letter ISO country abbreviation, "US", followed by the unique manufacturer identification number assigned by the Bureau.
c. the designation "Heat Treated" abbreviated as "HT".

- 4 -
3.6.2 All WCLIB Quality Marks are loaned to the member facility under license and remain the property of the Bureau. Quality Marks and supplies are provided to the member at cost plus applicable shipping and handling.

3.6.3 Quality Marks licensed to and used by the member to mark compliant lumber and wood packaging materials bearing the registered logo of the Bureau shall be ordered directly from the Bureau. The member facility is not authorized nor permitted to obtain the licensed Quality Marks from any other source.

3.6.4 Worn out, damaged, or broken Quality Marks bearing the registered logo of the Bureau shall be returned to the Bureau or to the Bureau District Supervisor for proper destruction and disposal.

3.6.5 All Wood Packaging Material, including pallets and crating, which has been repaired and heat treated, or re-heat treated by the facility shall have all existing IPPC ISPM 15 marks and labels removed or obliterated prior to the application of the facility IPPC ISPM 15 licensed mark.

3.6.6 Misuse, abuse, duplication, or unauthorized use or manufacture of Quality Marks or other labeling and marking materials bearing the registered logo of the Bureau by the member or its employees or agents will constitute grounds for immediate revocation of the license granted to the member by the Bureau, and termination of Bureau services.

4. Periodic Inspections
4.1 Periodic audits of the wood packaging material manufacturing facility for compliance with the requirements of this manual, and the ALSC Wood Packaging Policy and Enforcement Regulations shall be conducted by authorized representatives of WCLIB.

4.2 A minimum of 12 audits shall be conducted annually at the certified facility by representatives of the WCLIB. Such audits shall be at approximate monthly intervals. In cases where the facility is inactive in excess of two (2) months in any twelve (12) month period, an audit shall be conducted for each month the facility produces wood packaging materials.

4.3 The audit shall include a review of the facility quality control records, heat chamber charts when applicable, a visual inspection of pallets and crating in inventory, and review of any other pertinent information and data necessary to evaluate continuing compliance.

4.4 A written report of the audit results shall be made to the Bureau main office. A copy of the report shall be provided to the facility management. The report shall be retained on file at the Bureau office for a minimum period of two years.

5. Reinspection
5.1 A request for reinspection of wood packaging material with respect to compliance with the requirements of this manual is permitted by either buyer or seller. The party requesting the reinspection shall be responsible for all fees related to the reinspection due WCLIB. A cash deposit equal to the anticipated reinspection fees may be required prior to the initiation of reinspection.

5.2 A complaint regarding product compliance with the requirements of the IPPC standard ISPM 15 may be made to the wood packaging material facility for 90 days after shipment. Partial use of a shipment shall not prejudice the right to reinspection as long as the unused portion is in the form in which it was shipped.

5.3 It is permitted to file a complaint for excess moisture, as provided for in Standard Grading Rules No. 17 paragraph 300, with regard to wood packaging material marked, certified or invoiced as being manufactured in conformance to a particular moisture content specification. Complaints shall be filed within 72 hours after receipt of shipment provided the wood packaging material is not in use and has been continuously protected in shipment and in storage. It is the responsibility of the wood packaging material facility to manufacture the wood packaging material product from "KD HT" quality marked component pieces when so specified.
6. Non Compliance

6.1 All material found to be non-conforming as a result of normal in-plant quality control, an audit of the facility, an inspection, or reinspection shall be retreaded to compliance or have all approved quality marks and labels removed from the product.

6.2 Serious, egregious, or repeated non-compliance with the requirements of this manual shall result in withdrawal of certification and labeling privileges.
POSTED NOTICE
REMINDER TO ALL WCLIB
NON-MANUFACTURED WOOD PRODUCERS:
(PLEASE POST IN A PROMINENT LOCATION)

LUMBER

All containers using the above type of stamp must be built out of HT or KD HT stamped with an ALSC approved stamp. It must have the agency logo on the stamp.

All HT or KD HT lumber must be stored in such a way that the HT lumber will not be accidentally mixed with non-HT stamped lumber.

STAMPS

Any item labeled with the above type of stamp must also be stamped a minimum of 2 times, one stamp on each side of the pallet/crate/box/etc.

RECORDS

Records of all HT or KD-HT lumber footage used in stamped containers must be maintained in an orderly manner with records of inbound purchases. These records will and must be reviewed each month by the WCLIB inspector calling on the plant.

QUESTIONS

Please call WCLIB office at 503-639-0651 if you have any questions.
CHECKLISTS
WEST COAST LUMBER INSPECTION BUREAU
CHECK LIST FOR IPPC COMPLIANT PALLETS AND CRATING
MADE WITH “HT” LUMBER

Date: ___________________________  Mill: ______________________________________  Supervisor: ________________

☐ Verify all lumber to be used to construct pallets or crating is marked with approved “HT” mark.

☐ Determine volume of “HT” lumber to be included in each fabrication unit.

☐ Mark finished unit with approved IPPC ISPM 15 mark. Mark unit at least twice, one image on each of two opposite sides in prominently visible location.

☐ Verify that IPPC ISPM 15 approved mark is fully legible. If one or more marks is not legible, apply an additional image of the mark on that side.

☐ Determine number of units produced during the shift or manufacturing run. Total volume of “HT” used equals the volume used per unit times the number of units.

☐ Record the applicable production data on the QC data form.

☐ ________________________________

____________________________________

CHECK LIST FOR IPPC COMPLIANT PALLETS AND CRATING
MADE WITH NON “HT” LUMBER

☐ Determine volume of lumber to be included in each fabrication unit.

☐ Determine number of units produced during the shift or manufacturing run. Total volume of lumber used equals the volume used per unit times the number of units.

☐ Heat treat all pallets and crating in accordance with the heat treatment procedures of ISPM 15 and the WCLIB Quality Manual.

☐ Verify that heat treatment process met the minimum time / temperature requirements of ISPM 15.

☐ Mark finished unit with approved IPPC ISPM 15 mark. Mark unit at least twice, one image on each of two opposite sides in prominently visible location.

☐ Verify that IPPC ISPM 15 approved mark is fully legible. If one or more marks is not legible; apply an additional image of the mark on that side.

☐ Determine number of units produced during the shift or manufacturing run. Total volume of “HT” used equals the volume used per unit times the number of units.

☐ Record the applicable production data on the QC data form.

☐ ________________________________
WEST COAST LUMBER INSPECTION BUREAU
HEAT TREATMENT CHECK LIST

Date:_________ MILL:_________________________ Supervisor:____________

☐ Heat chamber has been certified by agency.
☐ Heat chamber has been calibrated.
☐ Temperature/time recording equipment is in good working order.
☐ Thermocouples are properly installed in representative boards.
☐ Thermocouple bore holes have been sealed with heat resistive caulk.
☐ Heat chamber has been closed and heat cycle started.
☐ Time/temperature recording equipment has been started.
☐ Recording of time/temperature data has been verified.
☐ Initial data has been logged into QC data form.
☐ Time when minimum temperature has been reached has been recorded in QC data form.
☐ Time when heat treatment cycle stopped and cool down period started has been recorded in QC data form.
☐ Time/temperature data verify that minimum heat treatment requirements have been met.
☐ Time when heat treated material was removed from heat chamber has been recorded in QC data form.
☐ Verify that all necessary data has been logged into QC data forms.
☐ Store all QC data and charts for archival purposes.
☐ Verify compliant HT material has been marked with proper approved Quality Mark.
☐ Verify compliant HT material has been properly stored.

________________________________________

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WEST COAST LUMBER INSPECTION BUREAU
CHECK LIST FOR MANUFACTURE OF
IPPC COMPLIANT PALLETS AND CRATING
MADE BY REPAIRING OR REFURBISHING EXISTING UNITS

Date: ___________________________  Mill: ___________________________  Supervisor: ___________________________

☐ Determine volume of lumber included in each fabrication unit.

☐ Determine number of units produced during the shift or manufacturing run. Total volume of lumber used equals the volume used per unit times the number of units.

☐ Remove or obliterate all existing IPPC ISPM 15 marks from the pallets and crating being repaired.

☐ Heat treat all pallets and crating in accordance with the heat treatment procedures of ISPM 15 and the WCLIB Quality Manual.

☐ Verify that heat treatment process met the minimum time/temperature requirements of ISPM 15.

☐ Verify that all existing IPPC ISPM 15 marks have been removed or obliterated.

☐ Mark finished unit with approved IPPC ISPM 15 mark. Mark unit at least twice, one image on each of two opposite sides in a prominently visible location.

☐ Verify that IPPC ISPM 15 approved mark is fully legible. If one or more marks is not legible, apply an additional image of the mark on that side.

☐ Determine number of units produced or volume of lumber consumed during the shift or manufacturing run. Total volume of lumber heat treated or used should be recorded in the QC data form.

☐ Record the applicable production data on the QC data form.

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QUALITY CONTROL FORMS
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<th>Date Received</th>
<th>Item Description</th>
<th>Thickness (in)</th>
<th>Width (in)</th>
<th>Length (ft)</th>
<th>Amount Purchased (FBM)</th>
<th>Source or Grade Stamp information</th>
<th>Marked HT? (Y/N)</th>
<th>Recorded by:</th>
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# WEST COAST LUMBER INSPECTION BUREAU

## RECORD OF HEAT TREATED WPM & LUMBER SHIPPED

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<th>Date</th>
<th>Item Shipped Description</th>
<th>Qty</th>
<th>Lbr. Vol. (BFM/Unit)</th>
<th>Total Vol. of HT Lbr. Shipped (Qty * BFM/Unit)</th>
<th>Total Vol. HT Lumber Shipped During Month</th>
<th>Marked IPPC (Y/N)?</th>
<th>Recorded by</th>
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# Record of Heat Treatment of WPM

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<th>Qty</th>
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<th>Stop Time</th>
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# West Coast Lumber Inspection Bureau

## Record of Heat Treatment of WPM

- **Company Name:**
- **Location:**
- **Plant ID No.:**

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SAMPLE CONTRACT
WOOD PACKAGING MATERIAL
INSPECTION SUBSCRIBER'S CONTRACT AND LICENSING AGREEMENT

THIS CONTRACT is entered into, by and between the West Coast Lumber Inspection Bureau (an Oregon, non-profit corporation), owner of that certain quality mark hereinafter designated and registered under the laws of the United States, certificate of registration 1,994,610 hereinafter called “Licensor” and the ____________________________ a manufacturer or remanufacturer of wood or Wood Packaging Material made from species supervised by the WCLIB, hereinafter called “Licensee”.

WITNESSETH the parties agree as follows:

For purposes of this contract:

The International Plant Protection Convention (IPPC) standard ISPM 15, American Lumber Standard Committee (ALSC) Wood Packaging Material Policy, the ALSC Wood Packaging Material Enforcement Regulations, the memorandum of understanding between ALSC and the U.S. Department of Agriculture Animal and Plant Health Inspection Service for Wood Packaging Material; and the WCLIB Manual for Certification and Quality Control of Wood Packaging Material and any and all other standards as may be required shall herein be referenced collectively as “the Standards”.

1. The Licensor shall:

   (a) maintain a bona fide supervisory service in conformance with the Standards.

   (b) periodically inspect the Licensee’s facility and quality control records to verify continuing conformance with the Standards. A written report of the results of each inspection will be provided to Licensee.

   (c) have all inspections conducted by properly supervised and qualified inspectors.

   (d) authorize and license Licensee to apply an approved Quality Mark bearing the registered Mark of Licensor to products which comply with the requirements of the Standards.

   (e) Assign plant identification number ________ for inclusion in the licensed WCLIB Quality Mark assigned to this facility.

2. The Licensee shall:

   (a) Conform to all lawful rules and regulations of Licensor covering inspections and heat treating services; and cooperate fully with representatives of Licensor in the discharge of their duties hereunder.

   (b) On and after the ______ day of ______, 20____ pay monthly to Licensor the rate of dues established by the Board of Directors, currently USD $______. Said payments shall be made on or before the fifteenth (15th) day of the month following each calendar month in which such inspection services occur. When plant is not operating, no operating charge, as may be specified by the Board of Directors shall apply.

   (c) On request of Licensor, advance the estimated cost of any service requested by Licensee, for which service the Board of Directors has established a specific charge.

   (d) Permit authorized representatives of Licensor at any reasonable time to enter the Licensee’s premises and have free access to the Licensee’s records for the purpose of verifying compliance with all applicable requirements and the correctness of the dues paid.

   (e) Maintain on deposit with Licensor from and after the effective date of this agreement, the sum equal to 3 months dues at the minimum operating rate as may be specified by the Board of Directors, for each plant of the Licensee. Upon termination of this agreement, any excess deposit over the sum due Licensor hereunder shall be refunded to the Licensee.

   (f) apply the approved quality mark containing the registered mark of Licensor only to Wood Packaging Material products which conform in every respect to the provisions of the Standards. No special agreements between buyer and seller shall justify any deviation from this requirement.

   (g) permit authorized representatives of the ALSC Board of Review reasonable access to Licensee’s facility(s) during normal business hours to permit examination of required records and wood and Wood Packaging Material bearing the licensed quality mark of Licensor.

   (h) permit authorized representatives of the ALSC Board of Review reasonable access to examine wood and Wood Packaging Material at destination points or other locations where products bearing the quality mark of Licensor assigned to Licensees are encountered.

June 2, 2005
3. It is further agreed between Licensee and Licensor:

(a) That Licensor shall apply all monies received to the purposes herein named and no part of the receipts shall inure to the benefit or profit of any Licensee or individual. Should Licensor be dissolved during the existence of this contract, any funds remaining after payment of liabilities properly chargeable to Licensor shall be paid over or be distributed to a non-profit organization engaged in one or more of the following activities:

- Activities designed to be of general benefit to the lumber manufacturing industry of the United States, or of a major lumber producing region thereof.

- Federal or state government agencies engaged in scientific or technical research relative to the growth or harvesting of timber or the manufacture or use of lumber.

- Schools, colleges or universities engaged in scientific or technical research relative to the growth or harvesting of timber or the manufacture or use of lumber.


This Agreement shall be construed and interpreted under the laws of the United States and the State of Oregon, as that law would be applied to a contract executed and performed in that State. Any and all actions or claims to interpret, rescind, modify, or enforce this Agreement (and any guarantee contained within this Agreement) shall occur within the State or Federal Courts located within the State of Oregon. Licensor and Guarantor hereby consent to the jurisdiction of United States Courts, and particularly, to the jurisdiction of the United States Federal District Court in the District of Oregon and to the jurisdiction of Oregon State Courts. Licensee hereby further agrees that it shall make representatives of Licensee available in Oregon for any and all purposes (including discovery) relating to any action pending within a Court located within the State of Oregon.

5. Duty to Indemnify.

Licensee hereby acknowledges that neither the licensed Quality Mark nor the application of heat treating, kiln drying, nor grading standards of Licensor, shall constitute a warranty to Licensee or to any purchaser of any item bearing such Quality Mark that such lumber or Wood Packaging Material item possesses any particular characteristics, qualities or attributes nor that such lumber or Wood Packaging Material item is fit for any particular purpose, nor that any such lumber or Wood Packaging Material item is merchantable. Licensee hereby agrees, at its sole cost and expense, to defend and hold Licensor harmless against any claim, action, or proceeding against Licensor arising from Licensee's use of Licensor's Quality Mark, or standards of Licensor. Licensee further agrees to promptly notify Licensor of any claim arising from such use.


Licensee hereby acknowledges Licensor's rights in the Mark and Quality Mark or other label bearing the Mark and waives any right to challenge the validity of Licensor's rights in the Mark or any quality mark or Grade Stamp bearing the Mark within the United States of America or any country, republic, or kingdom in which Licensee operates or in any other place.

7. This contract is to remain in full force and effect until terminated by Licensee or Licensor upon sixty (60) days notice in writing; or until terminated or suspended by Licensor because of failure of Licensee to fulfill the agreements herein. Suspension for cause may be effective immediately in writing to Licensee. Termination by Licensor for cause shall be effective within thirty (30) days after notice of suspension in writing to the Licensee. Within said thirty (30) days, Licensee shall be given reasonable opportunity to be heard by Licensor in respect to termination of this contract. Termination shall be without prejudice to any other right or remedy to which Licensor may be entitled.

IN WITNESS WHEREOF we have hereunto signed our names this day of __________, 20__.

Accepted:

________________________________________
[Inspection Subscriber]

By: ____________________________________

[Name and Title]

Please print or type in space below name, title and address to be included on Bureau mailing list.

________________________________________

[Name and Title]

________________________________________

[Mailing Address]

________________________________________

[City, State, Country]

WEST COAST LUMBER INSPECTION BUREAU
IPPC/ISPM SIGNATORY COUNTRIES
Countries Requiring ISPM 15

If country isn’t listed, contact your Export Certification Specialist for existing requirements of Wood Packaging Material.

*The information on this page is considered correct and current. Nevertheless, this information is not legally authoritative.*

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*Commodities destined to Canada from the United States are exempt from the requirement for treatment and official marking.*

For more information, visit:
ISPM GUIDELINES
Regulation of wood packaging material in international trade

Produced by the Secretariat of the International Plant Protection Convention (IPPC)
ISPM 15

Regulation of wood packaging material
in international trade

Produced by the Secretariat of the International Plant Protection Convention
Adopted 2013; published 2016

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Publication history
This is not an official part of the standard
1999-10 ICPM-2 added topic Wood packaging (1999-001)
2000-06 ad Hoc EWG developed draft text
2001-02 EWG developed draft text
2001-05 ISC-3 revised draft text and approved for MC
2001-06 Sent for MC
2001-11 ISC-4 revised draft text for adoption
2002-03 ICPM-4 adopted standard
2005-03 TPFS revised Annex 1 Methyl bromide fumigation schedule (2005-011)
2005-05 SC revised Annex 1 and approved for MC
2005-06 Sent for MC under fast-track process
2005-11 SC revised Annex 1 for adoption
2006-04 CPM-1 adopted revised Annex 1
ISPM 15. 2006. Guidelines for regulating wood packaging material in international trade. Rome, IPPC, FAO.
2008-04 CPM-1 added topic Revision of ISPM 15 (2008-036)
2008-05 SC approved Specification 31 Revision of ISPM 15
2007-07 TPFS revised standard
2008-05 SC revised and approved for MC
2008-06 Sent for MC
2008-11 SC revised standard for adoption
2009-03 CPM-4 adopted revised standard
ISPM 15. 2009. Regulation of wood packaging material in International trade. Rome, IPPC, FAO.
2009-05 TPFS revised Annex 1 to ISPM 15
2010-09 TPFS revised Annex 1 to ISPM 15 considering dielectric heat and sulfur fluoride treatments
2011-05 SC approved revision of Annex 1 to ISPM 15 to go for MC
2012-11 SC revised standard for adoption
2013-03 CPM-8 adopted revised Annex 1 to ISPM 15 with consequent changes to Annex 2
ISPM 15. Annex 1 Approved treatments associated with wood packaging material (2013). Rome, IPPC, FAO.
2015-06 IPPC Secretariat incorporated in amendments and reformatted standards following revoking of standards procedure from CPM-10 (2016).
2016-06 IPPC Secretariat made an editorial adjustment to include the abbreviation "DH" in the first section of Annex 2.
Publication history last modified: 2016-06.
# CONTENTS

Adoption ............................................................................. 4

INTRODUCTION .................................................................. 4
Scope .................................................................................. 4
Environmental Statement .................................................... 4
References .......................................................................... 4
Definitions .......................................................................... 4
Outline of Requirements ...................................................... 5

REQUIREMENTS .................................................................. 6
1. Basis for Regulation .......................................................... 6
2. Regulated Wood Packaging Material .................................. 6
   2.1 Exemptions .................................................................. 6
3. Phytosanitary Measures for Wood Packaging Material ............. 6
   3.1 Approved phytosanitary measures .................................... 6
   3.2 Approval of new or revised treatments ............................. 7
   3.3 Alternative bilateral arrangements ................................. 7
4. Responsibilities of NPPOs ................................................... 7
   4.1 Regulatory considerations ............................................ 8
   4.2 Application and use of the mark .................................... 8
   4.3 Treatment and marking requirements for wood packaging material that is reused, repaired or remanufactured .............. 8
   4.3.1 Reuse of wood packaging material ............................ 8
   4.3.2 Repaired wood packaging material ............................ 8
   4.3.3 Remanufactured wood packaging material ................ 9
   4.4 Transit ........................................................................ 9
   4.5 Procedures upon import .............................................. 9
   4.6 Phytosanitary measures for non-compliance at point of entry 9

ANNEX 1: Approved treatments associated with wood packaging material (2013) .............................................. 11

ANNEX 2: The mark and its application .................................. 16

APPENDIX 1: Examples of methods of secure disposal of non-compliant wood packaging material 19
Adoption

This standard was first adopted by the Fourth Session of the Interim Commission on Phytosanitary Measures in March 2002 as Guidelines for regulating wood packaging material in international trade. Modifications to Annex 1 were adopted by the First Session of the Commission on Phytosanitary Measures in April 2006. The first revision was adopted by the Fourth Session of the Commission on Phytosanitary Measures in March–April 2009 as the present standard.

Revision to Annex 1 together with associated change in Annex 2, was adopted by the Eighth Session of the Commission on Phytosanitary Measures in April 2013.

INTRODUCTION

Scope

This standard describes phytosanitary measures that reduce the risk of introduction and spread of quarantine pests associated with the movement in international trade of wood packaging material made from raw wood. Wood packaging material covered by this standard includes dunnage but excludes wood packaging made from wood processed in such a way that it is free from pests (e.g. plywood).

The phytosanitary measures described in this standard are not intended to provide ongoing protection from contaminating pests or other organisms.

Environmental Statement

Pests associated with wood packaging material are known to have negative impacts on forest health and biodiversity. Implementation of this standard is considered to reduce significantly the spread of pests and subsequently their negative impacts. In the absence of alternative treatments being available for certain situations or to all countries, or the availability of other appropriate packaging materials, methyl bromide treatment is included in this standard. Methyl bromide is known to deplete the ozone layer. An IPPC Recommendation on the Replacement or reduction of the use of methyl bromide as a phytosanitary measure (CPM, 2008) has been adopted in relation to this issue. Alternative treatments that are more environmentally friendly are being pursued.

References

The present standard refers to International Standards for Phytosanitary Measures (ISPMs). ISPMs are available on the International Phytosanitary Portal (IPP) at https://www.ippc.int/core-activities/standards-setting/ispsm.


Definitions

Definitions of phytosanitary terms used in this standard can be found in ISPM 5 (Glossary of phytosanitary terms).
Outline of Requirements

Approved phytosanitary measures that significantly reduce the risk of pest introduction and spread via wood packaging material consist of the use of debarked wood (with a specified tolerance for remaining bark) and the application of approved treatments (as prescribed in Annex 1). The application of the recognized mark (as prescribed in Annex 2) ensures that wood packaging material subjected to the approved treatments is readily identifiable. The approved treatments, the mark and its use are described.

The national plant protection organizations (NPPOs) of exporting and importing countries have specific responsibilities. Treatment and application of the mark must always be under the authority of the NPPO. NPPOs that authorize the use of the mark should supervise (or, as a minimum, audit or review) the application of the treatments, use of the mark and its application, as appropriate, by producer/treatment providers and should establish inspection or monitoring and auditing procedures. Specific requirements apply to wood packaging material that is repaired or remanufactured. NPPOs of importing countries should accept the approved phytosanitary measures as the basis for authorizing entry of wood packaging material without further wood packaging material-related phytosanitary import requirements and may verify on import that the requirements of the standard have been met. Where wood packaging material does not comply with the requirements of this standard, NPPOs are also responsible for measures implemented and notification of non-compliance, as appropriate.
REQUIREMENTS

1. Basis for Regulation
Wood originating from living or dead trees may be infested by pests. Wood packaging material is frequently made of raw wood that may not have undergone sufficient processing or treatment to remove or kill pests and therefore remains a pathway for the introduction and spread of quarantine pests. Dunnage in particular has been shown to present a high risk of introduction and spread of quarantine pests. Furthermore, wood packaging material is very often reused, repaired or remanufactured (as described in section 4.3). The true origin of any piece of wood packaging material is difficult to determine, and thus its phytosanitary status cannot easily be ascertained. Therefore the normal process of undertaking pest risk analysis to determine if measures are necessary, and the strength of such measures, is frequently not possible for wood packaging material. For this reason, this standard describes internationally accepted measures that may be applied to wood packaging material by all countries to reduce significantly the risk of introduction and spread of most quarantine pests that may be associated with that material.

2. Regulated Wood Packaging Material
These guidelines cover all forms of wood packaging material that may serve as a pathway for pests posing a pest risk mainly to living trees. They cover wood packaging material such as crates, boxes, packing cases, dunnage¹, pallets, cable drums and spools/reels, which can be present in almost any imported consignment, including consignments that would not normally be subject to phytosanitary inspection.

2.1 Exemptions
The following articles are of sufficiently low risk to be exempted from the provisions of this standard²:
- wood packaging material made entirely from thin wood (6 mm or less in thickness)
- wood packaging made wholly of processed wood material, such as plywood, particle board, oriented strand board or veneer that has been created using glue, heat or pressure, or a combination thereof
- barrels for wine and spirit that have been heated during manufacture
- gift boxes for wine, cigars and other commodities made from wood that has been processed and/or manufactured in a way that renders it free of pests
- sawdust, wood shavings and wood wool
- wood components permanently attached to freight vehicles and containers.

3. Phytosanitary Measures for Wood Packaging Material
This standard describes phytosanitary measures (including treatments) that have been approved for wood packaging material and provides for the approval of new or revised treatments.

3.1 Approved phytosanitary measures
The approved phytosanitary measures described in this standard consist of phytosanitary procedures including treatments and marking of the wood packaging material. The application of the mark renders the use of a phytosanitary certificate unnecessary as it indicates that the internationally accepted

¹ Consignments of wood (i.e. timber/lumber) may be supported by dunnage that is constructed from wood of the same type and quality and that meets the same phytosanitary requirements as the wood in the consignment. In such cases, the dunnage may be considered as part of the consignment and may not be considered as wood packaging material in the context of this standard.

² Not all types of gift boxes or barrels are constructed in a manner that renders them pest free, and therefore certain types may be considered to be within the scope of this standard. Where appropriate, specific arrangements related to these types of commodities may be established between importing and exporting NPPOs.
phytosanitary measures have been applied. These phytosanitary measures should be accepted by all NPPOs as the basis for authorizing the entry of wood packaging material without further specific requirements. Required phytosanitary measures beyond an approved measure as described in this standard require technical justification.

The treatments described in Annex 1 are considered to be significantly effective against most pests of living trees associated with wood packaging material used in international trade. These treatments are combined with the use of debarked wood for construction of wood packaging, which also acts to reduce the likelihood of reinfestation by pests of living trees. These measures have been adopted based on consideration of:

- the range of pests that may be affected
- the efficacy of the treatment
- the technical and/or commercial feasibility.

There are three main activities involved in the production of approved wood packaging material (including dunnage): treating, manufacturing and marking. These activities can be done by separate entities, or one entity can do several or all of these activities. For ease of reference, this standard refers to producers (those that manufacture the wood packaging material and may apply the mark to appropriately treated wood packaging material) and treatment providers (those that apply the approved treatments and may apply the mark to appropriately treated wood packaging material).

Wood packaging material subjected to the approved measures shall be identified by application of an official mark in accordance with Annex 2. This mark consists of a dedicated symbol used in conjunction with codes identifying the specific country, the responsible producer or treatment provider, and the treatment applied. Hereafter, all components of such a mark are referred to collectively as "the mark". The internationally recognized, non-language-specific mark facilitates identification of treated wood packaging material during inspection prior to export, at the point of entry, or elsewhere. NPPOs should accept the mark as referred to in Annex 2 as the basis for authorizing the entry of wood packaging material without further specific requirements.

Debarked wood must be used for the construction of wood packaging material, in addition to application of one of the treated treatments specified in Annex 1. A tolerance for remaining bark is specified in Annex 1.

3.2 Approval of new or revised treatments

As new technical information becomes available, existing treatments may be reviewed and modified, and new alternative treatments and/or treatment schedule(s) for wood packaging material may be adopted by the CPM. ISPM 28 (Phytosanitary treatments for regulated pests) provides guidance on the IPPC's process for approval of treatments. If a new treatment or a revised treatment schedule is adopted for wood packaging material and incorporated into this ISPM, material already treated under the previous treatment and/or schedule does not need to be re-treated or re-marked.

3.3 Alternative bilateral arrangements

NPPOs may accept measures other than those listed in Annex 1 by bilateral arrangement with their trading partners. In such cases, the mark shown in Annex 2 must not be used unless all requirements of this standard have been met.

4. Responsibilities of NPPOs

To meet the objective of preventing the introduction and spread of pests, exporting and importing contracting parties and their NPPOs have responsibilities (as outlined in Articles I, IV and VII of the IPPC). In relation to this standard, specific responsibilities are outlined below.
4.1 Regulatory considerations

Treatment and application of the mark (and/or related systems) must always be under the authority of the NPPO. NPPOs that authorize use of the mark have the responsibility for ensuring that all systems authorized and approved for implementation of this standard meet all necessary requirements described within the standard, and that wood packaging material (or wood that is to be made into wood packaging material) bearing the mark has been treated and/or manufactured in accordance with this standard. Responsibilities include:

- authorization, registration and accreditation, as appropriate
- monitoring treatment and marking systems implemented in order to verify compliance (further information on related responsibilities is provided in ISPM 7 (Phytosanitary certification system))
- inspection, establishing verification procedures and auditing where appropriate (further information is provided in ISPM 23 (Guidelines for inspection)).

The NPPO should supervise (or, as a minimum, audit or review) the application of the treatments, and authorize use of the mark and its application as appropriate. To prevent untreated or insufficiently/incorrectly treated wood packaging material bearing the mark, treatment should be carried out prior to application of the mark.

4.2 Application and use of the mark

The specified marks applied to wood packaging material treated in accordance with this standard must conform to the requirements described in Annex 2.

4.3 Treatment and marking requirements for wood packaging material that is reused, repaired or remanufactured

NPPOs of countries where wood packaging material that bears the mark described in Annex 2 is repaired or remanufactured have responsibility for ensuring and verifying that systems related to export of such wood packaging material comply fully with this standard.

4.3.1 Reuse of wood packaging material

A unit of wood packaging material that has been treated and marked in accordance with this standard and that has not been repaired, remanufactured or otherwise altered does not require re-treatment or re-application of the mark throughout the service life of the unit.

4.3.2 Repaired wood packaging material

Repaired wood packaging material is wood packaging material that has had up to approximately one third of its components removed and replaced. NPPOs must ensure that when marked wood packaging material is repaired, only wood treated in accordance with this standard is used for the repair, or wood constructed or fabricated from processed wood material (as described in section 2.1). Where treated wood is used for the repair, each added component must be individually marked in accordance with this standard.

Wood packaging material bearing multiple marks may create problems in determining the origin of the wood packaging material if pests are found associated with it. It is recommended that NPPOs of countries where wood packaging material is repaired limit the number of different marks that may appear on a single unit of wood packaging material. Therefore NPPOs of countries where wood packaging material is repaired may require the repaired wood packaging material to have previous marks obliterated, the unit to be re-treated in accordance with Annex 1, and the mark then applied in accordance with Annex 2. If methyl bromide is used for the re-treatment, the information in the IPPC Recommendation on the Replacement or reduction of the use of methyl bromide as a phytosanitary measure (CPM, 2008) should be taken into account.

In circumstances where there is any doubt that all components of a unit of repaired wood packaging material have been treated in accordance with this standard, or the origin of the unit of wood packaging
material or its components is difficult to ascertain, the NPPOs of countries where wood packaging material is repaired should require the repaired wood packaging material to be re-treated, destroyed, or otherwise prevented from moving in international trade as wood packaging material compliant with this standard. In the case of re-treatment, any previous applications of the mark must be permanently obliterated (e.g. by covering with paint or grinding). After re-treatment, the mark must be applied anew in accordance with this standard.

4.3.3 Remanufactured wood packaging material

If a unit of wood packaging material has had more than approximately one third of its components replaced, the unit is considered to be remanufactured. In this process, various components (with additional reworking if necessary) may be combined and then reassembled into further wood packaging material. Remanufactured wood packaging material may therefore incorporate both new and previously used components.

Remanufactured wood packaging material must have any previous applications of the mark permanently obliterated (e.g. by covering with paint or grinding). Remanufactured wood packaging material must be re-treated and the mark must then be applied anew in accordance with this standard.

4.4 Transit

Where consignments moving in transit have wood packaging material that does not meet the requirements of this standard, NPPOs of countries of transit may require measures to ensure that wood packaging material does not present an unacceptable risk. Further guidance on transit arrangements is provided in ISPM 25 (Consignments in transit).

4.5 Procedures upon import

Since wood packaging materials are associated with most shipments, including those not considered to be the target of phytosanitary inspections in their own right, cooperation by NPPOs with organizations not usually involved with verification of whether the phytosanitary import requirements have been met is important. For example, cooperation with Customs organizations and other stakeholders will help NPPOs in receiving information on the presence of wood packaging material. This is important to ensure effectiveness in detecting potential non-compliance of wood packaging material.

4.6 Phytosanitary measures for non-compliance at point of entry

Relevant information on non-compliance and emergency action is provided in ISPM 20 (Guidelines for a phytosanitary import regulatory system) and in ISPM 13 (Guidelines for the notification of non-compliance and emergency action). Taking into account the frequent re-use of wood packaging material, NPPOs should consider that the non-compliance identified may have arisen in the country of production, repair or remanufacture, rather than in the country of export or transit.

Where wood packaging material does not carry the required mark, or the detection of pests provides evidence that the treatment may not have been effective, the NPPO should respond accordingly and, if necessary, an emergency action may be taken. This action may take the form of detention while the situation is being addressed then, as appropriate, removal of non-compliant material, treatment3, destruction (or other secure disposal) or reshipment. Further examples of appropriate options for actions are provided in Appendix 1. The principle of minimal impact should be pursued in relation to any emergency action taken, distinguishing between the consignment traded and the accompanying wood packaging material. In addition, if emergency action is necessary and methyl bromide is used by the NPPO, relevant aspects of the IPPC Recommendation on Replacement or reduction of the use of methyl bromide as a phytosanitary measure (CPM, 2008) should be followed.

The NPPO of the importing country should notify the exporting country, or the manufacturing country where applicable, in cases where live pests are found. In such cases, where a unit of wood packaging

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3 This need not necessarily be a treatment approved in this standard.
material bears more than one mark NPPOs should attempt to determine the origin of the non-compliant component(s) prior to sending a notice of non-compliance. NPPOs are also encouraged to notify cases of missing marks and other cases of non-compliance. Taking into account the provisions of section 4.3.2, it should be noted that the presence of multiple marks on a single unit of wood packaging does not constitute non-compliance.
The revised Annex 1 was adopted by the Eighth Session of the Commission on Phytosanitary Measures in April 2013

This annex is a prescriptive part of the standard.

ANNEX 1: Approved treatments associated with wood packaging material (2013)

The approved treatments may be applied to units of wood packaging material or to pieces of wood that are to be made into wood packaging material.

Use of debarked wood
Irrespective of the type of treatment applied, wood packaging material must be made of debarked wood. For this standard, any number of visually separate and clearly distinct small pieces of bark may remain if they are:
- less than 3 cm in width (regardless of the length) or
- greater than 3 cm in width, with the total surface area of an individual piece of bark less than 50 square cm.

For methyl bromide treatment, the removal of bark must be carried out before treatment as the presence of bark on the wood may affect treatment efficacy. For heat treatment, the removal of bark may be carried out before or after treatment. When a dimension limitation is specified for a certain type of heat treatment (e.g. dielectric heating), any bark must be included in the dimension measurement.

Heat treatment
Various energy sources or processes may be suitable to achieve the required treatment parameters. For example, conventional steam heating, kiln-drying, heat-enabled chemical pressure impregnation and dielectric heating (microwave, radio frequency) may all be considered heat treatments provided they meet the heat treatment parameters specified in this standard.

NPPOs should ensure that treatment providers monitor the treatment temperature at a location likely to be the coldest, which will be the location taking the longest time to reach the target temperature in the wood, to ensure that the target temperature is maintained for the duration of treatment throughout the batch of wood being treated. The point at which a piece of wood is the coldest may vary depending on the energy source or process applied, the moisture content and the initial temperature distribution in the wood.

When using dielectric heating as a heat source, the coldest part of the wood during treatment is usually the surface. In some situations (e.g. dielectric heating of wood of large dimensions that has been frozen and until the wood has thawed) the core may be the coldest part of the wood.

Heat treatment using a conventional steam or dry kiln heat chamber (treatment code for the mark: HT)
When using conventional heat chamber technology, the fundamental requirement is to achieve a minimum temperature of 56 °C for a minimum duration of 30 continuous minutes throughout the entire profile of the wood (including its core).

This temperature can be measured by inserting temperature sensors in the core of the wood. Alternatively, when using kiln-drying heat chambers or other heat treatment chambers, treatment schedules may be developed based on a series of test treatments during which the core temperature of the wood at various locations inside the heat chamber has been measured and correlated with chamber air temperature, taking into account the moisture content of the wood and other substantial parameters (such as species and thickness of the wood, air flow rate and humidity). The test series must demonstrate that a minimum temperature of 56 °C is maintained for a minimum duration of 30 continuous minutes throughout the entire profile of the wood.

Treatment schedules should be specified or approved by the NPPO.
Treatment providers should be approved by the NPPO. NPPOs should consider the following factors that may be required for a heat chamber to meet the treatment requirements.

- The heat chamber is sealed and well insulated, including insulation in the floor.
- The heat chamber is designed in a manner that permits uniform flow of air around and through the wood stack. Wood to be treated is loaded into the chamber in a manner that ensures adequate air flow around and through the wood stack.
- Air deflectors in the chamber area and spacers in the stack of the wood are used as required to ensure adequate air flow.
- Fans are used to circulate air during treatment, and air flow from these fans is sufficient to ensure the core temperature of the wood is maintained at the specified level for the required duration.
- The coldest location within the chamber is identified for each load and temperature sensors are placed there, either in the wood or in the chamber.
- Where the treatment is monitored using temperature sensors inserted into the wood, at least two temperature sensors are recommended. These temperature sensors should be suitable for measuring wood core temperature. The use of multiple temperature sensors ensures that any failure of a temperature sensor is detected during the treatment process. The temperature sensors are inserted at least 30 cm from the end of a piece of wood and penetrate to the centre of the wood. For shorter boards or pallet blocks, temperature sensors are also inserted in the piece of wood with the largest dimensions in a manner that ensures the temperature at the core is measured. Any holes drilled in the wood to place the temperature sensors are sealed with appropriate material to prevent interference in temperature measurement by convection or conduction. Special attention should be paid to external influences on the wood such as nails or metal insertions that may lead to incorrect measurements.
- Where the treatment schedule is based on monitoring chamber air temperature and is used for treatment of different wood types (e.g. specific species and sizes), the schedule takes into account the species, moisture content and thickness of the wood being treated. At least two temperature sensors are recommended for monitoring the air temperature in the chamber treating wood packaging according to treatment schedules.
- If the air flow in the chamber is routinely reversed during treatment, a greater number of temperature sensors may be needed to account for a possible change in the location of the coldest point.
- Temperature sensors and data recording equipment are calibrated in accordance with the manufacturer’s instructions at a frequency specified by the NPPO.
- Temperatures are monitored and recorded during each treatment to ensure that the prescribed minimum temperature is maintained for the required period of time. If the minimum temperature is not maintained, corrective action needs to be taken to ensure that all wood is treated according to heat treatment requirements (30 continuous minutes at 56 °C); for example, the treatment is restarted or the treatment time extended and, if necessary, the temperature raised. During the treatment period, the frequency of temperature readings is sufficient to ensure that treatment failures can be detected.
- For the purpose of auditing, the treatment provider keeps records of heat treatments and calibrations for a period of time specified by the NPPO.

**Heat treatment using dielectric heating (treatment code for the mark: DH)**

Where dielectric heating is used (e.g. microwave), wood packaging material composed of wood not exceeding 20 cm² when measured across the smallest dimension of the piece or the stack must be heated to achieve a minimum temperature of 60 °C for 1 continuous minute throughout the entire profile of the wood.

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4 The 20 cm limit is based on the efficacy data currently available.
wood (including its surface). The prescribed temperature must be reached within 30 minutes from the start of the treatment\(^5\).

Treatment schedules should be specified or approved by the NPPO.

Treatment providers should be approved by the NPPO. NPPOs should consider the following factors that may be required for a dielectric heating chamber to meet the treatment requirements.
- Irrespective of whether dielectric heating is conducted as a batch process or as a continuous (conveyor) process, the treatment is monitored in the wood where the temperature is likely to be the coldest (normally on the surface) to ensure the target temperature is maintained. For measuring the temperature, at least two temperature sensors are recommended to ensure that any failure of a temperature sensor is detected.
- The treatment provider has initially validated that the wood temperatures reach or exceed 60 °C for 1 continuous minute throughout the entire profile of the wood (including its surface).
- For wood exceeding 5 cm in thickness, dielectric heating at 2.45 GHz requires bidirectional application or multiple waveguides for the delivery of microwave energy to ensure uniformity of heating.
- Temperature sensors and data recording equipment are calibrated in accordance with the manufacturer’s instructions at a frequency specified by the NPPO.
- For the purpose of auditing, the treatment provider keeps records of heat treatments and calibrations for a period of time specified by the NPPO.

**Methyl bromide treatment (treatment code for the mark: MB)**

NPPOs are encouraged to promote the use of alternative treatments approved in this standard\(^6\). Use of methyl bromide should take into account the CPM recommendation on the replacement or reduction of the use of methyl bromide as a phytosanitary measure (CPM, 2008).

Wood packaging material containing a piece of wood exceeding 20 cm in cross-section at its smallest dimension must not be treated with methyl bromide.

The fumigation of wood packaging material with methyl bromide must be in accordance with a schedule specified or approved by the NPPO that achieves the minimum concentration-time product\(^7\) (CT) over 24 hours at the temperature and final residual concentration specified in Table 1. This CT must be achieved throughout the profile of the wood, including its core, although the concentrations would be measured in the ambient atmosphere. The minimum temperature of the wood and its surrounding atmosphere must not be less than 10 °C and the minimum exposure time must not be less than 24 hours. Monitoring of gas concentrations must be carried out at a minimum at 2, 4 and 24 hours from the beginning of the treatment. In the case of longer exposure times and weaker concentrations, additional measurement of the gas concentrations should be recorded at the end of fumigation.

If the CT is not achieved over 24 hours, corrective action needs to be taken to ensure the CT is reached; for example, the treatment is restarted or the treatment time extended for a maximum of 2 hours without adding more methyl bromide to achieve the required CT (see the footnote to Table 1).

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\(^5\) Only microwave technology has been proven to date to be capable of achieving the required temperature within the recommended time scale.

\(^6\) Contracting parties to the IPPC may also have obligations under the Montreal Protocol on Substances that deplete the Ozone Layer (UNEP, 2000).

\(^7\) The CT utilized for methyl bromide treatment in this standard is the sum of the products of the concentration (g/m\(^3\)) and time (h) over the duration of the treatment.
Table 1: Minimum CT over 24 hours for wood packaging material fumigated with methyl bromide

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>CT (g·h/m²) over 24 h</th>
<th>Minimum final concentration (g/m³) after 24 h²</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.0 or above</td>
<td>650</td>
<td>24</td>
</tr>
<tr>
<td>16.0 – 20.9</td>
<td>800</td>
<td>28</td>
</tr>
<tr>
<td>10.0 – 15.9</td>
<td>900</td>
<td>32</td>
</tr>
</tbody>
</table>

# In circumstances when the minimum final concentration is not achieved after 24 hours, a deviation in the concentration of ~5% is permitted provided additional treatment time is added to the end of the treatment to achieve the prescribed CT.

One example of a schedule that may be used for achieving the specified requirements is shown in Table 2.

Table 2: Example of a treatment schedule that achieves the minimum required CT for wood packaging material treated with methyl bromide (initial doses may need to be higher in conditions of high sorption or leakage)

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Dosage (g/m³)</th>
<th>Minimum concentration (g/m³) at:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2 h</td>
</tr>
<tr>
<td>21.0 or above</td>
<td>48</td>
<td>36</td>
</tr>
<tr>
<td>16.0 – 20.9</td>
<td>56</td>
<td>42</td>
</tr>
<tr>
<td>10.0 – 15.9</td>
<td>64</td>
<td>48</td>
</tr>
</tbody>
</table>

Treatment providers should be approved by the NPPO. NPPOs should consider the following factors that may be required for methyl bromide fumigation to meet the treatment requirements.

- Fans are used as appropriate during the gas distribution phase of fumigation to ensure equilibrium is reached and positioned to make certain the fumigant is rapidly and effectively distributed throughout the fumigation enclosure (preferably within the first hour of application).

- The fumigation enclosure is not loaded beyond 80% of its volume.

- The fumigation enclosure is well sealed and as gas tight as possible. If fumigation is to be carried out under sheets, these are made of gas-proof material and sealed appropriately at the seams and at floor level.

- The fumigation site floor is impermeable to the fumigant; if it is not, gas-proof sheets are laid on the floor.

- The use of a vaporizer to apply methyl bromide ("hot gassing") in order to fully volatilize the fumigant prior to its entry into the fumigation enclosure is recommended.

- Methyl bromide treatment is not carried out on stacked wood packaging material exceeding 20 cm in cross-section at its smallest dimension. Therefore, stacked wood packaging material may need separators to ensure adequate methyl bromide circulation and penetration.

- The concentration of methyl bromide in the air space is always measured at a location furthest from the insertion point of the gas as well as at other locations throughout the enclosure (e.g. at front bottom, centre middle and back top) to confirm that uniform distribution of the gas is reached. Treatment time is not calculated until uniform distribution has been reached.

- When calculating methyl bromide dosage, compensation is made for any gas mixtures (e.g. 2% chloropicrin) to ensure that the total amount of methyl bromide applied meets required dose rates.

- Initial dose rates and post-treatment product handling procedures take account of likely methyl bromide sorption by the treated wood packaging material or associated product (e.g. polystyrene boxes).

- The measured or expected temperature of the product or the ambient air immediately before or during treatment (whichever is the lowest) is used to calculate the methyl bromide dose.

- Wood packaging material to be fumigated is not wrapped or coated in materials impervious to the fumigant.
- Temperature and gas concentration sensors and data recording equipment are calibrated in accordance with the manufacturer's instructions at a frequency specified by the NPPO.
- For the purposes of auditing, the treatment provider keeps records of methyl bromide treatments and calibrations for a period of time specified by the NPPO.

Adoption of alternative treatments and revisions of approved treatment schedules
As new technical information becomes available, existing treatments may be reviewed and modified, and alternative treatments or new treatment schedule for wood packaging material may be adopted by the CPM. If a new treatment or a revised treatment schedule is adopted for wood packaging material and incorporated into this ISPM, material treated under the previous treatment and/or schedule does not need to be re-treated or re-marked.
ANNEX 2: The mark and its application

A mark indicating that wood packaging material has been subjected to approved phytosanitary treatment in accordance with this standard\(^8\) comprises the following required components:

- the symbol
- a country code
- a producer/treatment provider code
- a treatment code using the appropriate abbreviation according to Annex 1 (HT, DH or MB).

Symbol
The design of the symbol (which may have been registered under national, regional or international procedures, as either a trademark or a certification/collective/guarantee mark) must resemble closely that shown in the examples illustrated below and must be presented to the left of the other components.

Country code
The country code must be the International Organization for Standards (ISO) two-letter country code (shown in the examples as “XX”). It must be separated by a hyphen from the producer/treatment provider code.

Producer/treatment provider code
The producer/treatment provider code is a unique code assigned by the NPPO to the producer of the wood packaging material or treatment provider who applies the marks or the entity otherwise responsible to the NPPO for ensuring that appropriately treated wood is used and properly marked (shown in the examples as “000”). The number and order of digits and/or letters are assigned by the NPPO.

Treatment code
The treatment code is an IPPC abbreviation as provided in Annex 1 for the approved measure used and shown in the examples as “YY”. The treatment code must appear after the combined country and producer/treatment provider codes. It must appear on a separate line from the country code and producer/treatment provider code, or be separated by a hyphen if presented on the same line as the other codes.

<table>
<thead>
<tr>
<th>Treatment code</th>
<th>Treatment type</th>
</tr>
</thead>
<tbody>
<tr>
<td>HT</td>
<td>Heat treatment</td>
</tr>
<tr>
<td>MB</td>
<td>Methyl bromide</td>
</tr>
<tr>
<td>DH</td>
<td>Dielectric heating</td>
</tr>
</tbody>
</table>

Application of the mark
The size, font types used, and position of the mark may vary, but its size must be sufficient to be both visible and legible to inspectors without the use of a visual aid. The mark must be rectangular or square in shape and contained within a border line with a vertical line separating the symbol from the code components. To facilitate the use of stencilling, small gaps in the border, the vertical line, and elsewhere among the components of the mark, may be present.

No other information shall be contained within the border of the mark. If additional marks (e.g. trademarks of the producer, logo of the authorizing body) are considered useful to protect the use of the mark on a national level, such information may be provided adjacent to but outside of the border of the mark.

\(^8\) At import, countries should accept previously produced wood packaging material carrying a mark consistent with earlier versions of this standard.
The mark must be:
- legible
- durable and not transferable
- placed in a location that is visible when the wood packaging is in use, preferably on at least two opposite sides of the wood packaging unit.

The mark must not be hand drawn.

The use of red or orange should be avoided because these colours are used in the labelling of dangerous goods.

Where various components are integrated into a unit of wood packaging material, the resultant composite unit should be considered as a single unit for marking purposes. On a composite unit of wood packaging material made of both treated wood and processed wood material (where the processed component does not require treatment), it may be appropriate for the mark to appear on the processed wood material components to ensure that the mark is in a visible location and is of a sufficient size. This approach to the application of the mark applies only to composite single units, not to temporary assemblies of wood packaging material.

Special consideration of legible application of the mark to dunnage may be necessary because treated wood for use as dunnage may not be cut to final length until loading of a conveyance takes place. It is important that shippers ensure that all dunnage used to secure or support commodities is treated and displays the mark described in this annex, and that the marks are clear and legible. Small pieces of wood that do not include all the required elements of the mark should not be used for dunnage. Options for marking dunnage appropriately include:
- application of the mark to pieces of wood intended for use as dunnage along their entire length at very short intervals (NB: where very small pieces are subsequently cut for use as dunnage, the cuts should be made so that an entire mark is present on the dunnage used.)
- additional application of the mark to treated dunnage in a visible location after cutting, provided that the shipper is authorized in accordance with section 4.

The examples below illustrate some acceptable variants of the required components of the mark that is used to certify that the wood packaging material that bears such a mark has been subjected to an approved treatment. No variations in the symbol should be accepted. Variations in the layout of the mark should be accepted provided that they meet the requirements set out in this annex.

Example 1

```
          XX - 000
          YY
```

Example 2

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          XX - 000
          YY
```
Example 3 (This represents a prospective example of a mark with the border with rounded corners.)

Example 4 (This represents a prospective example of a mark applied by stencilling; small gaps may be present in the border, and the vertical line, and elsewhere among the components of the mark.)

Example 5

Example 6
This appendix is for reference purposes only and is not a prescriptive part of the standard.

**APPENDIX 1: Examples of methods of secure disposal of non-compliant wood packaging material**

Secure disposal of non-compliant wood packaging material is a risk management option that may be used by the NPPO of the importing country when an emergency action is either not available or is not desirable. The methods listed below are recommended for the secure disposal of non-compliant wood packaging material:

1. incineration, if permitted
2. deep burial in sites approved by appropriate authorities (NB: the depth of burial may depend on climatic conditions and the pest intercepted, but is recommended to be at least 2 metres. The material should be covered immediately after burial and should remain buried. Note, also, that deep burial is not a suitable disposal option for wood infested with termites or some root pathogens.)
3. processing (NB: Chipping should be used only if combined with further processing in a manner approved by the NPPO of the importing country for the elimination of pests of concern, e.g. the manufacture of oriented strand board.)
4. other methods endorsed by the NPPO as effective for the pests of concern
5. return to exporting country, if appropriate.

In order to minimize the risk of introduction or spread of pests, secure disposal methods where required should be carried out with the least possible delay.
IPPC

The International Plant Protection Convention (IPPC) is an international plant health agreement that aims to protect cultivated and wild plants by preventing the introduction and spread of pests. International travel and trade are greater than ever before. As people and commodities move around the world, organisms that present risks to plants travel with them.

Organization
- There are over 180 contracting parties to the IPPC.
- Each contracting party has a national plant protection organization (NPPO) and an Official IPPC contact point.
- Nine regional plant protection organizations (RPPOs) work to facilitate the implementation of the IPPC in countries.
- IPPC liaises with relevant international organizations to help build regional and national capacities.
- The Secretariat is provided by the Food and Agriculture Organization of the United Nations (FAO).

International Plant Protection Convention (IPPC)
Viale delle Terme di Caracalla, 00153 Rome, Italy
Tel: +39 06 5705 4812 - Fax: +39 06 5705 4819
Email: ippc@fao.org - Web: www.ippc.int
DEBARKING REQUIREMENTS
June 30, 2011

To: WCLIB Wood Pallet Material (WPM) Members:

Re: IPPC Bark Limitations & ISPM 15 “Regulation of Wood Packaging Material in International Trade”

**Bark Limitations** – Annex 1 of ISPM 15 states – “Irrespective of the type of treatment applied, wood packaging material must be made of debarked wood. For this standard, any number of visually separate and clearly distinct small pieces of bark may remain if they are:

a. Less than 3 cm in width (regardless of length), or,
b. Greater than 3 cm in width, with the total surface area of an individual piece of bark less than 50 square cm.

For methyl bromide treatment the removal of bark must be carried out before treatment because the presence of bark on the wood affects the efficacy of the methyl bromide treatment. For heat treatment, the removal of bark can be carried out before or after treatment.”

This provision requires that all bark be removed from all solid wood material used to manufacture pallets, crates, and dunnage. Small patches of bark will be permitted if less that 3 cm (about 1-1/8”) wide, or if more than 3 cm wide, then the total area must be no greater than 50² cm (about the size of a credit card). See the attached photo for an example bark measurement.

**Marking Dunnage** – Annex 2 of ISPM 15 states: “Special consideration of legible application of the mark to dunnage may be necessary because treated wood for use as dunnage may not be cut to final length until loading of a conveyance takes place. It is important that shippers ensure that all dunnage used to secure or support commodities is treated and displays the mark described in this annex, and that the marks are clear and legible. Small pieces of wood that do not include all the required elements of the mark should not be used for dunnage. Options for marking dunnage appropriately include:

a. Application of the mark to pieces of wood intended for use as dunnage along their entire length at very short intervals ...
b. Additional application of the mark to treated dunnage in a visible location after cutting, provided that the shipper is authorized in accordance with Section 4.”

**Quality Mark Format** – Annex 2 of ISPM 15 requires that the IPPC quality mark contain only the IPPC logo, the country code, the mill/plant identification code and the designation ”HT” No other information is permitted to be included within the frame of the quality mark.

If you have any questions, please call us at 503-639-0651.

Thank you.

Yours very truly,

Donald A. DeVisser, P.E.
Acting Executive Vice President

DD/jw

WAUser Shared Folders\VoyceOWC\Correspondence\External\2011\DD-IPPC BARK LIMITATIONS-6-30-11.doc