

ICC-ES Evaluation Report**ESR-3255***

Reissued October 2013

This report is subject to renewal July 1, 2014.www.icc-es.org | (800) 423-6587 | (562) 699-0543

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**DIVISION: 06 00 00—WOOD, PLASTICS AND
COMPOSITES**
Section: 06 05 83—Shop-Applied Wood Coatings

REPORT HOLDER:

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EVALUATION SUBJECT:**ECO RED SHIELD™ WOOD PROTECTION COATING****ADDITIONAL LISTEES:**

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NORTHERN CROSSARM COMPANY, INC.
POST OFFICE BOX 34
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STRUCTURAL TECHNOLOGIES, LLC
126 SOUTH LYNNHAVEN ROAD
VIRGINIA BEACH, VIRGINIA 23452

1.0 EVALUATION SCOPE**Compliance with the following codes:**

- 2012 and 2009 *International Building Code*® (IBC)
- 2012 and 2009 *International Residential Code*® (IRC)
- Other Codes (see Section 8.0)

Properties evaluated

- Decay resistance above ground
- Termite resistance
- Corrosion
- Structural

2.0 USES

Eco Red Shield™ Wood Protection Coating is used to treat wood products used in aboveground applications that are required by code to be protected against decay and termites.

3.0 DESCRIPTION**3.1 General:**

Eco Red Shield™ Wood Protection Coating wood products are recognized for use in aboveground applications and to resist attack by fungal decay and subterranean termites, including Formosan termites.

Eco Red Shield™ Wood Protection Coating uses DOT containing formulations supplied by Eco Building Products Inc. and used by the wood treatment facilities listed in Table 3, to coat wood members in accordance with the Eco Red Shield™ Quality Control Manual.

3.2 Preservative System:

Eco Red Shield™ Wood Protection Coating is a disodium octaborate tetrahydrate (DOT) treatment chemical for coating wood members.

3.3 Materials:

The following wood products may be treated with the Eco Red Shield™ Wood Protection Coating:

- a. Dimensional lumber and timbers of the following species: mixed Southern pine, hem-fir and Douglas fir.
- b. Plywood complying with US DOC PS-1 and OSB complying with U.S. DOC PS-2, consisting of Southern pine and Douglas fir.
- c. Laminated veneer lumber (LVL)
- d. Parallel strand lumber (PSL)
- e. Laminated beams

Minimum borate concentration levels must be as shown in Table 1.

4.0 DESIGN AND INSTALLATION**4.1 General:**

Eco Red Shield™ Wood Protection Coating treated wood is installed in locations required to have preservative-treated lumber, timbers and OSB in accordance with the requirements of the applicable code.

Eco Building Products Inc. installation instructions, industry-published installation instructions for wood and pressure-treated wood and this report must be strictly adhered to, and a copy of the instructions must be available at all times on the jobsite during installation.

The instructions within this report govern if there are any conflicts between the Eco Building Products Inc. instructions and this report.

4.2 Applications:

Eco Red Shield™ Wood Protection Coating wood products may be used in locations where wood is permitted and/or in locations where wood is required by the code to be

***Revised March 2014**

fungal decay or termite resistant in all building types and occupancies, as defined by the applicable code. The treated wood members are recognized for use in aboveground applications where they are continuously protected from liquid water. Wood treated with Eco Red Shield™ Wood Protection Coating may be used as sill-plates over concrete slabs and foundations in accordance with the applicable code. Typical applications are listed in Table 2.

Locations requiring preservative-treated wood for decay or termite resistance are described in Section 2304.11 of the IBC, and Sections R317 and R318 of the IRC.

4.3 Fasteners:

Fasteners used with Eco Red Shield™ Wood Protection Coating wood products must be in accordance with Section 2304.9.5 of the IBC and Section R317.3 of the IRC, except that aluminum fasteners are also permitted when wood products are used in interior applications.

4.4 Protection from Water:

The borate preservative in Eco Red Shield™ Wood Protection Coating wood is water-soluble and the coated wood must be protected from liquid water, where permanently installed.

Eco Red Shield™ Wood Protection Coating wood used in weather-protected exterior applications must be continuously protected from direct wetting with a minimum of one coat of primer and two coats of finish paint.

4.5 Structural—Duration of Load:

The maximum load duration factor allowed for Eco Red Shield™ Wood Protection Coating wood products used for structural members is 1.6, in accordance with Section 2.3 of the American Forest & Paper Association (AF&PA) National Design Specification for Wood Construction (NDS).

5.0 CONDITIONS OF USE

The Eco Red Shield™ Wood Protection Coating described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Use of the preservative-treated wood is limited to the types of applications noted in Section 4.2.
- 5.2 Surface treatment of field cuts and bored holes must be in accordance with the recommendations of Eco Building Products Inc. and AWWA M4.
- 5.3 The Eco Red Shield™ Wood Protection Coating wood products are limited to the wood products noted in Section 3.3 and the minimum application rate as noted in Table 1.
- 5.4 Treated materials used for protection against Formosan termites must be labeled/identified for this use as described in Section 7.0.
- 5.5 The Eco Red Shield™ Wood Protection Coating must only be factory-applied by applicators trained by the report holder, in a manner complying with all applicable state and federal regulations.
- 5.6 The Eco Red Shield™ Wood Protection Coating treated products must be protected from continuous wetting during shipping and storage.
- 5.7 Treatment of wood products is at the facilities of the treaters noted in Table 3, under a quality control program with inspections by ICC-ES and QAI Laboratories, Inc. (AA-723).

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Liquid Borate Fungal Decay and Termite-resistant Treatment Applied to Wood Members (AC433), dated June 2012.

7.0 IDENTIFICATION

Eco Red Shield™ Wood Protection Coating treated lumber, timber, plywood and OSB must be stamped or end tagged with the name of the inspection agency (QAI Laboratories, Inc.); the product name (Eco Red Shield™); the Eco Building Products Inc. name; the treatment company name and plant location (refer to Table 3); the name of the preservative component (DOT); the intended end use application (see Table 2); and the evaluation report number (ESR-3255). Bulk shipments directly from the manufacturing plant to a jobsite may have only one label per unit of material. A sample label is shown in Figure 1.

Products treated for protection against Formosan termites must be labeled as shown in Figure 2.

8.0 OTHER CODES

In addition to the codes referenced in Section 1.0, the products described in this report were evaluated for compliance with the requirements of the following legacy codes and earlier editions of the International Codes:

- 2006, 2003 and 2000 *International Building Code*® (IBC)
- 2006, 2003 and 2000 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)
- BOCA® *National Building Code/1999* (NBNC)
- 1999 *Standard Building Code*® (SBC)

The Eco Red Shield™ Wood Protection Coating wood products described in this report comply with, or are suitable alternatives to what is specified in, the codes listed above, subject to the provisions of Sections 8.1 through 8.6.

8.1 Uses:

See Section 2.0.

8.2 Description:

See Section 3.0.

8.3 Installation:

See Section 4.0, except for the following modifications:

Locations requiring preservative-treated wood for decay or termite resistance are described in Section 2304.11 of the 2006, 2003 and 2000 IBC, Sections R319 and R320 of the 2006 and 2003 IRC, Sections R323 and R324 of the 2000 IRC, Section 2304 of the SBC, Section 2311 of the NBNC, and Section 2306 of the UBC.

Fasteners used with Eco Red Shield™ Wood Protection Coating wood products must be in accordance with Section 2304.9.5 of the 2006, 2003 and 2000 IBC, Section R319.3 of the 2006 and 2003 and IRC, Section R323.3 of the 2000 IRC, Section 2306.3 of the SBC, Section 2311.3.3 of the NBNC, and Section 2304.3 of the UBC, except that aluminum fasteners are also permitted when the treated wood products are used in interior applications.

8.4 Conditions of Use:

See Section 5.0.

8.5 Evidence Submitted:

See Section 6.0.

8.6 Identification:

See Section 7.0.

TABLE 1—MINIMUM CONCENTRATION APPLICATION RATE REQUIREMENTS FOR ECO RED SHIELD™ WOOD PROTECTION COATING WOOD PRODUCTS BY END USE

END USE	MINIMUM APPLICATION RATE
	DOT - B ₂ O ₃
Aboveground applications UC1, UC2 and UC3A, not subject to contact with liquid water, species and products listed in Section 3.3.	Minimum application rate shall provide a DOT loading of 0.00975 g/in ² . The concentration is suitable for exposure to Formosan termites.

TABLE 2—TYPICAL APPLICATIONS FOR ECO RED SHIELD™ WOOD PROTECTION COATING WOOD PRODUCTS

SERVICE CONDITIONS	AWPA USE CATEGORY	TYPICAL APPLICATIONS
Interior construction, above ground, dry	UC1	Interior construction - millwork and furnishings
Interior construction, above ground, damp	UC2	Interior construction - interior beams, timbers, flooring, millwork and sill plates
Exterior construction, above ground, coated and rapid water runoff	UC3A	Refer to Section 4.4 Exterior - coated millwork, siding and trim

TABLE 3—WOOD TREATMENT LOCATIONS

LISTEE	WOOD PRESERVATIVE TREATMENT LOCATIONS
Eco Building Products	Colton, CA Salem, OR
Guthrie Lumber & Distribution Centers, Inc.	Austin, TX
Interstate & Lakeland Lumber	Bethel, CT
Northern Crossarm Co. Inc. Northern Crossarm Co. Inc. (Rocky Mountain Wood Protection)	Chippewa Falls, WI Denver, CO
Structural Technologies, LLC	Doswell, VA


END USE - ABOVE GROUND ONLY	12	ABOVE GROUND Use Only	13
 <p style="text-align: center; margin-top: 10px;">Plant Location</p>	Inspected by: XXX Inspection Agency AA-XXX	AWPA UC1, UC2, 3A ESR-3255	Lumber & Plywood Above Ground And Continuously Protected From Liquid Water
SEE OTHER SIDE FOR IMPORTANT INFORMATION	Not listed in AWPA U1		

FIGURE 1—SAMPLE PRODUCT LABEL


END USE - ABOVE GROUND ONLY FORMOSAN SUBTERRANEAN TERMITE	12	ABOVE GROUND Use Only	13
 <p style="text-align: center; margin-top: 10px;">Plant Location</p>	Inspected by: XXX Inspection Agency AA-XXX	AWPA UC1, UC2, 3A ESR-3255	Lumber & Plywood Above Ground And Continuously Protected From Liquid Water
SEE OTHER SIDE FOR IMPORTANT INFORMATION	Not listed in AWPA U1		

FIGURE 2—SAMPLE PRODUCT LABEL—FORMOSAN TERMITES