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August 1, 2010

**TO: PARTIES INTERESTED IN EVALUATION REPORTS ON
PROPRIETARY WOOD PRESERVATIVE SYSTEMS**

**SUBJECT: Proposed Revisions to the Acceptance Criteria for Proprietary Wood
Preservative Systems—Common Requirements for Treatment Process,
Test Methods and Performance, Subject AC326-0810-R1 (MO/MR)**

Dear Madam or Sir:

The revisions proposed to the subject acceptance criteria, as presented in the enclosed criteria draft, are being posted on the ICC-ES web site to allow for public comment. An industry task group meeting with ICC-ES staff was held June 18, 2010, to discuss revisions to AC326 Section 5.0, Quality Control. The draft of the proposed revision was circulated to interested parties and additional revisions were made.

The revision to Section 5.0 provides specific instructions for accredited third party inspection agencies to ensure acceptable conformance rates for all treatment facilities. The revisions establish a minimum of quarterly inspections by the accredited inspection agency and set minimum sampling as 20 charges, and minimum conformance rates.

Enclosed with to this cover letter are two letters. The first is from the organizers of the task group, Craig McIntyre and Mike Freeman, dated July 9, 2010. The second is from Scott W. Conklin, Vice President, Universal Forest Products, Inc., dated July 13, 2010. These two letters provide additional information concerning the proposed revisions.

In addition to the revision to Section 5.0, revisions were made to Section 1.3.2 to refer to current AWPA Standards in accordance with the 2010 AWPA Book of Standards.

We appreciate the work of the industry task group and agree that there is a need to clarify quality control requirements and provide specific instructions for accredited third-party inspection agencies. As precedents for the detailed information in Section 5.0, we invite you to refer to the ICC-ES Acceptance Criteria for Fire-retardant-treated Wood (AC66), Acceptance Criteria for Quality Control of Wood Shakes and Shingles (AC09), Acceptance Criteria for Foam Plastic Insulation (AC12), Acceptance Criteria for Steel Deck Roof and Floor Systems (AC43), Acceptance Criteria for Cold-formed Steel Framing Members (AC46), Acceptance Criteria for Nails and Spikes (AC116), and the Acceptance Criteria for Staples (AC201).

You are cordially invited to submit written comments, within 30 days of the date of this letter. Please use the comment form on the web site attaching any letters to the form. An explanation of the alternate criteria process can be found on our web site at http://www.icc-es.org/Criteria_Development/alternative_criteria_process.shtml.

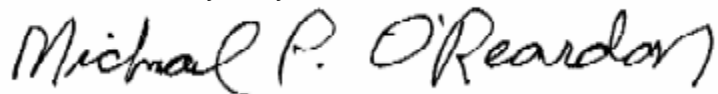
All comments received in the 30-day comment period will be considered in preparing revisions to the criteria that may be considered at a future Evaluation Committee meeting. Comments received will be posted on the web site shortly after the close of the comment period.

Your cooperation is requested in forwarding to the Los Angeles business/regional office all material directed to the Evaluation Committee. Parties interested in the deliberations of the committee should refrain from communicating, whether in writing or verbally, with committee members. The committee reserves the right to refuse communications that do not comply with this request.

Newly approved acceptance criteria may involve test methods or test protocols that are not currently included in the scope of testing services offered by accredited testing laboratories. As noted in the ICC-ES Rules of Procedure for Evaluation Reports, the scope of the laboratory's accreditation must include the type of testing that is to be reported to ICC-ES. We encourage accredited laboratories to expand their scopes of accreditation to include testing under newly approved acceptance criteria. Please note that testing laboratories must be accredited by the International Accreditation Service (IAS) or by another accreditation body that is a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement. For further information, please contact IAS at (562) 699-0541, extension 3309, or send an e-mail to pmccullen@iasonline.org.

Please submit all comments using the form on the web site. Attach any letters to the comment form. If you have any questions (not comments), please contact the undersigned at (800) 423-6587, extension 5685, or Mike Rhodebeck, at extension 5699. You may also reach us by e-mail at es@icc-es.org.

Yours very truly,



Michael O'Reardon, P.E.
Regional Manager

MO/raf

Enclosures

cc: Evaluation Committee



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Mike H. Freeman

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July 9, 2010

Michael O'Reardon, P.E., CBO, MCP
Regional Manager
ICC Evaluation Service, Inc.
900 Montclair Road, Suite A
Birmingham, AL 35213

Subject: Proposed Revisions to Section 5 of AC326

Dear Michael,

As you know, there are ongoing discussions within the treated wood industry regarding changes to the Section 5.0 Quality Control of AC326. These discussions were prompted by an AWPA Task Force that has been meeting since November 2009 and has proposed changes to AWPA Standards. Now we wish to propose the attached revisions to AC326 regarding repetitive analyses to ensure that such analyses will have an acceptable conformance rate. We believe this qualifies as continuous improvement per ISO 17020/17025 inspection and testing laboratory guidelines and hope your peers and the committee will agree.

The original proposal was discussed at an industry meeting in June with treaters, inspection agencies, ESR holders and interested parties. A consensus document was developed and circulated and further comments were received. Clarification to this document were made and circulated for further comment. It is obvious from the response that it is desirable to obtain broader circulation so that parties not attending the meetings may comment.

Accordingly, we would like to request that the attached proposed revision to incorporate a new Section 5.2 in AC326 be placed on the August 2010 Alternate Agenda for comment only. The various comments received will then be addressed at an industry meeting scheduled for October 12-14, 2010 at the Birmingham ICC-ES office. This meeting will refine the revision and the product will be a consensus proposal for the February 2011 ICC-ES meeting.

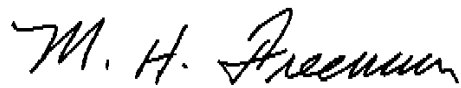
While we look forward to a continuing dialogue, we would like to point out that the proposal would only apply to material in the chain of commerce and not to material that is still "in production". Also, we would request specific, constructive suggestions for improvements rather than statements of a general nature. We are aware of all of the facets of the proposal and believe that it is a significant step forward for the treating industry.

Thank you for consideration of this matter.

Sincerely,



Craig R. McIntyre



Mike H. Freeman

PROPOSED REVISION TO SECTION 5 OF AC326
WITH NEW WORDING UNDERLINED

5.0 QUALITY CONTROL

5.1 The preservative-treated wood products shall be manufactured under an approved quality control program with inspections by an inspection agency that continually supervises the preservative process and tests and inspects the quality of the preservative-treated wood. Inspection agencies for preservative-treated wood shall be listed by an accreditation body that complies with the requirements of the American Lumber Standards Treated Wood Program, or that is otherwise acceptable to ICC-ES.

5.2 The authorized third party agency must determine the conformance rate of sampling at each plant once per quarter. Conformance rates shall be determined for each production category. Production categories shall be established based on preservative, type of product, species and retention. Additional production categories may be established based on material size, additives, or other relevant parameters.

Material shall be subject to inspection for a production category if it is labeled with an ICC-ES report number or is intended to be labeled.

Conformance rates for a production category shall be determined using a minimum of 20 charges from the previous 3 month period. If there are less than 20 charges during the previous 3 months, then data from a longer period shall be used to obtain the minimum number of charges.

The required minimum conformance rates for the overall plant and for each production category are:

- 1) 95% of the charges sampled must meet or exceed the minimum retention levels as listed on the product ESR for the specific end use
- 2) 80% of the total number of cores sampled must meet or exceed the required penetration.

Conformance rates for retention and penetration shall be assessed independently and shall be rounded to the nearest whole percent.

Plants with non-conforming retention or penetration rates on their quarterly report shall have the frequency of inspection and the rate of sampling increased by the agency for any non-conforming production categories until the required conformance is obtained. A probationary period is allowed and if satisfactory conformance rates for retention and penetration are not obtained within this time, no further labeling of product for that production category is permitted unless an authorized third party agency inspector approves material on a charge by charge basis. The probationary period shall be determined based on the availability of the specific end use material for sampling, but shall not exceed 90 days.

Any product category for which labeling was disallowed must be requalified by the same agency under which the labeling was disallowed. A plant can requalify a product category by treating consecutively 5 conforming charges both in retention and penetration. Furthermore, 19 of the next 20 charges must be conforming both in retention and penetration.

Any non-conforming rates, including resolution of probationary periods and requalification, must be reported to the report holder and to the ICC Evaluation Service.

5.3 Quality documentation complying with the ICC-ES Acceptance Criteria for Quality Documentation (AC10) shall be submitted that lists purity specifications and physical properties of all chemicals used for production of the treated wood. If SPC is to be employed by the plant, third party audits and records will be maintained by both the plant and the inspection agency and shall become part of the permanent plant record.



Universal Forest Products®, Inc.

July 13, 2010

Mr. Michael O'Reardon
ICC-ES
Via Electronic Mail (moreardon@icc-es.org)

Re: Comments to Proposed Change to AC 326, Addition of new Section 5.2

Dear Mr. O'Reardon:

The purpose of this letter is to provide comments to the proposed change to AC 326. It is my understanding that the proposal is likely to be posted for public comment using the "Alternate Agenda" mechanism used by ICC-ES. It is also my understanding that my comments could be considered in the staff memo which will accompany the posting. If it is appropriate, I would welcome the posting of this letter as well.

Our company manufactures pressure treated wood. We have a history of manufacturing products in accordance with the American Wood-Preservers' Association (now American Wood Protection Association, "AWPA") standards and, more recently, ESRs. Several of our employees are active members in AWPA. The department I run is deeply involved in the technical details of quality control at our wood treating facilities. We have actively participated in an industry task force which has been working proactively to review current quality control practices and standards and look for opportunities to improve them. That effort began with the creation of a task force under AWPA and a comparable group has been assembled very recently under ICC-ES. While we applaud both the AWPA effort and the ICC-ES effort, the proposed change requires further study.

The purpose of these comments is to (1) express some concerns with the proposed language, (2) offer an alternative proposal, and (3) identify other critical areas which must be addressed. Throughout these comments please understand that the existing quality control framework developed in AWPA over the last 20+ years has proven very successful. Although our company believes improvements are possible and this effort worthwhile, these comments should not be misconstrued as misgivings of the current program.

1. Concerns with Proposed Language

The proposed language creates an entirely new and untested third party quality control framework. No one, neither the language authors, ICC-ES engineers, nor treated wood manufacturers, can define what in-plant quality control parameters would be required to meet the proposed standard. Wood is a natural material treated in a batch process. Each batch, or

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“charge” is typically tested to confirm that the appropriate concentration of preservative has been delivered and the preservative penetrated deeply enough into the wood. However, as a natural material, there is a high degree of variability when conducting these tests. Multiple samples of the same charge can give very different results. It is this high degree of variability which is the root cause of the problems with the proposed language. The third party sample size (sampling one charge in every 20 on a monthly basis) is not sufficient to overcome this variability.

The proposed language for penetration is inconsistent with the proposed language for retention. Essentially, the proposed penetration language is no different than the current program. It is difficult to understand why such a draconic change in retention would be coupled with zero change in penetration. It may be an indication of an insufficient understanding of the central requirements of the proposal.

The proposed change also is less effective than the current program by forcing the assessment of the plant's conformance rating to be on a calendar based quarterly basis. Further, the requirements for reinstatement after losing one's tagging privileges (“treating consecutively 5 conforming charges”) creates a system which can be easily manipulated. In fact, the best course of action for a plant which fails the stated requirements is to continue to fail until their tags are pulled, and then treat 5 good charges and wipe the slate clean. All in all, the proposed language will not only fail to create a more rigorous and consistent program as intended, but will significantly undermine the current program and allow, either by intent or accident, plants to produce much greater quantities of very poor quality product carrying an ESR end tag.

This is a well meaning, but disastrously flawed proposal. Highly competent and conscientious companies are left with no clear way to conduct their internal plant QC program in a way to meet the proposed standard, while creating an opportunity for companies which may be less reliable to go unchecked.

2. Alternative Proposal

Simple changes to the current program could improve the third party program. That program is codified in the requirements of the treated wood regulations of the American Lumber Standards Committee and has been used effectively for over ten years. Indeed, to my knowledge, no one has adequately described why the current program needs to be changed. The potential deficiencies noted by some in discussions over the last year are not deficiencies with the third party program; they are deficiencies with the in-plant programs.

Simple changes to the current program would be much more effective at achieving the improvements sought by the proposed changes.

- Remove the subjective nature of determining if a plant is in good standing. Concise and unambiguous language should be developed to define the requirements and consequences of failing to meet those requirements.
- Assessment should be done by species/use category (retention)/preservative category.

- All product manufactured in a category, regardless of if or how it is labeled, must be subject to inspection.
- Add a third tier to the existing retention requirement and penetration requirement which addresses overall pass/fail level. Doing so creates a connection between the penetration and retention requirements.

3 Other Areas

The proposed language only addresses the third party samples. While third party sampling is an essential part of any program moving forward, it will not have the intended effect without other complementary changes. To make real improvements, in-plant quality control must be improved to ensure that it is done consistently and competently. A short list of improvements and concepts follow:

- Require retreating of failed charges. Currently, the system allows the treater to “pull the tags” if a charge fails internal QC. At least one retreat must be required along with a limitation on the amount production which may ultimately be reclassified as non-ESR material. Details have been presented previously to the task force.
- Conduct an ongoing audit of in-plant QC programs. Frequent confirmation that plant’s have obtained penetration and retention results showing that the charge passes coupled with programs to ensure QC personnel competence and proper calibration of analytical equipment are needed. This could be done independently from the inspector’s monthly plant visit.
- Address significant figures. Require all assays to be assessed to at least two significant figures with all calculations done prior to rounding.
- Statistical Process Control. Long term, work to shift in-plant QC to SPC based programs as this may be the only viable way to adequately deal with the wood-based variability in assay and penetration results.
- Recognize variability and write the standards accordingly. Wood is a natural material manufactured in a batch process. Rules for passing or failing a batch recognize that there may be significant difference in either penetration or retention between or within pieces of lumber. Language associated with the standards must be modified accordingly and expectations for re-sampling individual pieces of lumber or small lots of lumber must be modified as well.

Sincerely,



Scott W. Conklin
Vice President, Wood Preservation

PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR PROPRIETARY WOOD PRESERVATIVE SYSTEMS—COMMON REQUIREMENTS FOR TREATMENT PROCESS, TEST METHODS AND PERFORMANCE

AC326

Proposed August 2010

Previously approved June 1009, October 2008, February 2008, October
2007, May 2006, October 2005

PREFACE

Evaluation reports issued by ICC Evaluation Service, Inc. (ICC-ES), are based upon performance features of the International family of codes and other widely adopted code families, including the Uniform Codes, the BOCA National Codes, and the SBCCI Standard Codes. Section 104.11 of the *International Building Code*® reads as follows:

The provisions of this code are not intended to prevent the installation of any materials or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

Similar provisions are contained in the Uniform Codes, the National Codes, and the Standard Codes.

ICC-ES may consider alternate criteria, provided the report applicant submits valid data demonstrating that the alternate criteria are at least equivalent to the criteria proposed in this document, and otherwise meet the applicable performance requirements of the codes. Notwithstanding that a product, material, or type or method of construction meets the requirements of the criteria proposed in this document, or that it can be demonstrated that valid alternate criteria are equivalent to the criteria in this document and otherwise meet the applicable performance requirements of the codes, ICC-ES retains the right to refuse to issue or renew an evaluation report, if the product, material, or type or method of construction is such that either unusual care with its installation or use must be exercised for satisfactory performance, or malfunctioning is apt to cause unreasonable property damage or personal injury or sickness relative to the benefits to be achieved by the use of the product, material, or type or method of construction.

Acceptance criteria are developed for use solely by ICC-ES for purposes of issuing ICC-ES evaluation reports.

PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR PROPRIETARY WOOD PRESERVATIVE SYSTEMS—COMMON REQUIREMENTS FOR TREATMENT PROCESS, TEST METHODS AND PERFORMANCE (AC326)

1.0 INTRODUCTION

1.1 Purpose: The purpose of this criteria is to establish common requirements for proprietary wood preservative treatments of wood, in accordance with the applicable EPA labeling, to be recognized in an ICC Evaluation Service, Inc. (ICC-ES), evaluation report under the 2009 and 2006 *International Building Code*® (IBC), the 2009 and 2006 *International Residential Code*® (IRC), the BOCA® *National Building Code/1999* (BNBC), the 1999 *Standard Building Code*® (SBC), and the 1997 *Uniform Building Code*™ (UBC). The bases of recognition are IBC Section 104.11, IRC Section R104.11, BNBC Section 106.4, SBC Section 103.7 and UBC Section 104.2.8. Applicable code sections for locations requiring preservative-treated wood for fungal decay and/or termite resistance are Section 2304.11 of the 2009 and 2006 IBC, Sections R317 and R318 of the 2009 IRC, Sections R319 and R320 of the 2006 IRC, Section 2304 of the SBC, Section 2311 of the BNBC and Section 2306 of the UBC. Applicable code sections for fasteners in preservative-treated wood are Section 2304.9.5 of the 2009 and 2006 IBC, Section R317.3 of the 2009 IRC, Section R319.3 of the 2006 IRC, Section 2306.3 of the SBC, Section 2311.3.3 of the BNBC and Section 2304.3 of the UBC. Applicable code sections for product labeling are Section 2303.1.8.1 of the 2009 and 2006 IBC, Section R317.2 of the 2009 IRC, and Section R319.2 of the 2006 IRC.

The reason for the development of this criteria is to allow evaluation of a proprietary wood preservative for resistance to decay and termites, since Section 2304.11 of the 2006 and 2009 IBC and Sections R317 and R318 of the 2009 IRC, and 2006 Sections R319 and R320 of the IRC do not provide test methods and performance requirements for documenting resistance to decay and termites.

1.2 Scope: This acceptance criteria covers common requirements for proprietary wood preservative systems. The proprietary wood preservatives are used to treat sawn lumber, timbers, plywood, poles and posts. The treated wood use is defined in the specific acceptance criteria, or an Appendix of this criteria and/or evaluation report covering the specific proprietary wood preservative system. Materials complying with this criteria are suitable for locations requiring preservative-treated wood for fungal decay and/or termite resistance.

1.3 Codes and Referenced Standards: Where standards are referenced in this criteria, these standards shall be applied consistently with the code upon which compliance is based. The criteria or appendix covering the proprietary wood preservative shall list additional standards required for product evaluation.

1.3.1 Codes:

1.3.1.1 2009 *International Building Code*® (IBC), International Code Council.

1.3.1.2 2006 *International Building Code*® (IBC), International Code Council.

1.3.1.3 2009 *International Residential Code*® (IRC), International Code Council

1.3.1.4 2006 *International Residential Code*® (IRC), International Code Council.

1.3.1.5 BOCA® *National Building Code/1999* (BNBC).

1.3.1.6 1999 *Standard Building Code*® (SBC).

1.3.1.7 1997 *Uniform Building Code*™ (UBC).

1.3.2 American Wood-Protection Association (AWPA) Standards:

1.3.2.1 2008 2010 American Wood-Preservers' Association (AWPA) Book of Standards®.

1.3.2.2 AWPA A12-06® 09®, Wood Densities for Preservative Retention Calculations.

1.3.2.3 AWPA E1-06® 09®, Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.

1.3.2.4 AWPA E7-07® 09®, Standard Method of Evaluating Wood Preservative by Field Tests with Stakes.

1.3.2.5 AWPA E9-06® 09®, Standard Field Test for the Evaluation of Wood Preservatives to be Used in Non-soil Contact.

1.3.2.6 AWPA E10-08® 09® Standard Method of Testing Wood Preservatives by Laboratory Soil-Block Cultures.

1.3.2.7 AWPA E11-06®, Standard Method of Determining the Leachability of Wood Preservatives.

1.3.2.8 AWPA E12-08®, Standard Method of Determining Corrosion of Metals in Contact with Treated Wood.

1.3.2.9 AWPA E14-07®, Standard Method of Evaluating Wood Preservatives in a Soil Bed.

1.3.2.10 AWPA E16-07® 09®, Standard Field Test for Evaluation of Wood Preservatives to Be Used out of Ground Contact: Horizontal Lap-Joint Method.

1.3.2.11 AWPA E18-06®, Standard Field Test for Evaluation of Wood Preservatives Intended for Use in Category 3B Applications: Exposed, Out of Ground Contact, Uncoated Ground Proximity Decay Method.

1.3.2.12 AWPA E20-08®, Standard Method for Determining the Leachability of Wood Preservatives in Soil contact.

1.3.2.13 AWPA E22-07® 09®, Standard Accelerated Laboratory Method for Testing the Efficacy of Preservatives Against Wood Decay Fungi Using Compression Strength.

1.3.2.14 AWPA E23-07® 09®, Standard for Accelerated Method of Evaluating Wood Preservatives in Soil Contact

1.3.2.15 AWPA M2-07®, Standard for Inspection of Wood Products Treated with Preservatives.

PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR PROPRIETARY WOOD PRESERVATIVE SYSTEMS—COMMON REQUIREMENTS FOR TREATMENT PROCESS, TEST METHODS AND PERFORMANCE (AC326)

1.3.2.16 AWPA M4-06[®] 08[®], Standard for the Care of Preservative-Treated Wood Products.

1.3.2.17 AWPA T1-07[®] 10[®], Use Category System: Processing and Treatment Standard.

1.3.2.18 AWPA U1-08[®] 10[®], Use Category System: User Specification for Treated Wood.

1.3.3 ASTM International Standards:

1.3.3.1 ASTM D 143-94(2007), Standard Test Methods for Small Clear Specimens of Timber.

1.3.3.2 ASTM D 1758-06, Standard Test Method of Evaluating Wood Preservatives by Field Tests with Stakes.

1.3.3.3 ASTM D 3345-74 (1999), Standard Test Method for Laboratory Evaluation of Wood and Other Cellulosic Materials for Resistance to Termites.

1.3.3.4 ASTM D 4442-92 (2003), Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials.

1.3.3.5 ASTM D 4444-92 (2003), Standard Test Method for Use and Calibration of Hand-held Moisture Meters.

1.3.4 American Forest & Paper Association Standard:

1.3.4.1 NDS-05, National Design Specification (NDS) for Wood Construction, with 2005 Supplement.

1.3.5 European Committee on Standardization (CEN) Standards:

1.3.5.1 EN 84:1997, Accelerated Ageing of Treated Wood Prior to Biological Testing—Leaching Process.

1.3.5.2 EN 113:1996, Test Method for Determining the Protective Effectiveness Against Wood Destroying Basidiomycetes Determination of the Toxic Values.

1.3.5.3 EN 252:1989, Field Test Method for Determining the Relative Protective Effectiveness of Wood Preservatives in Ground Contact.

1.3.5.4 EN 330:1993 E, Field Test Method for Determining the Relative Protective Effectiveness of a Wood Preservative for Use under a Coating and Exposed Out-of-Ground Contact: L-joint Method.

1.4 Definitions:

1.4.1 Proprietary Wood Preservative System: A wood preservative system that is defined in another ICC-ES acceptance criteria or an appendix of this criteria that covers specific requirements for the wood preservative not covered in this criteria.

1.4.2 Preservative-treated Wood: Wood treated with the proprietary wood preservative shall be referred to using a proprietary trade name noted in the ICC-ES evaluation report on the preservative system. The wood shall be treated in accordance with an approved quality control manual.

2.0 BASIC INFORMATION

2.1 General: The following information shall be submitted:

2.1.1 Product Description: Complete information concerning material specifications, thickness, size and the treating process.

2.1.2 Installation Instructions: Installation details and limitations, fastener materials, and treater's quality control manual.

2.1.3 Packaging and Identification: A description of the method of packaging and field identification of the preservative-treated lumber and plywood, and the specified chemicals used by the treaters. Identification provisions shall include the evaluation report number and the name or logo of the accredited inspection agency.

2.1.3.1 Each piece of lumber or plywood shall be legibly branded with, marked with, or otherwise have affixed a label in accordance with Section 2303.1.8.1 of the IBC, which shall include the following additional information:

a. ICC-ES evaluation report number for the proprietary wood preservative.

b. The phrase "This retention level is not suitable for exposure to Formosan termites," unless testing showing efficacy at retentions specified in the quality control manual is submitted.

c. The phrase "Decking Use Only," if applicable.

2.1.3.2 When lumber 1 inch (25.4 mm) or less in thickness and 4 inches (102 mm) or less in width, or lumber which is 36 inches (914 mm) or less in length, has been bundled, only one brand or mark as defined in Section 2.1.3.1 is required on the exterior surface of the bundle.

2.1.4 Field Treatment Description: Any deviations from the methods, materials and procedures for treatment of cuts and holes due to field work required by AWPA M4 shall be described.

2.2 Testing Laboratories: Testing laboratories shall comply with Section 2.0 of the ICC-ES Acceptance Criteria for Test Reports (AC85) and Section 4.2 of the ICC-ES Rules of Procedure for Evaluation Reports.

2.3 Test Reports: Test reports shall comply with AC85.

2.4 Product Sampling:

2.4.1 Test samples shall be prepared and/or obtained under the supervision of an accredited inspection agency, and verification shall be provided to the testing agency regarding the authenticity of the samples.

2.4.2 Existing samples in long-term (multiple-year) testing may be accepted provided an accredited inspection agency reviews all records on sample preparation and identification and provides verification of the authenticity of these samples to the testing agency.

2.4.3 The testing agency shall be provided: (a) a written description of the sample preparation and treating method; (b) a report on the treating solution analysis, including the analytical method used; and (c) the preservative retentions achieved during the impregnation stage.

PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR PROPRIETARY WOOD PRESERVATIVE SYSTEMS—COMMON REQUIREMENTS FOR TREATMENT PROCESS, TEST METHODS AND PERFORMANCE (AC326)

3.0 PRESERVATIVE TREATMENT PROCESS

3.1 General: The treating process shall be under a quality control program established by the evaluation report applicant and an independent inspection agency. The procedures outlined in the approved quality control manual shall be used by the treaters and by independent ICC-ES-recognized inspection agencies at treating facilities, distribution points, and jobsites.

3.2 Treatment Standards:

3.2.1 Wood Preservative: The treated wood shall be defined in another acceptance criteria per Section 1.4, and applicable analytical procedures shall be given in the proprietary wood preservative acceptance criteria.

3.2.2 Material: Wood species and material to be treated with the proprietary wood preservative shall be noted in the criteria for the proprietary wood preservative.

3.2.3 Physical Quality: Lumber or plywood shall be free from decay. The product shall meet all requirements of the marked grade, except that incising marks, raised grain and further checking of the surface beyond the grade description, and size variation due to wetting, are permitted. All wood products to be treated with the wood preservative shall achieve the appropriate moisture content before treatment, to allow for proper penetration of the preservative into the wood. Moisture content readings shall be taken with an electrical-resistance needle-type moisture meter in accordance with ASTM D 4444. In case of dispute, the ASTM oven-dry method (ASTM D 4442, Method A) shall be used. When the preservative-treated lumber or plywood is specified to be dry after treatment, the moisture content shall be 19 percent or less for lumber and 15 percent or less for plywood. If the wood moisture content is extremely low (approximately 0 to 5%), electrical resistance needle-type moisture meters shall not be used.

3.2.4 Incising: Incising shall be used for difficult-to-treat wood if needed to meet the penetration requirements as defined in Section 3.4 of this criteria. For “Decking Use Only” material, two edges and one face shall be incised if needed to meet the penetration requirements as defined in Section 3.4 of this criteria.

3.3 Treatment Process: A proprietary treating process, described in the approved quality control manual submitted to ICC-ES by the applicant for the evaluation report, shall be used by the applicant and approved treaters specified as additional listees in the evaluation report.

3.4 Results of Treatment: Retention and penetration of wood preservative solutions in treated lumber, timber and plywood shall be in accordance with the approved quality control manual, submitted to ICC-ES by the applicant for the evaluation report.

3.4.1 Sampling Method: All lumber, timbers, and plywood shall be bored using the applicable methods outlined in AWWA Standard M2.

3.4.2 Retention by Assay:

3.4.2.1 Retention: Retentions shall be as specified in the approved quality control manual submitted to ICC-ES by the applicant for the evaluation report. The minimum retention values for specific species and uses shall be shown in the ICC-ES evaluation report.

Retentions done by assay shall be determined using the analytical standards specified in Section 3.7 of this criteria.

3.4.2.2 Assay Zones: Assay zones shall be the same as shown in AWWA standards for similar wood species and products. Material permitted by the proprietary wood preservative criteria that is clearly marked “Decking Use Only” shall have an assay zone of 0.0 to 0.2 inch (0 to 5 mm).

3.4.2.3 Standard Density for Assay Calculation (AWPA Standard A 12):

3.4.2.3.1 Lumber or Timbers:

- Douglas fir—28 pcf (448 kg/m³)
- Hem-fir—24 pcf (384 kg/m³)
- Patula pine—32 pcf (512 kg/m³)
- Ponderosa pine—24 pcf (384 kg/m³)
- Radiata pine—26 pcf (420 kg/m³)
- Red pine—26 pcf (416 kg/m³)
- Redwood—22 pcf (350 kg/m³)
- Scots pine: Germany—30 pcf (480 kg/m³)
- Scots pine: Sweden—26 pcf (416 kg/m³)
- Southern pine—32 pcf (512 kg/m³)
- Western hemlock—26 pcf (416 kg/m³)
- Western red cedar—19 pcf (310 kg/m³)

3.4.2.3.2 Plywood:

- Southern pine—33 pcf (528 kg/m³)
- Western—33 pcf (528 kg/m³)
- Douglas fir—33 pcf (528 kg/m³)

3.4.3 Penetration: The appropriate AWWA penetration requirements for the wood species treated with preservatives, as shown in Table 1, shall apply to the preservative-treated wood products.

3.5 Drying after Treatment: Preservative-treated wood may be kiln-dried after treatment or if wetted during transit or storage. When preservative-treated lumber or plywood is specified to be dry after treatment, moisture content shall be 19 percent or less for lumber and 15 percent or less for plywood.

3.6 Marking: Each piece of material shall be marked with the applicable mark illustrated in the quality control manual for production of the preservative-treated wood. The licensed treater shall not mix marked material and unmarked material in the same package.

3.7 Analysis Standards: For preservative-treated wood, the analytical procedures described in the proprietary wood preservative acceptance criteria or an appendix of this criteria shall be used.

4.0 TEST METHODS AND PERFORMANCE REQUIREMENTS

The performance characteristics of the proprietary wood preservative system shall be documented by testing. The testing and performance requirements listed in this criteria document treated wood used in the following exposure conditions: contact with ground (AWPA UC4A, AWWA UC4B), above ground weather-exposed (AWPA UC3B)

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and above ground damp but not in contact with liquid water (AWPA UC2). Use categories are further defined in AWPA Standard U1. Testing and performance shall be noted in the proprietary wood preservative acceptance criteria or appendices of this criteria for the product uses and exposure conditions. Testing shall be in accordance with AWPA, ASTM and CEN standards and test procedures listed in this criteria, the proprietary wood preservative criteria or the appendices to this criteria, and shall demonstrate resistance to fungal decay and to subterranean termites. Product sampling shall be in accordance with Section 2.4 of this criteria. The following documentation (Sections 4.1 to 4.8) is needed to substantiate the performance characteristics of the wood-preservative products for the listed use category:

4.1 Laboratory Tests: The testing indicated in Sections 4.1.1 and 4.1.2 of this criteria shall be performed for use categories UC2, UC3B, UC4A and UC4B.

Conditions of Acceptance: Testing shall demonstrate efficacy of the recommended levels of the wood preservative for the products and uses indicated in this criteria.

4.1.1 Soil block testing in accordance with either AWPA E10, E22 or agar block testing in accordance with CEN EN 113.

4.1.2 Termite testing in accordance with AWPA E1 or ASTM D 3345. The product shall demonstrate resistance to subterranean termites. The testing shall consider Formosan termites unless these are excluded in the evaluation report (see Section 6.3 of this criteria).

4.2 Simulated Field Tests: Soil bed exposure testing in accordance with AWPA E14, or E23 may be submitted for evaluation of use categories UC4A and UC4B.

Conditions of Acceptance: Testing shall demonstrate efficacy of the recommended level of wood preservative for the products and uses listed in this criteria.

4.3 Field Tests: Field testing shall be conducted at a location with very heavy termite infestation as shown in Figure 2603.8 of the IBC, Figure R301.2(6) of the IRC or Hilo, Hawaii, and decay probability as shown on AWPA Decay Hazard Zone 5 or equivalent. Alternatively, a minimum of two field tests shall be conducted in distinctly different geographical locations. One of those locations shall be in AWPA Decay Hazard Zone 4 or 5. Field testing shall be a minimum of three years in duration. Aboveground field testing for use category UC3B shall be in accordance with one of the following sections: ground proximity (Section 4.3.1), lap joint (Section 4.3.2) or L-joint (Section 4.3.3). Ground-contact field stake testing for use categories UC4A and UC4B shall be in accordance with Section 4.3.4. All testing shall be conducted on uncoated specimens.

Conditions of Acceptance: Testing shall demonstrate efficacy of the recommended levels of the wood preservative for the products and uses listed in this criteria. Results from the tests shall be accepted as valid provided that the nominal mean rating of the joint surfaces for the untreated controls is beyond the midpoint of the rating scale for that test procedure.

4.3.1 Ground proximity testing in accordance with AWPA E18.

Alternate: Ground proximity testing equivalent to AWPA E18, modified to promote termite attack. The testing shall consider Formosan termites unless these are excluded in the evaluation report (see Section 6.3 of this criteria).

4.3.2 Lap joint testing in accordance with AWPA E16.

4.3.3 L-joint testing in accordance with AWPA E9 or EN330.

4.3.4 Field stake tests in accordance with either AWPA E7, ASTM D 1758 or EN 252 shall demonstrate performance for ground contact.

4.4 Preservative Permanence: Testing indicated in Section 4.4.1 for use categories UC4A, UC4B and UC3B shall be performed. Testing indicated in Section 4.4.2 for use categories UC4A and UC4B shall be performed for ground-contact use. Testing indicated in Sections 4.4.3 for use category UC3B shall be performed for aboveground unprotected use.

Conditions of Acceptance: Testing shall demonstrate levels of wood preservative for the products and uses indicated in this criteria.

4.4.1 Laboratory leaching testing in accordance with either AWPA E10, AWPA E11 or CEN EN 84.

4.4.2 Depletion from ground-contact stake specimens tested in accordance with AWPA E7 or EN 252.

Alternate: Laboratory testing in accordance with AWPA E 20 may be provided.

4.4.3 Depletion from specimens tested in accordance with either AWPA E18, AWPA E9 or AWPA E16 for aboveground use as specified in the proprietary wood preservative criteria.

4.5 Effects on Wood Properties: Static bending strength testing in accordance with ASTM D 143 shall be performed for all use categories.

Conditions of Acceptance: The testing shall document the MOE and MOR strength retention of the product and the use of load duration factors under Section 2.3 of the NDS.

Alternate: As an alternate to testing, an independent engineering analysis based on standardized strength testing may be submitted. The analysis shall be signed, sealed and dated by the responsible engineer.

4.6 Corrosion: Testing indicated in Sections 4.6.1 and 4.6.2 shall be performed for all AWPA use categories applicable to the building codes that are listed in the evaluation report.

4.6.1 Corrosion of metal coupons by treated wood testing in accordance with AWPA E12, with a minimum of 10 replicates per metal.

Conditions of Acceptance: The testing shall document the types of fasteners (other than fasteners with proprietary corrosion-resistant methods as covered in Section 4.6.2), coatings and metals (such as joist hanger material) that are used with the wood preservative; e.g., stainless steel, hot dip galvanized, zinc polymers, carbon steel, aluminum, red brass, bronze, copper, and any other

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fasteners, coatings and metals to be specified by the report applicant.

For treatment chemical tests, a corrosion rating relative to the CCA/hot-dip galvanized treatment shall be calculated and reported for each metal and shall be a ratio of the mean corrosion rating of the treatment chemical to the mean corrosion rating of the CCA/hot-dip galvanized control.

Meaningful functional differences determined from both statistical and practical considerations shall be provided in accordance with Section 4.8. This will include statements regarding confidence levels and differences between positive controls and untreated controls.

4.6.2 Fasteners with proprietary corrosion-resistant methods for use in preservative-treated wood shall be installed in treated wood samples in accordance with the fastener manufacturer's installation instructions and shall be tested for corrosion in accordance with AC257.

Conditions of Acceptance: The conditions of acceptance shall be in accordance with AC257.

4.7 Treatment Testing: Reports on treatment trials documenting retention and penetration specification values for each species or species group of lumber or plywood to be listed in the proposed evaluation report.

4.8 Analysis of Test Documentation: Test data provided in accordance with Sections 4.1 to 4.8 shall be reviewed and an analysis shall be prepared by an independent third party, either an accredited test laboratory or an independent wood scientist/engineer. The analysis shall provide conclusions that the product provides protection against decay and subterranean termites at the retentions and penetrations, AWPA use category and performance characteristics recommended for the product.

4.9 Evaluation Procedure for Proprietary AWPA Standardized U1 Wood Preservative Systems: Wood preservative systems currently listed in AWPA U1 shall be evaluated using nonproprietary information on the wood preservative. The following information is required to proceed with an evaluation under AWPA U1:

4.9.1 A third-party analysis of nonproprietary data on the applicant's wood preservative shall be submitted, listing applicable authorities on the preservative, and using published papers, testing, AWPA committee reports, and AWPA published proceedings. The analysis shall state that the preservative evaluated in the listed documents is the preservative listed in U1.

4.9.2 An analysis from a third-party accredited laboratory shall be submitted, showing that the applicant's wood preservative is the preservative listed in AWPA U1.

4.9.3 Reports of corrosion testing in accordance with Section 4.6, from accredited testing laboratories, shall be submitted for the applicant's wood preservative.

4.9.4 A third-party accredited agency will need to submit documentation verifying that the retention and penetration values of the applicant's wood preservative comply with AWPA U1 and Section 3.4.2 of this criteria. Documentation is needed for each treatment facility to be listed in the proposed evaluation report. Each treatment facility will be considered as an additional listee and will need to provide the appropriate application forms.

4.9.5 The basic information required in Section 2.0 of this criteria shall be provided for the preservative system.

4.9.6 The preservative treatment process shall be documented in accordance with Section 3.0 of this criteria.

4.9.7 Quality control shall be documented in accordance with Section 5.0 of this criteria.

4.9.8 The Standardized AWPA U1 wood preservative will be limited to the minimum retentions and AWPA Use Categories as listed in AWPA U1.

5.0 QUALITY CONTROL

5.1 The preservative-treated wood products shall be manufactured under an approved quality control program with inspections by an inspection agency that continually supervises the preservative process and tests and inspects the quality of the preservative-treated wood. Inspection agencies for preservative-treated wood shall be listed by an accreditation body that complies with the requirements of the American Lumber Standard Committee, Inc. Treated Wood Program, or that is otherwise acceptable to ICC-ES.

5.2 The accredited third-party inspection agency must determine the conformance rate of sampling at each plant once per quarter. Conformance rates shall be determined for each production category. Production categories shall be established based on preservative, type of product, species and retention. Additional production categories may be established based on material size, additives, or other relevant parameters.

Material shall be subject to inspection for a production category if it is labeled with an ICC-ES report number or is intended to be labeled.

Conformance rates for a production category shall be determined using a minimum of 20 charges from the previous three-month period. If there were fewer than 20 charges during the previous three months, then data from a longer period shall be used to obtain the minimum number of charges.

The required minimum conformance rates for the overall plant and for each production category are:

- 1) 95% of the charges sampled must meet or exceed the minimum retention levels as listed on the product evaluation report for the specific end use
- 2) 80% of the total number of cores sampled must meet or exceed the required penetration.

Conformance rates for retention and penetration shall be assessed independently and shall be rounded to the nearest whole percent.

Plants with nonconforming retention or penetration rates on their quarterly report shall have the frequency of inspection and the rate of sampling increased by the agency for any nonconforming production categories until the required conformance is obtained. A probationary period is allowed and if satisfactory conformance rates for retention and penetration are not obtained within this time, no further labeling of product for that production category is permitted unless an accredited third-party inspection agency inspector approves material on a charge-by-charge basis. The probationary period shall be determined

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based on the availability of the specific end use material for sampling, but shall not exceed 90 days.

Any product category for which labeling was disallowed must be requalified by the same agency under which the labeling was disallowed. A plant can requalify a product category by treating consecutively five conforming charges both in retention and penetration. Furthermore, 19 of the next 20 charges must be conforming both in retention and penetration.

Any nonconforming rates, including resolution of probationary periods and requalification, must be reported to the report holder and to the ICC Evaluation Service.

5.3 Quality documentation complying with the ICC-ES Acceptance Criteria for Quality Documentation (AC10) shall be submitted that lists purity specifications and physical properties of all chemicals used for production of the treated wood.

6.0 EVALUATION REPORT RECOGNITION

The following are conditions of use for the preservative-treated wood products covered by this acceptance criteria:

6.1 The evaluation report shall list the species of wood for both lumber and plywood, with minimum preservative retention levels, and whether the material is incised.

6.2 The evaluation report shall specify the types of metals that are permitted to be used for fasteners and connectors in contact with the treated wood product.

6.3 The evaluation report shall state that preservative-treated wood is not permitted to be used in areas subject to Formosan termite attack, unless data in accordance with Section 4.1.2 or 4.3, showing resistance to Formosan termites, is submitted.

6.4 The evaluation report shall specify limitations on the use of load duration factors in accordance with Section 2.3 of the NDS and, if applicable, any significant reduction in MOE or MOR.

6.5 The evaluation report shall list the approved treaters.

6.6 The evaluation report shall state that "Decking Use Only" is not permitted unless data showing comparable performance to that of existing approved preservatives, for species, dimensions and penetrations, is submitted.

6.7 When incising is required to meet the minimum penetration requirements for specific wood species and sizes of materials, it shall be limited to the depth, length and density specified in Section 4.3.8 of the NDS, or data shall be submitted establishing incising factors in accordance with Section 4.3.8 of the NDS.

6.8 Sample Product labels: Proprietary wood preservative products must be labeled in accordance with Section 2303.1.8.1 of the 2006 and 2009 IBC and Section R317.2 of the 2009 IRC, Section R319.2.1 of the 2006 IRC. Section 2.1.3 of this criteria refers to the IBC and IRC

sections on identification and requires additional information, such as evaluation report number, exclusion from use with regard to Formosan termites (when applicable), and decking use only (when applicable). Sample product labels that are to be reproduced in evaluation reports must comply with the following:

6.8.1 Proprietary ICC-ES Evaluated Wood Preservative Systems: Sample product labels that are to be reproduced in ICC-ES evaluation reports must include the following information:

- Evaluation report number.
- Identification of the treatment facility.
- Trade name and/or logo of the preservative.
- Minimum preservative retention (pcf). (Optional)
- End use for which the product is treated. Labels shall not include reference to AWPAs, AWPAs Standard U1 and Use Category (UC). End use must be described on the label as noted in the evaluation report, e.g., the phrases "Above Ground", "Ground Contact", "Permanent Wood Foundation", "Decking Use Only", or other identification methods provided by the report holder. Use Category (UC) may be used on labels with the phrase "Not listed in AWPAs U1."

Labels shall not include reference to AWPAs, AWPAs Standard U1 and Use Category (UC). End use must be described on the label as noted in the evaluation report, e.g., the phrases "Above Ground", "Ground Contact", "Permanent Wood Foundation", "Decking Use Only", or other identification methods provided by the report holder. Use Category (UC) may be used on labels with the phrase "Not listed in AWPAs U1."

- Name of the accredited inspection agency.
- The phrase "This retention level is not suitable for exposure to Formosan termites", if applicable.
- The phrase "Decking Use Only", if applicable.

6.8.2 AWPAs Standardized U1 Wood Preservative Systems Evaluated by ICC-ES in Accordance with Section 4.9 of this Criteria: Sample product labels that are to be reproduced in ICC-ES evaluation reports must include the following information:

- Evaluation report number
- Identification of the treatment facility.
- Trade name and/or logo of the preservative and type of preservative used; e.g., ACQ, CCA.
- Minimum preservative retention (pcf).
- End use for which the product is treated. Either AWPAs Use Categories (e.g., UC3A, UC3B, UC4A, UC4B) or the end use must be included "Above Ground", "Ground Contact", "Permanent Wood Foundation", "Decking Use Only").
- AWPAs standard to which the product is treated (AWPAs U1).
- Name of the accredited inspection agency.
- The phrase, "This retention level is not suitable for exposure to Formosan termites", if applicable.
- The phrase "Decking Use Only", if applicable. ■

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TABLE 1—PENETRATION REQUIREMENTS

USE	SPECIES	REQUIRED PENETRATION
Above ground and ground contact	Ponderosa pine, radiata pine, patula pine, Caribbean pine, Scots pine—Germany, Scots pine—Sweden, red pine, southern pine and western red cedar	2.5" of wood or 85% of sapwood
	Douglas fir, hem-fir, redwood, and western hemlock	0.4" of wood and 90% of sapwood
Aboveground "Decking Use Only"	Douglas fir, hem-fir, and western hemlock	0.2" of wood and 90% of sapwood

Note: Where incising is used, measurements shall be made diagonally between the incisions.

**[There are no Revisions to the Appendices,
For appendices refer to www.icc-es.org, AC326 Approved June 2009].**