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***GUIDANCE DOCUMENT C: PROTOCOL FOR STANDARDIZATION  
OF NEW MILLWORK PRESERVATIVE SYSTEMS***

Jurisdiction: Technical Committee P-1

Adoption: Previously Appendix C to the AWPA Technical Committee Regulations, this document was converted to a Guidance Document by the AWPA Executive Committee in January 2013.

This Guidance Document is not an AWPA Standard. These are nonmandatory guidelines presented to aid the user in understanding the basic testing requirements for wood protection systems and to assist the AWPA Technical Committees in the development of AWPA Standards. The testing of products in accordance with this Guidance Document does not constitute conformance to any AWPA Standard. No product can be considered to conform to an AWPA Standard until it has been subjected to complete technical review and voting by AWPA's Technical Committees, and procedural review and final action by the AWPA Executive Committee pursuant to the AWPA Technical Committee Regulations.

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**1.0 CHEMICAL AND PHYSICAL PROPERTIES**

A wood preservative system shall be defined as a formulation consisting of preservative active ingredient(s), water repellent, and/or other ingredients needed to maintain the stability in an appropriate solvent.

Pertinent information on the chemical and physical properties shall be provided. Particular emphasis should be placed on chemical and thermal stability since these factors may have an effect on the long term performance. Properties information shall be provided for the individual active ingredient(s), as well as the system itself. Examples of relevant chemical and physical properties are: density, flash point (ASTM D92 or ASTM D93), boiling point, viscosity at 25° C, pH, thermal stability (ASTM E537), UV light sensitivity (ASTM G53), vapor pressure (mm Hg at 20°C), vapor density, and VOC content.

**2.0 ENVIRONMENTAL**

A proposal to list a preservative can be made while that preservative is still in the EPA registration process, but standardization cannot occur until registration is complete (see Section 11 of the AWPA TCR). It is the proponent's responsibility to ensure conformance with EPA regulations. A Material Safety Data Sheet (MSDS) should be submitted along with information on the status of approval by FIFRA.

**3.0 ANALYTICAL METHODS**

**3.1** Solution Analysis - Supplier of the preservative system shall provide the proper analytical methodology to quantify the preservative active ingredient(s) and water repellent in solution.

**3.2** Wood Analysis - Supplier of the preservative system shall provide the proper analytical methodology to quantify the preservative active ingredient(s) and water repellent in wood product.

**3.3** Penetration Analysis - Supplier of the preservative system shall provide the proper analytical methodology to measure the preservative active ingredient(s) and the water repellent in wood product from the outer treated edge to the innermost treated ring with measurements made to the nearest millimeter. If a suitable analytical method does not exist every effort should be made to develop one.

**4.0 EFFICACY****4.1** Laboratory Tests

**4.1.1** Soil Block Test - Data on a minimum of 3 brown rot fungi and 3 white rot fungi is required to provide information on the efficacy of the preservative active ingredient against pure cultures of common wood decay fungi. Appropriate controls should be included to determine the effects of non-biocide components and provide reference to established systems such as pentachlorophenol. Testing should be performed in accordance with AWPA Standard E10. Ponderosa pine (*Pinus ponderosa*), shall be used as the wood substrate for testing with the brown rot fungi, and yellow poplar (*Liriodendron tulipifera*) with the white rot fungi. Consult E10 for guidance on selection of fungal species and strains.

**4.1.2** Insect Tests - For preservative systems to be used in wood products that will be exposed to an insect hazard, data from test methods designed to test insect resistance are required. Termite resistance should be tested in accordance with AWPA Standards E1 or E26.

**4.2** Field Tests

**4.2.1** Above Ground Tests - L-Joint Tests in accordance with AWPA Standard E9, "Standard Field Test for the Evaluation of

Wood Preservatives to be Used in Non-Soil Contact" is required.

**4.2.2** Other Above Ground Tests - For products intended for high decay and/or insect hazard areas, data from other above ground tests designed to simulate severe in-use conditions are recommended, e.g. AWPA Standards E16, E18, and E27.

## **5.0 PRESERVATIVE PERMANENCE**

**5.1** Laboratory Water Leach Test – Information on the leachability of the preservative system active ingredients must be provided in accordance with Standard E11.

**5.2** Field Depletion of Active Ingredient(s): It is highly recommended that depletion data be generated using AWPA Test Method E9. Refer to Section 5.2.2.2 of AWPA Guidance Document A for details.

## **6.0 EFFECTS ON WOOD PROPERTIES**

Information must be provided on the effects of wood preservative treatment on wood strength properties. For systems intended for use on solid wood products, testing should be done in accordance with ASTM D143 using the wood species, preservative retention levels and treatment, and the drying processes appropriate for the intended end use are required. For use on wood composites, data from ASTM D1037 or ASTM D5516 is recommended. Other relevant physical properties information may also be provided. Examples are electrical conductivity, hygroscopicity (ASTM D3201), fire properties (ASTM E1354), paint film adhesion (ASTM D3359), wood to wood bonding (ASTM D1037), water repellency (WDMA TM-2), and changes in appearance (color, surface residue, etc.). Consult AWPA Guidance Document A for more detailed guidance.

## **7.0 CORROSIVITY**

**7.1** Treating Solution – Data generated in accordance with NACE Standard TM-01-69 or AWPA E17 are required for the RTU preservative system.

**7.2** Treated Wood – Data generated in accordance with AWPA E12 are required using the RTU preservative system.