

Learn About Fire-Retardant-Treated Wood

From the Industry Leader

FIRE-RETARDANT-TREATED WOOD
LISTED, LABELED & PRESSURE-IMPREGNATED

HOOVER
TREATED WOOD PRODUCTS, INC.



PYRO-GUARD
HOOVER
TREATED WOOD PRODUCTS, INC.
THOMSON, GA MILFORD, VA
WINSTON, OR PINE BLUFF, AR
DETROIT, MI BAKERSFIELD, CA
OXFORD, PA
PROCESS CONTROL
STANDARD 2200P
MONITORED BY:
TIMBER PRODUCTS INSPECTION
AA-696 UL ER7002-01
MEA-359-88-M LA-RR25150
18 KDAT 19

CLASSIFIED
UL
TREATED LUMBER
15P9 R7002
SOUTHERN YELLOW PINE
SURFACE BURNING CHARACTERISTICS:
FLAME SPREAD: 10
SMOKE DEVELOPED: 35
30 MINUTE TEST

**2-Hour FRTW
Bearing Wall
Assembly**
UL Design
No. V314



Continuing Education
AIA
Provider

CLASSIFIED
UL
Evaluation Report
UL ER7002-01

ICC
INTERNATIONAL
CODE COUNCIL
Preferred Education
Provider



BRAND NAMES YOU TRUST. 1-800-TEC-WOOD
CODE COMPLIANCE YOU EXPECT. FRTW.COM

The American Institute of Architects Continuing Education System

AIA/CES Registered Provider Program Summary Handout

Provider: Hoover Treated Wood Products

Length: 1 Hour

Program #: FRTW1

Credits: 1 LU Hour (0.1 ICC CEU)

Program: Fire-Retardant-Treated Wood and the International Building Code

HSW: Yes

Program Overview: This session is a discussion of fire-retardant-treated wood technical characteristics and building code related applications. Emphasis is placed on the testing and labeling required by the International Building Code.

Presenters: See back page for presenter experience and background.

The building code, as with many products, regulates the use of wood in construction. Two broad categories separate materials: combustible and noncombustible. Codes limit the applications of combustible materials on the basis of fire and life safety.

Christopher Athari
Southeastern United States
e-mail: cathari@frtw.com

Mike Eckhoff
Western United States
e-mail: meckhoff@frtw.com

The question is then, are there options available to using wood in lieu of a combustible material. Fire-Retardant-Treated Wood (FRTW) provides that option. Codes recognize FRTW for many applications where a noncombustible material is mandated. A few applications allow FRTW in lieu of one-hour ratings.

Rich Geary
Southern California
e-mail: rgeary@frtw.com

Jim Gogolski
Northeastern United States
e-mail: jgogolski@frtw.com

Learning Objectives:

- Understanding what is FRTW,
- Why it is allowed in noncombustible construction,
- What products are available,
- How to identify FRTW,
- Product labeling,
- Uses allowed in the building code,
- Insurance recognition, and
- Suggested architectural specification.

Kris Owen
Midwestern United States
e-mail: kowen@frtw.com

Frank Stewart
N. California, Oregon, and Washington
e-mail: fstewart@frtw.com

Method of Delivery: The spokesperson makes use of a PowerPoint presentation. The program is an interactive lecture. Questions are encouraged throughout the talk. Discussion is encouraged. The program concludes with a review of the important points for writing specifications for FRTW.

Online programs: www.learnaboutfrtw.com

Audio/Visual Required: Electrical outlet and a screen. Speaker provides a laptop and projector.

Dave Bueche
Hoover Treated Wood Products
154 Wire Road
Thomson, GA 30824
Web site: www.frtw.com

Costs to Participants: No cost to firm or chapter.

Technical Assistance: 1-800-TECWOOD

Ask us about our 2-, 3-, and 4-hour seminars!

Presenter Biographies

Christopher Athari

Christopher is a chemist with over 20 years of experience in the building products industry. He has significant experience formulating coatings for wood products and in research and development of gypsum innovations. Currently, he provides FRTW design consultation to architects, engineers and regulators, is an active participant in the standards and alternative code criteria development processes, and is a member of ASTM and ICC. He is proud alum of West Virginia University where he earned his degree in chemistry.

Mike Eckhoff, PhD

Mike is a public policy expert with 15 years of experience in the forest products industry. He has worked for both the Colorado State Forest Service and the USDA Forest Service where he shaped policy for the natural environment. Currently he provides FRTW design consultation to architects, engineers and regulators, is a member of ASTM, ICC, NFPA, SAF, FPS, and SWST, and continues to participate in the code development and public policy debate processes. He earned his PhD in Forest Science from Colorado State University.

Rich Geary

Rich worked 28 years for the Western Wood Products Association in various capacities, is a graduate of the University of Minnesota's College of Forestry, and has served industry in the Midwest, Rocky Mountain West, and currently Southern California. He is a member of ACIA, the Southern CA WUI Committee, the ICC and its Los Angeles Basin, Orange Empire and San Diego Area Chapters. He is a past member of the Minnesota Code Technical Advisory Committee and the Colorado Housing Authority.

Jim Gogolski

Jim is a wood technologist with over 35 years of experience. He has held positions with APA - The Engineered Wood Association, a wood preservative supplier, and the Southern Forest Products Association. Currently he provides FRTW design consultation to architects, engineers and regulators, is a member of ICC and NFPA, and is an active member of a number of fire committees. He earned a BS in Wood Products Technology from The Ohio State University and an MBA from Xavier University.

Kris Owen

Throughout Kris's 40-plus year career, he has worked in construction material production, sales, marketing and development and, for the past 26 years, in the treated wood products industry. Semi-retired, he continues to enjoy promoting the application of FRTW to architects, building, and fire officials, and he's a member of AWP, ICC, and the Treated Wood Council. His passion is contagious, and his extensive experience is an asset to architects and engineers searching for information about the many uses of FRTW in building construction.

Frank Stewart

Frank holds a business degree from Kansas State University and has spent over 40 years in the forest products industry. He has an extensive background working with building code professionals, builders, designers and distributors on lumber specifications, industry standards and code compliant product applications. Most recently, he was responsible for both the domestic and international marketing and technical support programs for the Western Wood Products Association based in Portland, OR.

Dave Bueche PhD, Director

Dave is the leading authority on fire-retardant-treated wood, an internationally recognized expert on the use of wood in noncombustible construction, and a member of numerous codes and standards technical committees that study and improve the performance of wood products used in construction. Dave earned a BS in Construction Management, an MS in Wood Products Engineering, and a PhD in Wood Utilization and Marketing from Colorado State University. Dave leads Hoover's team of wood product experts responsible for maintaining building and fire code acceptance and expanding applications for FRTW in construction.



Program Outlines

With building codes constantly being revised, staying on top of the latest changes affecting fire-retardant-treated wood (FRTW) can be challenging for architects, building officials, fire officials, contractors, and other wood product industry members.

At Hoover, we understand.

Our knowledgeable experts, with a combined 250+ years of experience, will make sure you have answers to all of your FRTW and wood product-related questions.

Our seminars, ranging from one-to-four hours in length, are designed to get you the latest FRTW information as efficiently and quickly as possible.

Outlines of our seminars can be found on the following pages. In addition, our seminars are also approved in states requiring additional certifications (see below).

If you're looking to better understand FRTW, how it is made, and where it can be used or how it can replace noncombustible materials, contact us to schedule a free seminar today!

Technical literature will be distributed to all attendees.

Course Program Numbers

Our programs are certified by the American Institute of Architects (AIA) and delivered by International Code Council (ICC) Preferred Education Providers. Course offerings are listed for both AIA and ICC:

AIA CES

1-Hr: FRTW1
2-Hr: FRTW2
3-Hr: FRTW3
4-Hr: FRTW4

ICC CEUs

1-Hr: 2029
2-Hr: 2030
3-Hr: 2031
4-Hr: 2034

In addition, our programs are also certified for Continuing Education Credit with the following states:

FLORIDA

1-Hr: 10937
2-Hr: 10939

MICHIGAN

1-Hr: 18464
2-Hr: 18465
3-Hr: 18466
4-Hr: 18467

MINNESOTA

1-Hr: 20160374
2-Hr: 20160375
3-Hr: 20160376
4-Hr: 20160377

NEW YORK

1-Hr: 49-5144
2-Hr: 49-5819
3-Hr: 49-6150
4-Hr: 49-5820

OHIO

1-Hr: BBS2018-147
2-Hr: BBS2018-148
3-Hr: BBS2018-149
4-Hr: BBS2018-150

Contact us today to schedule your free seminar!

Phone: 800-TEC-WOOD
800-832-9663

E-mail: tecwood@frtw.com

1-Hour Fire-Retardant-Treated Wood Program

- I. Introduction (7 minutes)
 - A. History of fire-retardant treatments
 - B. Types of treatments, interior and exterior
 - C. Demonstration of fire-retardant-treated wood (FRTW capabilities and characteristics)
 - D. Product uses
- II. Building Code Requirements (24 minutes)
 - A. Choice of building materials
 - B. Uses of FRTW
 - C. Testing, IBC Section 2303.2
 - D. Code requirements, IBC Section 1703
- III. Research and Recommendations (8 minutes)
 - A. Effects of treatment
 - B. Effects of high temperature; ASTM 5664, lumber; ASTM 5516, plywood
- IV. Code Compliance (8 minutes)
 - A. Testing for end use
 - B. Code report, Underwriters Lab ER7002-01
- V. Insurance Recognitions (5 minutes)
 - A. Building code heights and areas
 - B. Rated same as noncombustible construction
- VI. Recommendations (5 minutes)
 - A. Storage and handling
 - B. Ventilation
 - C. Cutting and ripping
 - D. Uses
- VII. Questions and answers (3 minutes)

2-Hour Fire-Retardant-Treated Wood Program

- I. Introduction (15 minutes)
 - A. History of fire-retardant treatments
 - B. Types of treatments
 - 1. Interior high temperature
 - 2. Exterior
 - C. Demonstration of fire-retardant-treated wood (FRTW) capabilities and characteristics
 - D. Product uses
- II. Building Code Requirements (57 minutes)
 - A. Choice of building materials
 - B. Uses of FRTW
 - C. Testing, IBC Section 2303.2
 - 1. ASTM Standards
 - 2. Other building code testing
 - D. Code requirements
 - 1. Labeling, IBC Section 1703
 - a. Obtaining a UL label
 - b. Maintaining a UL label
 - 2. Third party inspection, IBC Section 1703
- III. Research and Recommendations (7 minutes)
 - A. Effects of treatment
 - B. Effects of high temperature; ASTM 5664, lumber; ASTM 5516, plywood
- IV. Code Compliance (5 minutes)
 - A. Testing for end use
 - B. Code Report, Underwriters Lab ER7002-01
 - C. Differences in FRTW and coatings
- V. Insurance Recognition (13 minutes)
 - A. Building code heights and areas
 - B. Rated same as noncombustible construction
 - C. Comparisons and advantages
- VI. Recommendations (10 minutes)
 - A. Storage and handling
 - B. Ventilation
 - C. Cutting and ripping
 - D. Uses
- VII. Questions and Answers (3 minutes)

3-Hour Fire-Retardant-Treated Wood Program

- I. Use of wood in the International Building Code
 - A. Introduction (4 minutes)
 1. Uses of wood in construction
 2. Development of I-codes
 3. Function of codes
 - B. Occupancies (6 minutes)
 1. Height and area limitations
 2. Determining occupancy: A, B, M, R
 3. Types of construction, I, II, III, IV, V
 - C. Types of construction (12 minutes)
 1. Definitions
 2. Fire rating of structural elements
 3. Fire rating of exterior walls
 - D. Allowable heights and areas (25 minutes)
 1. Tabular areas
 2. Area increases for open space
 3. Area increase for sprinklers
 4. Height increase for sprinklers
 5. Examples of increases
 6. Unlimited area buildings
 - E. Wood in noncombustible construction (7 minutes)
 1. Section 603
 2. Where, When, How?
 - F. Fire resistance (25 minutes)
 1. Tests
 2. Tabular
 3. Prescriptive
 4. Calculated
 5. Engineering analysis
 6. Alternative methods
 - G. Flame spread ratings (3 minutes)
 - H. Questions and answers (3 minutes)
- II. Fire-Retardant-Treated Wood
 - A. Introduction (6 minutes)
 1. History of fire-retardant treatments
 2. Types of treatments
 - a. Interior high temperature
 - b. Exterior
 - B. Demonstration of fire-retardant-treated wood (FRTW) capabilities and characteristics
 - C. Product uses
 - B. Building Code Requirements (45 minutes)
 1. Choice of building materials
 2. Uses of FRTW
 3. Testing, IBC Section 2303.2
 - a. ASTM Standards
 - b. Other building code testing
 4. Code Requirements
 - a. Labeling, IBC Section 1703
 - i. Obtaining a UL label
 - ii. Maintaining a UL label
 - b. Third-party inspections
 - C. Research and Recommendations (6 minutes)
 1. Effects of treatment
 2. Effects of high temperature; ASTM 5664, lumber; ASTM 5516, plywood
 - D. Code Compliance (4 minutes)
 1. Testing for end use
 2. Code Report, Underwriters Lab ER7002-01
 3. Differences in FRTW and Coatings
 - E. Insurance Recognition (12 minutes)
 1. Building code heights and areas
 2. Rated same as noncombustible construction
 3. Comparisons and advantages
 - F. Recommendations (9 minutes)
 1. Storage and handling
 2. Ventilation
 3. Cutting and ripping
 4. Uses
 - G. Questions and Answers (3 minutes)

4-Hour Wood Program

A Look at Wood Use in All Types of Construction

- I. Introduction (5 minutes)
 - A. Class covers uses, code requirements and where applicable the testing and labeling of wood in the International Building Code
 - B. Discussion covers allowable heights and areas, lumber grading, fire resistance of untreated wood.
 - C. Discussion covers the code requirements and code recognition of fire-retardant treated wood
- II. Untreated wood (100 minutes)
 - A. Introduction (5 minutes)
 - 1. Occupancies, A, B, M, R
 - 2. Types of construction, I, II, III, IV, V
 - 3. Height and area increases
 - B. Building code requirements (45 minutes)
 - 1. Discussion of occupancy classifications
 - 2. Discussion of types of construction
 - 3. Discussion of fire protection
 - 4. Allowable heights and areas
 - 5. Area increases
 - 6. Height increases
 - C. Fire resistance (45 minutes)
 - 1. By tests
 - 2. Tabular
 - 3. Calculated
 - 4. Heavy timber
 - D. Summary and questions (5 minutes)
- III. Fire-retardant treated wood (100 minutes)
 - A. Introduction (15 minutes)
 - 1. History of fire-retardant treatments
 - 2. Types of treatments
 - a. Interior
 - b. Exterior
 - 3. Demonstration
 - a. Treated versus untreated
 - b. Unprotected steel versus fire-retardant treated wood (FRTW)
 - B. Building code requirements (50 minutes)
 - 1. Choice of building materials
 - 2. Used of FRTW
 - 3. Testing
 - 4. Code requirements
 - a. Third-party inspections
 - b. Labeling
 - c. Drying after treatment
 - C. Research and recommendations (5 minutes)
 - 1. Effects of treatment
 - 2. Effects of high temperature; ASTM 5664, lumber; ASTM 5516, plywood
 - D. Code compliance (10 minutes)
 - 1. Testing for end use
 - 2. Code report, Underwriters Lab ER7002-01
 - E. Insurance recognition (10 minutes)
 - 1. Building code heights and areas
 - 2. Rated same as noncombustible construction
 - F. Recommendations (10 minutes)
 - 1. Storage and handling
 - 2. Ventilation
 - 3. Cutting and ripping
 - 4. Uses
- IV. Summary (5 minutes)
- V. Questions and answers (5 minutes)



CSI FORMAT SPECIFICATION

SECTION 06 05 73.13 FIRE-RETARDANT WOOD TREATMENT (FIRE-RETARDANT-TREATED WOOD)

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Fire-retardant-treated wood products specified in other Division 6 Sections, including:
 - 1. Interior fire-retardant-treated wood.
 - 2. Exterior fire-retardant-treated wood.
- B. Related Sections:
 - 1. Section 06 10 00 Rough Carpentry
 - 2. Section 06 20 00 Finish Carpentry
 - 3. Section 06 40 00 Architectural Woodwork

1.02 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM D2898 Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing.
 - 2. ASTM D3201 Standard Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Based Products.
- B. Military Specification:
 - 1. MIL-L-19140E Lumber and Plywood, Fire-Retardant Treated.
- C. Underwriters Laboratories, Inc. (UL):
 - 1. UL 723 Standard for Test for Surface Burning Characteristics of Building Materials.

1.03 PERFORMANCE REQUIREMENTS:

- A. Provide fire-retardant-treated wood that complies with the following when tested in accordance with UL 723:
 - 1. A listed flame spread index of 25 or less.
 - 2. No evidence of significant progressive combustion when the test is continued for an additional 20-minute period.
 - 3. A flame front that does not progress more than 10½ feet beyond the centerline of the burners at any time during the 30-minute test period.
- B. Provide fire-retardant-treated wood that is kiln dried after treatment (KDAT) to maximum moisture content of 19% for lumber and 15% for plywood.
- C. Provide interior fire-retardant-treated wood that has a moisture content less than 28% when tested in accordance with ASTM D3201 at 92% relative humidity.
- D. Provide exterior fire-retardant-treated wood that has no increase in the listed classification when subjected to the Standard Rain Test, ASTM D2898.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Section 01 33 00 - Submittal Procedures.
- B. Product Data: Submit the following for specified products.
 - 1. Manufacturer's storage, handling and installation recommendations.
 - 2. Manufacturer's finishing recommendations.
 - 3. Safety Data Sheets (SDS).
- C. Quality Assurance Submittals: Submit the following:
 - 1. DoD Qualified Product List (QPL) with Preamble.
 - 2. UL Classifications with Guide.
- D. Closeout Submittals:
 - 1. Warranty: Submit warranty documents specified.

1.05 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Wood treatment qualified under MIL-L-19140E and listed on the Qualified Product List (QPL).
 - 2. Wood treatment plant with ongoing UL Classification and Follow-Up Service for fire-retardant-treated wood.

1.06 WARRANTY

- A. Refer to Conditions of the Contract and Section 01 78 36 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.

PART 2 PRODUCTS

2.01 FIRE-RETARDANT-TREATED WOOD

- A. Manufacturer: Any manufacturer listed in the UL Online Certifications Directory for Treated Lumber (BPVV) and Treated Plywood (BUGV) at the time set for opening of bids.
- B. Fire-Retardant Treatment: Any treatment listed in the Department of Defense (DoD) Qualified Product List (QPL) for MIL-L-19140E at the time set for opening of bids.
- C. Labeling: Fire-retardant-treated wood shall be labeled as required by the code and shall bear the UL Classification Mark.

2.02 PRODUCT SUBSTITUTIONS

- A. Requests for substitutions will be considered in accordance with provisions of Section 01 25 00 - Substitution Procedures.

2.03 RELATED MATERIALS

- A. Wood Materials: Refer to Division 6 Sections for related wood materials required to be treated as specified herein.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Comply with manufacturer's product data, including product literature, technical bulletins, and installation instructions.

3.02 EXAMINATION

- A. Discard pieces with defects which might impair quality or work.
- B. Examine for wet conditions before installation. Do not install fire-retardant-treated wood that is wet or has been wet until it is dried to the original specified moisture content.

3.03 INSTALLATION

- A. Install fire-retardant-treated wood in accordance with code requirements and related Division 6 Sections.
- B. Install interior fire-retardant-treated wood where exterior type is not indicated.
- C. Install exterior fire-retardant-treated wood for weather-exposed surfaces and where indicated.
- D. Field cutting of fire-retardant-treated wood to length is allowed without end-treating. Do not rip or mill lumber after fire-retardant treatment; end cuts and drilling of holes are permitted. Fire-retardant-treated plywood may be cut in any direction.
- E. Install fire-retardant-treated wood using manufacturer's recommended fasteners.

3.04 CONSTRUCTION

- A. Allow fire-retardant-treated wood that has become wet during construction to dry to original specified moisture content before being enclosed.

3.05 FINISHING

- A. Prepare fire-retardant-treated wood surfaces to be finished in accordance with manufacturer's finishing recommendations.
- B. Apply paint or stain in accordance with Section 09 90 00 - Painting and Coating.