



Eco Red Shield™ Wood Specification

OVERVIEW

Eco Building Products, Inc. maintains several Technical Evaluation Reports (TER# 1510-01, 1511-09, 1511-10) issued by DrJ Engineering, an ANSI ISO/IEC 17065 accredited certification body. The TER reports support the application and use of Eco Red Shield™ wood treatments meeting various building code requirements for use as Sill Plate, equivalence to Fire Retardant Treated Wood (FRTW) as alternate materials and methods as well as other building code compliant and value added attributes for protection against mold, wood-rot decay, wood ingesting organisms including Formosan termites and value added fire protection for entire framing of wood constructed buildings. Eco Red Shield shall be used for all horizontal and vertical framing members, above ground use attached to concrete, including dimensional framing lumber, sheathing, engineered wood components (EWP) and other wood construction. AWWPA use categories UC1, UC2 & UC3a – (Note not AWWPA Standardized.)

Eco Red Shield™ treatment maintains wood fiber strength in comparison to typical pressure treated lumber with no negative effects or reduction in strength values. Eco Red Shield products are;

- Non-corrosive to the elements, fasteners or truss plates,
- Eco-friendly and non-toxic to installers, please comply with standard wood dust warnings.
- Code compliant wood-rot decay and termite resistance, above ground attached to concrete.
- Inhibits the growth of surface mold and release of mycotoxins,
- Dimensional Doug Fir and Spruce (SPF) lumber meeting ASTM E2768 extended surface burning characteristic, fire testing.
- Value Added Fire Inhibitors meeting various classes of ASTM E84 testing for Engineered Wood Products (EWP's).
- Serves as a good prime coating for moisture protection
- Accepts paints and stains better than regular untreated lumber
- Contamination free when disposed in land fills

Eco Red Shield™ lumber provides a 10 year limited warranty on all treated members for wood-rot decay, termite and mold growth. Product is warranted exposed to the elements in a vertical framed state for up to one year.





Eco Red Shield™ Wood Specification

ICC Division: 06 05 83 – Shop Applied Wood Coatings

06 11 00 – Wood Framing

06 17 00 – Shop Fabricated Structural Wood

PART 1 - GENERAL

1.1

SUMMARY

- A. Factory-applied fungal decay, termite resistant, mold and fire inhibitor treatment for wood members, including dimensional framing lumber, sheathing, engineered wood components and other wood construction, not constantly exposed to prolonged wetting (UC3a).
- B. Related Sections: Section(s) related to this section include:
 - 1. Rough Carpentry: ICC Division 6 Rough Carpentry Section.
 - 2. Finish Carpentry: ICC Division 6 Finish Carpentry Section

1.2

REFERENCES

- A. **American Wood Protection Association (AWPA):**
 - 1. AWPA Standard E1-09, Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.
 - 2. AWPA Standard E10-09 Standard Method of Testing Wood Preservatives by Laboratory Soil-Block Cultures
 - 3. AWPA Standard E12-08 Standard Method of Determining Corrosion of Metals in Contact with Treated Wood.
 - 4. AWPA E21©, Standard Test Method for the Evaluation of Preservative Coating for Lumber and Timbers Against Subterranean Termites in Above-Ground, Protected Applications (UC1 and UC2)
 - 5. AWPA M4, Standard for the care of preservative-treated wood products.
- B. **ASTM International (ASTM):**
 - 1. ASTM D 3273-00 (2005), Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber or equivalent.
 - 2. ASTM D5590 - 00(2010) Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay
 - 3. ASTM D 3345-74 (1999), Standard Test Method for Laboratory Evaluation of Wood and Other Cellulosic Materials for Resistance to Termites



4. ASTM E 84-09 (UL723, NFPA 255, UBC 8-1) - Standard Test Method for Surface Burning Characteristics of Building Materials Extended 20 minutes.
5. ASTM E2768-11 – Standard test method for Extended Duration Surface Burning Characteristics of Building Materials (30-minute tunnel test)
6. ASTM D198 - 09 Standard Test Methods of Static Tests of Lumber in Structural Sizes
7. ASTM D5116 TVOC, Formaldehyde and Aldehyde emission level testing in accordance with industry standard protocols.

C. Product Evaluation Services provided by DrJ Engineering (TER's)

DrJ has received [ISO/IEC 17065 accreditation\(link is external\)](#) ([see certificate](#)), an international standard for ensuring the competence of organizations that perform product certifications. ISO/IEC 17065 accreditation ensures that DrJ's product certifications are impartial, consistent with international standards, and based on objective testing and analysis. DrJ also complies with the requirements of [IBC Section 1703](#). DrJ's accreditation covers a broad range of engineering and construction categories:

- ICS 93 CIVIL ENGINEERING
 - 93.010 Civil engineering in general
- ICS 91 CONSTRUCTION MATERIALS AND BUILDING
 - 91.040 Buildings
 - 91.060 Elements of buildings
 - 91.080 Structures of buildings
 - 91.100 Construction materials

D. Eco Red Shield™ (FT) Fire Treated is Factory Applied Treatment Impregnating On All Six Sides Over Douglas-Fir (DF-L) and Spruce-Pine-Fir (SPF) Dimensional Solid Sawn Lumber:

LUMBER PRODUCTS	SPECIES	FLAME SPREAD INDEX	SMOKE DEVELOPMENT INDEX	FLAME FRONT	MINIMUM TREATMENT COVERAGE
2x2, 2x4, 2x6, 2x8, 2x10, 2x12, 4x4 Sizes	Douglas Fir (DF-L)	Maximum ≤25	Maximum ≤25	< 10.5 ft.	11.5 grams/ft2
2x2, 2x4, 2x6, 2x8, 2x10, 2x12, 4x4 Sizes	Spruce-Pine-Fir (SPF)	Maximum ≤25	Maximum ≤25	< 10.5 ft.	11.5 grams/ft2



Note 1: These results do not apply to engineered wood products, or sheathing products.
Note 2: Strength Adjustment factors are not within the scope of this QAI listing.
Note 3: Eco Red Shield™ (FT) Fire Treated is not for use in conditions exposing the product to weathering.

BUILDING CODES CITED in testing reports:

1. National Fire Protection Association, ANSI/NFPA No. 101, "Life Safety Code".
2. International Building Code, Chapter 8, Interior Finishes, Section 803.

(Eco Red Shield Fire Retardant Treatment Test Results per [QAI Listing #B1053-1](#))

Please reference Eco Red Shield TER 1510-01 for complete specifications on compliance to IBC section 2303.2 and section 104.11

<http://www.drjcertification.org/ter/2016/mar/eco-red-shieldtm-wood-protection-coating>

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide decay resistant, mold resistant, termite resistant (Formosan), fire inhibitor (Class "A") treatment which will perform in accordance with manufacturer's stated performance criteria without defects, damage or failure.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's descriptive data and test results for treated products in accordance with IBC Section 1703 demonstrating full compliance as stated with our Technical Engineering Reports.
- B. Manufacturers Technical Engineering Reports (1510-01, 1511-09, 1511-10) Reports can be found at <http://www.drjcertification.org/client/7/eco-building-products>
- C. Eco Red Shield Fire Retardant Coatings Test Results [QAI Listing #B1053-1](#)

1.5 QUALITY ASSURANCE

- A. Wood Coating Plant Qualifications: Wood coating plant experienced in performing work of this section are under Quality Auditing Institute (QAI) third party quarterly random inspection program, which QAI is an approved IAS accredited inspection agency (AC98) in compliance with ISO/IEC Standard 17020. QAI Inspection agency approval AA-723.

1.6 DELIVERY, STORAGE & HANDLING

- A. General: Comply with ICC Division 1 Product Requirements Sections.



- B. Storage and Protection: Store materials protected from exposure to prolonged harmful weather conditions and at temperature conditions recommended by manufacturer. Product shall be stored a minimum of 6 inches from ground contact.
- C. Protect treated wood from damage during construction.

1.7 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.
- C. Warranty Period: Twelve Months (12) exposed to the elements in a vertical framed state and an additional Ten (10) years commencing on Date of Substantial Completion.
- D. Further details can be viewed and/or downloaded from the Manufacturer's web site on the Technical Specifications page.

PART 2 - PRODUCTS

2.1 DECAY RESISTANT, TERMITE RESISTANT, MOLD RESISTANT, FIRE INHIBITOR TREATMENT - Eco Red Shield™ Sill Plate (SP) – Advanced Framing Lumber (AFL) - Fire treated (FT)

- A. Manufacturer: Eco Building Products, Inc.

Contact: 11568 Sorrento Valley Road – Suite 13
San Diego, CA 92121 USA
Phone: 760.732-5826
Fax: 760.659.7730
Email: info@ecob.net Web: www.ecob.net

- B. Substitutions: No substitutions permitted.
- C. Coating Chemicals: Proprietary broad-spectrum anti-fungal, anti-mold, anti-termite (Disodium Octaborate Tetrahydrate) and fire inhibitor chemicals registered with EPA where/when applicable. Finished products are sold under the EPA Treated Article Exemption in 40 CFR 152.25(a)
- D. The scope of this document is for insertion into a section of generic specifications or generic/ proprietary specifications covering rough carpentry to include preservative coated wood.
- E. Eco Red Shield meets building code requirements for AWWPA use categories UC1, UC2 & UC3a as direct substitute for traditional pressure treated lumber providing



resistance for wood ingesting organisms including Formosan termites and Wood Rot-Decay in above ground use – (Note not AWPA standardized.)

PART 3 - EXECUTION

3.1

INSTALLATION

- A. Compliance: Comply with manufacturer's MSDS, including product technical bulletins, for installation. Protect treated wood surface from damage during construction.
- B. End cuts do not require additional coating. The Manufacturer recommends that all exposed end cuts where water wicking can occur or potential exposure to the elements may be treated with Eco Building Products, End Cut Sealer.
- C. All other normal precautions are taken as with non-treated lumber. No special requirements in order to install Eco Red Shield is specified other than stated in manufacturer's warranty or treated article MSDS. Please maintain standard wood dust warnings as required by CA. Prop 65.

Part 4 - Product Endorsements/Approvals

Indoor Air Quality Testing;

Eco Red Shield meets low emissions of volatile organic compounds in compliance with *UL 2818* for indoor commercial, educational, residential and healthcare environments. Tested in accordance to ASTM D5116 – Small Scale Environmental Chamber Determinations of Organic Emissions from indoor Materials and ASTM D5197 – Test Method for Determination of Formaldehyde and other Carbonyl Compounds in Air. Eco Red Shield meets California 01350 limits for formaldehyde emissions.

US Green Building Council (USGBC)

Simpson Strong-Tie, a leading manufacturer of anchoring, fastening systems and concrete repair, protection and strengthening products recognizes Eco Building Products, Inc.



Please contact a company representative to inquire how Eco Red Shield can qualify for LEED's credits.

Eco Red Shield is a registered trademark of Eco Building Products, Inc - 2016