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Wisconsin
Department of Commerce

Evaluation #

200512-O Revised

Safety & Buildings Division
201 West Washington Avenue
P.O. Box 2658
Madison, WI 53701-2658

Wisconsin Building Products Evaluation

Material

Treated Wood
Envirosafe Plus™

Manufacturer

Wood Treatment Products, Inc.
PO Box 950445
Lake Mary, FL 32795-0455

SCOPE OF EVALUATION

GENERAL: This report evaluates the use of Envirosafe Plus™ wood products manufactured by Wood Treatment Products, Inc. Envirosafe Plus™ is a treated wood product and has been evaluated for use where treated wood or fire-retardant wood is required in exterior and interior applications for the codes listed below.

Comm requirements below in accordance with the current **Wisconsin Uniform Dwelling Code for 1- & 2-family dwellings:**

- **Protection against Decay and Termites:** Envirosafe Plus wood products have been evaluated in accordance with the general requirements of **s. Comm 21.10**. (See LIMITATIONS OF APPROVAL section)
- **Identification:** Envirosafe Plus wood products have been evaluated in accordance with the requirements of **s. Comm 21.10(4)(a)** and **(b)**.

The **IBC** requirements below in accordance with the current **Wisconsin Amended ICC Code:**

- **Preservative-treated Wood:** Envirosafe Plus wood products have been evaluated in accordance with the general requirements of **s. IBC 2303.1.8**.
- **Identification:** Envirosafe Plus wood products have been evaluated in accordance with the requirements of **s. IBC 2303.1.8.1**.
- **Fire-Retardant-Treated Wood:** Envirosafe Plus wood products have been evaluated in accordance with the requirements of **s. IBC 2303.2**.

DESCRIPTION AND USE

Envirosafe Plus™ is technology that combines a pesticide – DOT (Disodium Octaborate Tetrahydrate) Borates – with a patented binding process that afixates the borates within the wood product for protection against insects, rot and other forms of biological degradation. Envirosafe Plus™ contains no arsenic, no ammonia, no copper, no chromium and no other heavy metals, which raise health, environmental and disposal concerns.

Component I: DOT Borates

The active preservative ingredient of Disodium Octaborate Tetrahydrate (DOT) is boron, an inorganic element. Boron is used as a wood preservative for protection against rot, fungus, mold, termites, carpenter ants, wood borers, roaches, fleas, etc., and other pests. In addition to their protection against insects and fungi, borates are also inherently fire retardant.

Component II: Patented Binding Process

The Envirosafe Plus™ patented binding process is the key to long-term effectiveness of the DOT Borates present in the wood. During the two step pressure-treating process, the silicate-binder causes a “fixation” of the DOT Borates throughout the wood and thereby provides a high level of protection from insects and decay.

The Final Product: DOT Pressure-Treated Wood with the added Protection of Envirosafe Plus™

It is environmentally friendly, has dimensional stability maintaining wood’s natural strength. It has flame and smoke retardant properties, inhibits the growth of mold and mildew, and is formulated with non-corrosive chemicals.

TESTS AND RESULTS

Testing was done on the Envirosafe Plus™ product as follows:

TESTING/SPECIFICATIONS/REGISTRATIONS

TEST / SPECIFICATION	BENEFIT SUPPORTED	EVALUATOR	RESULTS	
Soil Block Evaluation Following Accelerated Aging/Weathering Exposure AWPA E-10 (Mass Loss)	Effective Against Fungi / Rot	Dr. Paul Cooper University of Toronto	EnviroSafe treated blocks cut from accelerated leached lumber retained sufficient borate to protect the wood from the two rot fungi <i>Postis placenta</i> and <i>Gloeophyllum trabeum</i> .	
Evaluation of Borate Retention Following Accelerated Aging / Weathering	Effectiveness & Long Service Life in Exterior Environments	Dr. Paul Cooper University of Toronto	After 8 weathering cycles more than 50% of the borate was retained with relatively high retentions in the surface layer (0.21 pcf B ₂ O ₃)	
Modulus of Rupture (MOR)	Strength Retention	Southern Pine Inspection Bureau (SPIB)	Untreated SYP 10,997 psi	Treated SYP 10,823 psi
Modulus of Elasticity (MOE)	Strength Retention	Southern Pine Inspection Bureau (SPIB)	Untreated SYP 1,980,635 lbs.	Treated SYP 2,077,931 lbs.
Corrosion Test Data Corrosion Rate – mills/yr. AWPA E12-94 Corrosion Test	Less Corrosive than CCA & ACQ To all fasteners	Timber Products Inspection (TPI)	C 1010 Steel (mils/yr.) 5.144	G 60 Galvanized (mils/yr.) 2.550
Smoke Evaluation ISO 5659-2: 1994	Non-Toxicity of Smoke	Southwest Research Institute	Average corrected maximum smoke density values from three runs at 25 kW/m ² with pilot flame 50. Maximum CO was measured as 1058± 13 ppm.	
Fire Retardancy / Burning Characteristics ASTM E84	Suppressed Flame Spread & Smoke Obscuration; Self-Extinguishing	Celotex Corporation	The test specimen self-extinguished upon burner cut-off at test completion. The specimen exhibited no afterglow.	

The above test data is on file with the department.

LIMITATIONS OF APPROVAL

The **Comm** limitations below are in accordance with the current **Wisconsin Uniform Dwelling Code for 1- & 2-family dwellings**:

- **Protection against Decay and Termites:** EnviroSAFE Plus wood products are in accordance with the general requirements of **s. Comm 21.10**.
- **Identification:** EnviroSAFE Plus wood products shall be identified in accordance with the requirements of **s. Comm 21.10(4)(a) and (b)**.

NOTE: Wood products treated with EnviroSAFE Plus™ shall not have contact with the ground nor embedment in the ground.

The **IBC** limitations below are in accordance with the current **Wisconsin Amended ICC Code**:

- **Preservative-treated Wood:** EnviroSAFE Plus wood products are in accordance with the general requirements of **s. IBC 2303.1.8**.
- **Identification:** EnviroSAFE Plus wood products shall be identified in accordance with the requirements of **s. IBC 2303.1.8.1**.
- **Fire-Retardant-Treated Wood:** EnviroSAFE Plus wood products meet the requirements of **s. IBC 2303.2**.

NOTE: Wood products treated with EnviroSAFE Plus™ shall not have contact with the ground nor embedment in the ground.

This approval will be valid through December 31, 2010, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The product approval is applicable to projects approved under the current edition of the applicable codes. This approval may be void for project approvals made under future applicable editions. The Wisconsin Building Product Evaluation number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement not specified in this document.

Revision Date: March 3, 2006
Approval Date: August 22, 2005

By: _____
Lee E. Finley, Jr.
Product & Material Review
Integrated Services Bureau