



HOOVER

TREATED WOOD PRODUCTS, INC.



PYRO-GUARD®

EXTERIOR FIRE-X®

www.frtw.com

1-800-TEC-WOOD

Seminars: www.learnaboutfrtw.com



The FSC logo identifies products from well-managed forests

Cert No. SW-COC-2141
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Established in 1955. Hoover Treated Wood Products, Inc. is the largest producer of fire retardant treated wood in the World.

INDUSTRY-RECOGNIZED INNOVATION EXPERT

FULL LINE OF TREATED WOOD PRODUCTS TO COVER ANY CONSTRUCTION NEED

INDUSTRY'S FINEST TECHNICAL SERVICES AND SUPPORT

Immediate Availability
**From Our North American Plants Serving
Our Nationwide Stocking Distributor Network**

Plant Locations

Thomson, Georgia
Pine Bluff, Arkansas
Milford, Virginia
Detroit, Michigan
Winston, Oregon
Bakersfield, California



154 Wire Road ~ Thomson, GA 30824

HOOVER TREATED WOOD

The brand you trust, the solutions you need...

Treated Wood Application Selector Chart

APPLICATION	PYRO-GUARD®	EXTERIOR FIRE-X®
Damp Interior		
Exterior Above Ground		
Exterior Balconies		
Exterior Decks		
Exterior Siding		
Exterior Stairways		
Fire Blocking		
Flat Roof Blocking		
Mezzanine Floors		
Picnic Tables		
Plywood Roof Sheathing		
Roof Decking, Lumber		

APPLICATION	PYRO-GUARD®	EXTERIOR FIRE-X®
Rooftop Decks		
Scaffold Plank - Exterior		
Scaffold Plank - Interior		
Soffits, Fascia		
Store Fixtures		
Swimming Pool Enclosures		
Trellises		
Trusses, Interior		
Trusses, Weather Exposed		
Underlayment/Subfloors		
Wall Sheathing		
UL V314		

All Hoover products are **pressure-impregnated** and **kiln-dried**, for a far superior finished product.

Hoover products are treated and dried in carefully monitored, commercial pressure-treatment plants, and each piece bears a third-party certification mark. Hoover products are approved for both structural and non-structural applications.

Look for the  UL certification mark on all fire retardant treated wood products.

INSIST ON PROPER TESTING, THIRD-PARTY CERTIFICATION AND STRICT CODE EVALUATION.

INSIST ON HOOVER.

INSIST ON 

PYRO-GUARD®

LUMBER & PLYWOOD FOR INTERIOR APPLICATIONS

PYRO-GUARD®

PYRO-GUARD® lumber and plywood are the industry's leading pressure-impregnated, fire-retardant treated wood products (FRTW), and are designed for a wide variety of enclosed structural applications and many other interior applications. *PYRO-GUARD*® is proven safe, strong, effective and economical in thousands of projects and numerous industry tests over the last several decades.

Specify *PYRO-GUARD*® with confidence for all of the following interior applications:

Plywood Roof Sheathing, Roof Trusses, Rafters, Floor Joists, Interior Beams, Studs, Load Bearing Walls, Partition Walls, Wall Sheathing, Blocking, Plywood Subfloors, Floor Sheathing, Steps, Stairways, Platforms, Stages, Telecomm Panels, Electrical Panels, Mezzanines, Shelving, And More...

PYRO-GUARD®

Was First With:

- Code Compliance Report with Evaluation of Elevated Temperature Strength Testing for Roof Applications.
- Third-Party Kiln Monitoring, in addition  UL follow-up service
- New York State Smoke Toxicity Test Results
- Fire Retardant Treatment (FRT) Labor and Material Replacement Cost Warranty
- FRT Warranty Coverage of Lumber and Plywood
- FRT Plywood Roof Sheathing Span Ratings
- FRT Lumber Strength Adjustments for Roof Applications

PYRO-GUARD® ADVANTAGES

PROVEN SAFE, STRONG,
EFFECTIVE & ECONOMICAL

Requires no special tools, skills or work crews.

PYRO-GUARD® trusses and roof decks often qualify a masonry-wall building as “non-combustible” for insurance purposes, resulting in lower lifetime insurance premiums.

Can often be substituted for non-combustible materials without affecting building classification.

Often allows for an increase in square footage (and lower insurance rates) over untreated load bearing walls.

Using *PYRO-GUARD*® FRTW roof decking is usually accepted in lieu of unsightly parapet walls in multi-family dwellings.

Even when sprinklers are mandatory, *PYRO-GUARD*® can further reduce fire insurance rates.

Commonly accepted by building codes for partition walls, storefronts, fixtures and roof construction in shopping centers.

Each piece bears UL classification mark, and is kiln dried and third party verified for quality by Timber Products Inspection Inc.



Qualifies as low hygroscopic and non-corrosive, and can be painted or stained.

PLEASE SEE PAGE THREE FOR OTHER BENEFITS AND ADVANTAGES OF SPECIFYING *PYRO-GUARD*® AND OTHER HOOVER FRTW PRODUCTS.



Look for the UL certification mark on all Fire Retardant Treated Wood Products.

PROVEN STRENGTH

PYRO-GUARD® was the first interior fire-retardant treatment with plywood roof span ratings and lumber strength adjustments based on high temperature testing. Plywood was strength-tested after exposure to 170 degrees F, and lumber was strength-tested after exposure to 150 degrees F according to ASTM D 5516 and ASTM D 5664. As a result, *PYRO-GUARD*® can be used with confidence in all recommended structural applications, including plywood roof sheathing and trusses.

PROVEN FIRE PERFORMANCE

PYRO-GUARD® is pressure impregnated deep into the wood to provide permanent protection. When *PYRO-GUARD*® treated wood is exposed to fire, non-combustible gas and water vapor are produced, and a layer of protective char forms, which hinders combustion and insulates the wood against further damage. *PYRO-GUARD*® interior fire-retardant treated wood has a low rate of fuel contribution and heat release, and it maintains structural integrity longer than other building materials such as unprotected steel. Consequently, fire damages and repair costs are minimized, resulting in reduced insurance rates.

PROVEN SMOKE TOXICITY TESTS

PYRO-GUARD® has successfully passed a stringent combustion toxicity test. Smoke produced by *PYRO-GUARD*® treated wood was no more toxic than smoke produced by untreated wood.

PROVEN CODE COMPLIANCE

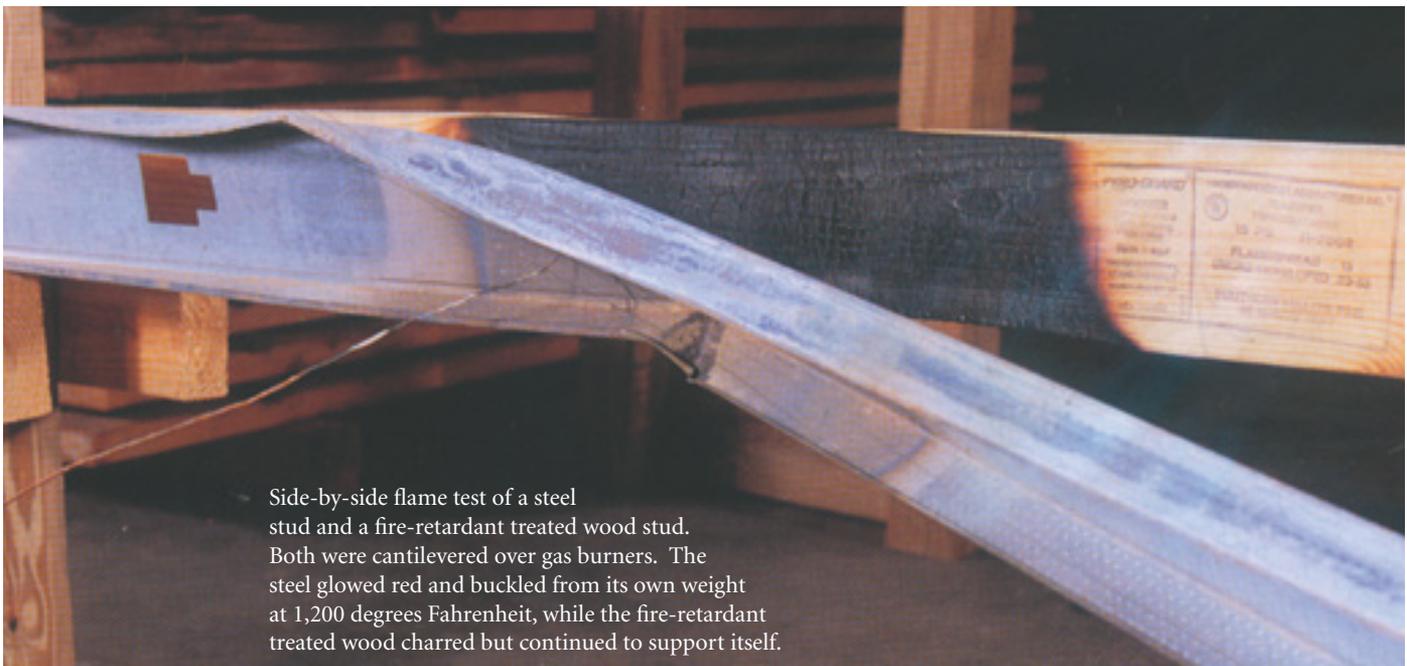
PYRO-GUARD® was the first FRTW to be issued a Code Compliance Report based on high temperature testing for roof sheathing and framing uses.

ICC Evaluation Service, ESR-1791 has been issued for *PYRO-GUARD*® by the National Evaluation Service, confirming compliance with International, National, Uniform and Standard building codes.

ESR-1791 contains conditions of use and strength adjustments for roof sheathing, roof framing and other applications.

PYRO-GUARD® fire retardant treated lumber and plywood has a 25 or less flame spread when tested in accordance with ASTM E 84 "Standard Test method for Surface Burning Characteristics", and has no increase in fire hazard classification when this test is extended from the standard duration of 10 minutes to 30 minutes. Each piece of treated wood bears the  Underwriters Laboratories Classification mark identifying it as being produced under its Classification and Follow Up Services.

PYRO-GUARD®



Side-by-side flame test of a steel stud and a fire-retardant treated wood stud. Both were cantilevered over gas burners. The steel glowed red and buckled from its own weight at 1,200 degrees Fahrenheit, while the fire-retardant treated wood charred but continued to support itself.

PYRO-GUARD®

LUMBER & PLYWOOD FOR INTERIOR APPLICATIONS

PYRO-GUARD®

THIRD-PARTY MONITORING

All building codes require FRTW to be dried after treatment. Kiln drying restores stiffness and strength, increases dimensional stability and reduces shipping weight. Kiln drying of *PYRO-GUARD*® is monitored by Timber Products Inspection Inc. to assure conformance to Production Standard 2200. This unique standard was developed by Hoover to assure that treating and re-drying methods are consistent with those used to produce materials tested for long-term strength properties. This monitoring program is in addition to  Underwriters Laboratories Follow-Up Service which assures fire performance.

HYGROSCOPICITY AND CORROSIVENESS

The hygroscopicity (moisture absorbency per ASTM D 3201) and corrosiveness of *PYRO-GUARD*® FRTW is far lower than the maximum allowed by industry and governmental standards. Even though testing indicates that carbon steel fasteners can be compatible with *PYRO-GUARD*®, galvanized fasteners are recommended.

PYRO-GUARD® is safe to use with galvanized truss plates, duct work, plumbing, conduit and copper. It contains no halides, sulfates or ammonium phosphates.



These *PYRO-GUARD*® blocks and metal connectors are free of corrosion after exposure to high humidity and high temperatures.

APPEARANCE

The natural wood color and texture remains intact with *PYRO-GUARD*®. Raised grain may occur, especially on sanded plywood, and this is easily removed by sanding. Marks may be left by drying sticks on both sides of lumber and plywood. If these are undesirable, *PYRO-GUARD*® can be ordered with stick marks on one side only.

DECAY AND TERMITE RESISTANCE

Treatment with *PYRO-GUARD*® provides excellent resistance to decay and termites. Keep in mind, however, that interior fire-retardant treated wood is not recommended for use in damp or wet conditions, or in contact with concrete slabs or soil.

FINISHING

PYRO-GUARD® interior fire-retardant treated wood can be finished or painted. As with untreated wood, the wood must be dry and clean before finishing. *PYRO-GUARD*® fire retardant treated wood, like any other type of wood, should only be finished after the structure is enclosed and mechanical equipment is placed in service. This allows the moisture content in the wood to stabilize at an acceptable level. Coating systems should first be tested on sample material and exposed to actual use conditions to determine if the desired effect can be obtained.

VENTILATION, MOISTURE AND HEAT

Adequate air flow must be provided in wood roof systems to prevent moisture buildup in the wood. It is the sole responsibility of the building owner or his agent (builder, architect, engineer, etc.) to ensure that ventilation is provided to at least the level required by the appropriate building code.

JOB SITE STORAGE

As with untreated wood, it is important to keep *PYRO-GUARD*® material dry by covering the top of the bundle, storing the material under shelter, elevating the bundle from ground contact, and allowing for air circulation around the wood. Roof sheathing should be covered as soon as practical after installation. If wetted during construction, allow to dry before enclosure or covering with roofing material.



Look for the UL certification mark on all Fire Retardant Treated Wood Products.

**Table 1 - Maximum Loads & Spans for
PYRO-GUARD® Treated Lumber**

PYRO-GUARD®

Plywood Thickness Inches	Untreated Roof/Subfloor Span Rating	<i>PYRO-GUARD</i> ® Roof Sheathing Maximum Live Load, psf:				<i>PYRO-GUARD</i> ® Subfloor Span Inches
		Span - Inches	Climate Zone			
			1A	1B	2	
15/32, 1/2	32/16	24	19	30	43	16
19/32, 5/8	40/20	24	42	64	87	20
		32	20	32	45	20
23/32, 3/4	48/24	32	34	51	71	24
		48	10	18	27	24
7/8	--	48	12	20	30	--
1-1/8	--	48	21	33	47	48

Conditions and Limitations

- a) All roof sheathing loads based on two-span condition.
- b) Fastener size and spacing shall be as required in the applicable building code for untreated plywood of the same thickness: except that roof sheathing shall be fastened with (1) minimum 8d common or 8d deformed shank nails spaced a maximum 6" o.c. at edges and a maximum of 12" o.c. at intermediate supports for panels on 24 and 32 inch spans and spaced a maximum of 6" o.c. on all supports for panels on 48" span, or (2) other fasteners with comparable withdrawal and lateral load capacities at the same maximum spacings. For 1-1/8" roof sheathing panels, use minimum 10d common or deformed shank nails.
- c) Roof spans and loads apply to roof systems having the minimum ventilation areas required by the applicable building code. Locate 50% of required vent area on upper portion of sloped roofs to provide natural air flow.
- d) For low-sloped or flat roofs with membrane or built-up roofing having a perm rating less than 0.2: use rigid insulation having a minimum R-value of 4.0 between sheathing and roofing, or use next thicker panel than tabulated for the span and load (e.g. 19/32 for 24"; 23/32 for 32"); and use a continuous ceiling air barrier and vapor retarder with a perm rating less than 0.2 on the bottom of the roof framing above the ceiling finish.
- e) Panel edge clips required for roof sheathing: one midway between supports for 24" and 32" spans, two at 1/3 points between supports for 48" spans. Clips shall be specifically extruded for the plywood thickness used.
- f) Tabulated loads for Zone 1A are based on a duration of load adjustment for 7-day (construction) loads of 1.25. Tabulated loads for Zone 1B and Zone 2 are based on a duration of load adjustment for snow of 1.15. All values within the table are based on a dead load (DL) of 8 psf. If the DL is less than or greater than 8 psf, the tabulated live load shall be increased or decreased by the difference. Applicable material weights, psf: asphalt shingles - 2.0, 1/2" plywood - 1.5, 5/8" plywood - 1.8, 3/4" plywood - 2.2.
- g) Zone definition: See Footnote (a), Table 2
- h) *PYRO-GUARD* treated plywood shall not be used as roof sheathing if a radiant shield is used beneath the roof sheathing.
- i) 19/32" and 5/8" limited to performance rated 4-ply or 5-ply. 23/32 and 3/4" limited to performance rated 5-ply or 7-ply.
- j) Subfloor applications limited to 100 psf maximum live load, except 1-1/8 thickness on 48" span limited to 65 psf total load.
- k) Deflection of roof sheathing at tabulated maximum live load is less than 1/240 of the span, and under maximum live load plus dead load is less than 1/180 of the span.
- l) Staples used to attach asphalt shingles shall be minimum 15/16" crown and minimum 1" leg, or otherwise comply with the applicable code, with the quantity of fasteners adjusted in accordance with Table 2 of this report.

LIMITATIONS

PYRO-GUARD® is recommended for enclosed interior applications not exposed to weather, dampness, high humidity, or wetting. (Codes require exterior-type FRTW such as *EXTERIOR FIRE-X*®, for such applications.)

PYRO-GUARD®

LUMBER & PLYWOOD FOR INTERIOR APPLICATIONS

Table 2 - Design Value Adjustments for PYRO-GUARD® Treated Lumber

PYRO-GUARD®

PROPERTY	Service Temperature to 100°F/38°C			PYRO-GUARD® Roof Framing, Climate Zone					
	SP	DF	Other	1A		1B		2	
				SP	DF	SP	DF	SP	DF
Extreme fiber in bending	.91	.97	.88	.80	.90	.85	.93	.89	.96
Tension parallel to grain	.88	.95	.83	.80	.80	.84	.87	.88	.93
Compression parallel to grain	.94	1.00	.94	.94	.94	.94	.98	.94	1.00
Horizontal shear	.95	.96	.93	.92	.95	.93	.95	.94	.96
Modulus of elasticity	.95	.96	.94	.95	.96	.95	.96	.95	.96
Compression perp. to grain	.95	.95	.95	.95	.95	.95	.95	.95	.95
Fasteners/connectors	.90	.90	.90	.90	.90	.90	.90	.90	.90

Conditions and Limitations

- a) Zone definition: 1-Minimum design roof live load or maximum ground snow load up to 20 psf: A-Southwest Arizona, Southeast Nevada (Las Vegas-Yuma-Phoenix-Tucson triangle) B-All other qualifying areas of the Continental United States. 2-Minimum ground snow load over 20 psf
- b) Duration of load adjustments for snow loads; 7-day (construction) loads, and wind loads given in the National Design Specification for Wood Construction apply.
- c) Where lumber decking serves as both exposed ceiling and roof sheathing, use extreme fiber in bending adjustments of .84, .83, and .89 for southern pine zones 1A, 1B, and 2, respectively; .92, .92, and .96 for Douglas fir zones 1A, 1B, and 2 respectively; except where insulation having a minimum R- value of 4.0 is installed above the decking, extreme fiber in bending adjustments of .91 for southern pine and .97 for Douglas fir are permitted in all zones.
- d) Modulus of elasticity values apply to all PYRO-GUARD® treated lumber decking.
- e) Roof framing adjustment factors apply to roof systems with minimum ventilation areas per applicable code. Locate 50 percent of required vent area on upper portion of sloped roofs to provide natural air flow.
- f) Species: SP-Southern Pine; DF-Douglas Fir; Other softwoods - limited to those species listed in ICC Evaluation Service, ESR-1791.

WARRANTY

Hoover Treated Wood Products, Inc. warrants PYRO-GUARD® fire-retardant treated wood against defects in manufacture where the product is properly installed up to a maximum of 20 years. This warranty entitles the holder to repair or replacement of defective material, including the reasonable cost of labor and materials.

Hoover Treated Wood Products warrants that its PYRO-GUARD® interior fire-retardant treated wood is manufactured under Underwriters Laboratories Inc. independent third-party Follow Up Inspection Service and that it meets or exceeds the following code requirements for interior fire retardant treated wood:

- Military Specification MIL-L-19140
- Standard Building Code
- New York City MEA Division
- National Building Code
- International Building Code
- Uniform Building Code
- International Residential Code
- Insurance Services Office

Further, PYRO-GUARD® treated wood products will meet or exceed the relevant ASTM Standards (E 84, D 3201) for interior fire retardant lumber and plywood.

PYRO-GUARD® treated wood is warranted for interior applications involving dry conditions of use, where it is protected during construction and applied and used in accordance with Hoover Treated Wood Products' specifications. Use of PYRO-GUARD® treated wood where it is exposed to weather, dampness or wetting; or where it is in direct contact with concrete or masonry that is in contact with the ground or directly exposed to the weather; or as roof sheathing without proper ventilation for moisture control; are conditions constituting improper design, installation and/or maintenance and invalidates the terms of this warranty.

No other warranty, express or implied, including warranties of merchantability or fitness, shall apply.

EXTERIOR FIRE-X®

LUMBER & PLYWOOD FOR EXTERIOR & HIGH-HUMIDITY APPLICATIONS

EXTERIOR FIRE-X® lumber and plywood are pressure-impregnated, fire-retardant treated wood products (FRTW) designed specifically for use anywhere wood is exposed to weather or high humidity—inside or out. **EXTERIOR FIRE-X®** has been proven safe, strong, effective and economical in industry tests and thousands of projects over several decades.

EXTERIOR FIRE-X®...

- Is pressure-impregnated, then kiln-dried. Neither high humidity nor direct weather exposure affect its safe fire rating.
- Controls flame spread and maintains strength under fire conditions longer than other building materials, such as lightweight steel.
- Can be used just like untreated wood because it is dimensionally stable, non-corrosive and easily accepts finishes. The natural beauty and workability of wood are fully maintained.
- Can be used in combination with other materials for applications requiring resistive and non-combustible construction and to reduce insurance rates.
- Has been strength-tested after prolonged exposure to elevated temperatures and humidity to substantiate its long-term strength for roof applications. Please call Hoover's Technical Service Department at 1-800-TEC-WOOD for strength ratings.
- Contains no halogens, sulfates or ammonium phosphate and is accepted for construction use at U.S. nuclear power plants. Also available in **EXTERIOR FIRE-X® Blue** for identification purposes.

EXTERIOR FIRE-X® ADVANTAGES

PROVEN SAFE, STRONG,
EFFECTIVE & ECONOMICAL

- Permits use of wood under restrictive codes
- Thoroughly strength tested
- Can be used outdoors or indoors
- Reduces insurance rates
- Non-corrosive and Decay resistant
- Each piece identified with  UL classification mark
- Kiln drying monitored by Timber Products Inspection Inc.
- No halogens or sulfates
- Optional blue color coded
- Can be painted or stained
- Approved for use in nuclear power plants

PLEASE SEE PAGE THREE FOR OTHER BENEFITS AND
ADVANTAGES OF SPECIFYING **EXTERIOR FIRE-X®** AND OTHER
HOOVER FRTW PRODUCTS.

Why Architects, Builders and Owners Prefer EXTERIOR FIRE-X®

EXTERIOR FIRE-X® lumber and plywood offer the workability and versatility of wood as well as the fire-safety and insurance advantages of non-combustible materials.

Balconies and exterior walls constructed of **EXTERIOR FIRE-X®** may be considered non-combustible by some building codes.

EXTERIOR FIRE-X® siding is often accepted as an alternate for non-combustible siding, and exterior stairs constructed of **EXTERIOR FIRE-X®** are generally accepted in lieu of non-combustibles.

EXTERIOR FIRE-X® treated roof systems including roof supports, trusses, and decking may often be substituted for non-combustible construction in open warehouses, storage sheds and other structures with no penalty in the insurance rates or the building code classification of the structure.

EXTERIOR FIRE-X® lumber and scaffold plank for temporary structures in construction projects may help reduce the cost of builders risk insurance.

EXTERIOR FIRE-X®

EXTERIOR FIRE-X®

LUMBER & PLYWOOD FOR EXTERIOR & HIGH-HUMIDITY APPLICATIONS

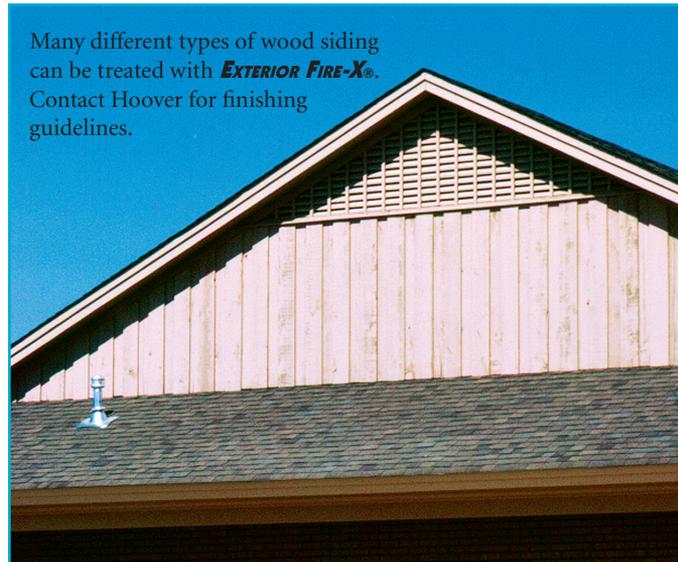
CODE COMPLIANCE

EXTERIOR FIRE-X® fire retardant treated lumber and plywood has a 25 or less flame spread when tested in accordance with ASTM E 84 "Standard Test method for Surface Burning Characteristics," and has no increase in fire hazard classification when this test is extended from the standard duration of 10 minutes to 30 minutes.

In addition to flame spread testing, test material has been subjected to ASTM D 2898 "Standard Method of Accelerated Weathering of Fire Retardant Treated Wood for Fire Testing."

Each piece of **EXTERIOR FIRE-X®** lumber and plywood, as required by the building codes, bears the  Underwriters Laboratories Classification mark identifying it as being produced under its Classification and Follow Up Service.

EXTERIOR FIRE-X®



Many different types of wood siding can be treated with **EXTERIOR FIRE-X®**. Contact Hoover for finishing guidelines.

FINISHING

EXTERIOR FIRE-X® can be painted or stained much like untreated wood. Water repellent preservative finishes are recommended for exterior applications directly exposed to the weather. Coating systems should first be tested on sample material and exposed to actual use conditions to determine if the desired effect can be obtained.

Marks left by drying sticks may appear on both sides of lumber and plywood. If these are undesirable, the material can be special ordered with stick marks on one side only. Please specify this when placing the order. This is recommended for exterior siding.

WOOD SIDING

EXTERIOR FIRE-X® treated wood siding combines the economy and natural beauty of wood siding with the insurance and safety advantages of fire resistant siding. It is used to meet restrictive fire performance criteria and/or to reduce insurance rates. **EXTERIOR FIRE-X®** treated siding is often accepted as an alternate for non-combustible siding.

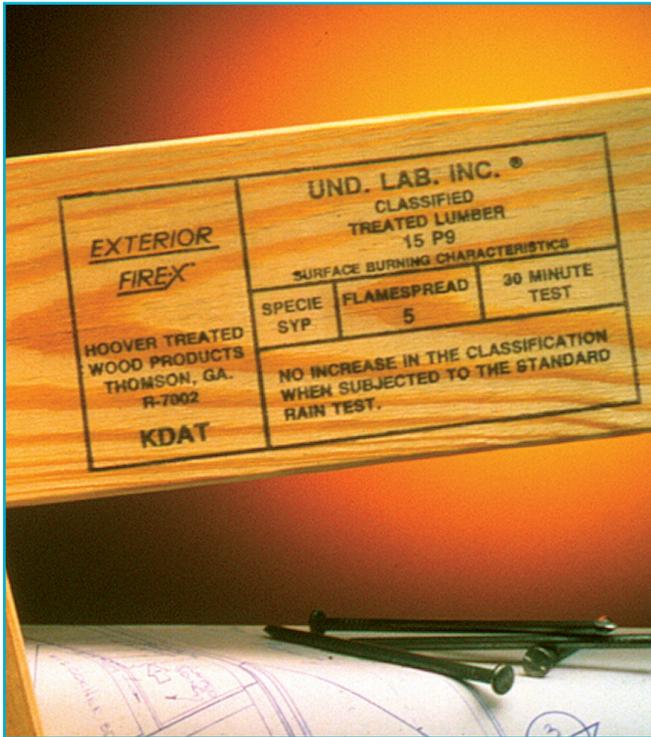
It is available in 303 plywood sidings and various lap siding patterns in cedar, pine, and fir.



EXTERIOR FIRE-X® lumber is used for siding, exterior decks, balconies and stairways.



Look for the UL certification mark on all Fire Retardant Treated Wood Products.



CODE ACCEPTABILITY

Each piece of **EXTERIOR FIRE-X®** lumber and plywood bears the Underwriters Laboratories label as required by building codes. **EXTERIOR FIRE-X®** fire retardant treated lumber and plywood meets or exceeds the requirements of the following agencies:

- Military Specification MIL-L-19140
- International Code Conference (ICC)
- Building Officials and Code Administrators (BOCA)
- Southern Building Code Congress International (SBCCI)
- International Conference of Building Officials (ICBO)
- Insurance Service Office (ISO)
- American Nuclear Insurers
- Nuclear Mutual Limited

EXTERIOR FIRE-X® treated lumber and plywood, when tested in accordance with British Standard BS476: Part 7: 1997, is classified as Class 1.

EXTERIOR FIRE-X® BLUE

EXTERIOR FIRE-X® Blue is color coded with a pressure-applied blue stain for easy identification and has the same fire performance characteristics, ratings and approvals as Exterior Fire-X. It is widely specified by government agencies and frequently used in the nuclear-construction and shipbuilding industries.

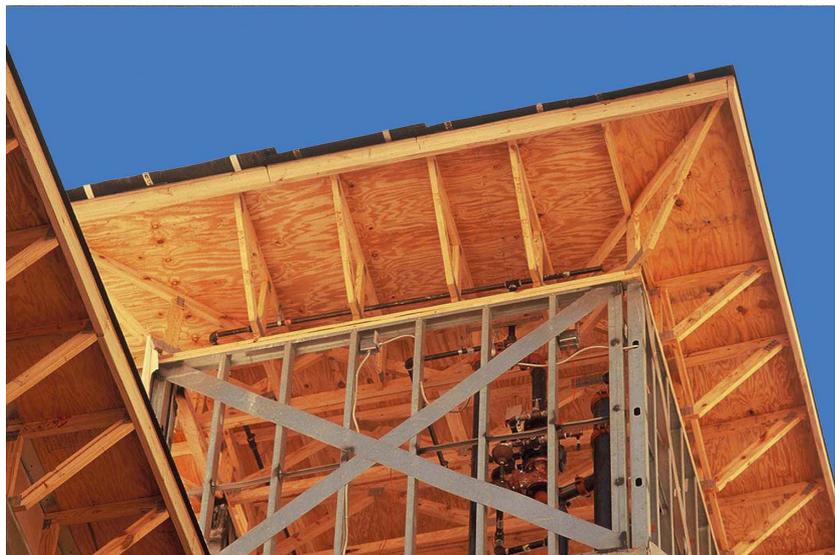
Specify EXTERIOR FIRE-X® lumber and plywood for all of the following applications:

- Exterior decks
- Balconies
- Stairways
- Exterior Load-Bearing walls
- Siding
- Scaffolding
- Molding
- Trim
- Open-air roof systems
- Stables
- Soffit
- Fascia
- Roof sheathing
- And more...

(The specifier should evaluate the acceptability of the product for each application.)

EXTERIOR FIRE-X®

HOOVER TREATED WOOD PRODUCTS, Inc.



PX/B 10/15

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1-800-531-5558
FOR SALES SUPPORT

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FOR TECHNICAL SUPPORT