Produced and Distributed by:

FLAMEPROOF COMPANIES

CHICAGO FLAMEPROOF
(630)859-0009

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(414)365-3465

Dimensional Lumber

2x4, 2x6, 2x8, 2x10, 2x12, 2x14, 2x16

Compliance Criteria

- 2hr Exterior Bearing Wall
- UL Design No.V335
- ICC ESR 2645
- FR-S Ratings
- BPVV.R10647 (FRT Lumber)
- BUGV.R10950 (FRT Plywood)
- CAN/ULC S102 and S102.2
- ASTM E119/ UL 263
- ASTM E84/ UL723
- ASTM E2768 / E84 (30 min.)
- ICC AC66
- IBC 2303.2
- NFPA 703
- NFPA 255
- ASTM D6841
- AWPA P-50, U1, UCFA
- ASTM D-3201
- ASTM D-5564
- ASTM D-5516
- GREENGUARD Gold Certified

Drying Method: KDAT

UL Class A (Class 1)
w/ FR-S Rating

Plywood

Dimensional Lumber:

FSI: < 25 SDI: < 25

Plywood: SYP, DF, Lauan

FSI: <25 SDI: < 25

Tinted RED for QUALITY CONTROL

- Improved material management
- Accelerated construction
- Simplified field inspection

Pressure Impregnated Fire Retardant Treated Wood Products

Sheathing * Studs/Framing * Roof Decks * Subfloors * Trusses * Joists * Blocking/Furring

Innovators in fire retardant building materials

www.Flameproof.com

D-BLAZE
FIRE RETARDANT TREATED WOOD

Exterior Bearing Wall System

UL Design No.V335

2hr Wall Configurations

D-BLAZE

UL LISTED

2 HR (INTERIOR ONLY)

*** Exterior Facings (OPTIONAL)**

D-BLAZE

UL LISTED

2 HR (Int.) + 1hr (Ext.)

• Exterior Facings (REQUIRED)

- Brick veneer

- ¾" Cement plaster (stucco)

UL Product iQ®

BXUV.V335 - Fire-resistance Ratings - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

Fire-resistance Ratings - ANSI/UL 263

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

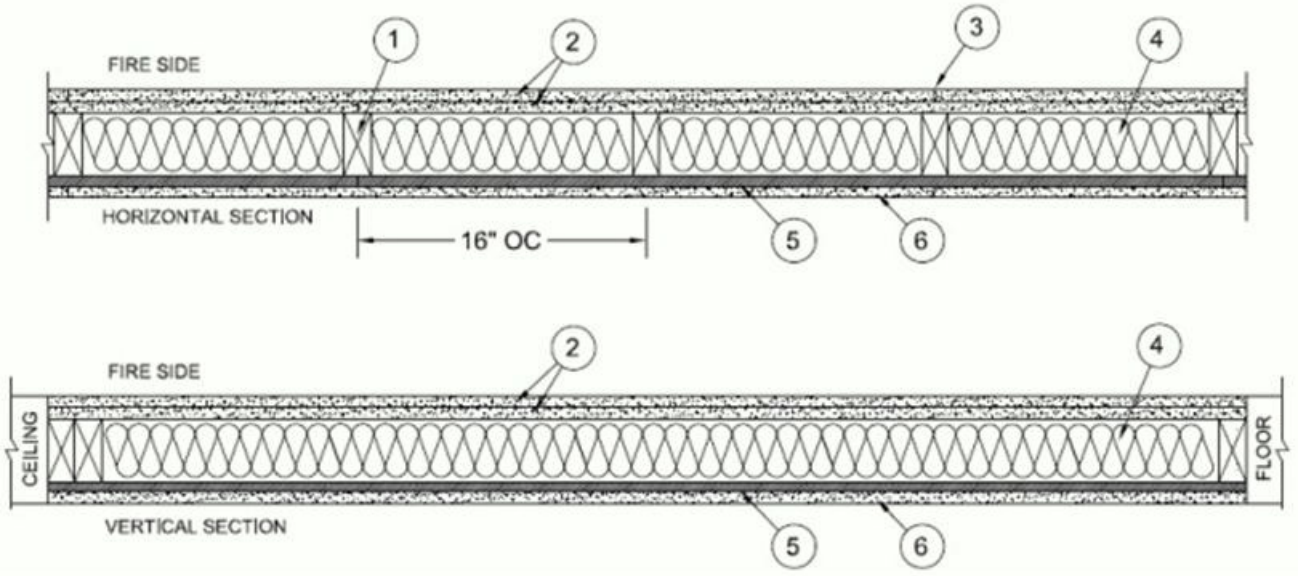
Design No. **V335**

January 18, 2023

Bearing Wall Rating — 1 Hr Rating Exposed to Fire on Exterior Face (See Item 8)

Bearing Wall Rating — 2 Hr Rating Exposed to Fire on Interior Face

Finish Rating — 52 min with Item 2
Finish Rating – 54 min with Item 2A
Loaded Per 2018 NDS Supplement, ASD Method, Wall Braced Mid-Height
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Structural Wood Members* —** Pressure-treated, fire-retardant wood studs - nominal 2 by 4 in., spaced 16 in. OC effectively fire stopped. As an option, nominal 2 x 6 in. pressure treated, fire-retardant wood studs spaced 24 in. OC.
VIANCE L L C — D-BLAZE® treated lumber

2. **Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512, or U305** - Nom 5/8 in. thick, 4 ft. wide, two layers applied vertically. Base layer nailed to wood studs and bearing plates 6 in. OC. with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diam. and 1/4 in. diam. head. The face layer, with joints staggered from base layer, nailed to the studs and bearing plates over the base layer, 8 in. OC with 8d cement coated nails, 2-3/8 in. long, 0.113 in. shank diam. 9/32 in. diam. head. See Gypsum Board * (CKNX) category for a list of Classified Manufacturers.

2A. **Gypsum Board* —** For use with Item 4B — 5/8 in. thick, 4 ft wide, two layers applied vertically. Base layer fastened to wood studs and bearing plates 6 in. OC with #6 1-5/8 in. long screws. The face layer, with joints staggered from the base layer, fastened to the studs and bearing plates over the base layer, 8 in. OC with #6 2 in. long screws.

NATIONAL GYPSUM – Type FSW-C

3. **Joints and Nail heads —** Gypsum board joints covered with tape and joint compound. Nail heads covered with joint compound.

4. **Batts and Blankets* — For use with Item 7** – Faced or unfaced mineral fiber or fiberglass insulation 3-1/2 in. thick, min 1.46 pcf (min R-13 thermal insulation rating), pressure fit in the wall cavity between 2 x 4 in. studs, plates, and cross bracing. 5-1/2 in. thick, min 1.46 pcf (min R-13 thermal insulation rating), pressure fit in the wall cavity between 2 x 6 in. studs, plates, and cross bracing. Insulation may be applied in multiple layers to achieve final thickness.

See **Batts and Blankets*** (BZJZ) category for names of Classified manufacturers.

4A. **Batts and Blankets* — For use with Item 6 —** Faced or unfaced mineral wool insulation, 3-1/2 in. thick, min 3.0 pcf, friction fit in the wall cavity between the studs, plates and cross bracing. 5-1/2 in. thick, min 3.0 pcf, pressure fit in the wall cavity between 2 x 6 in. studs, plates, and cross bracing. Insulation may be applied in multiple layers to achieve final thickness.

See **Batts and Blankets*** (BZJZ) category for names of Classified manufacturers.

4B. **Batts and Blankets* — For use with Item 6 —** Faced or unfaced fiberglass insulation 3-1/2 in. thick, min 0.8 pcf (min R-13 thermal insulation rating), pressure fit in the wall cavity between 2 x 4 in. studs, plates, and cross bracing. 5-1/2 in. thick, min 0.8 pcf (min R-13 thermal insulation rating), pressure fit in the wall cavity between 2 x 6 in. studs, plates, and cross bracing. Insulation may be applied in multiple layers to achieve final thickness.

See **Batts and Blankets*** (BZJZ) category for names of Classified manufacturers.

5. **Structural Wood Members* —** Pressure-treated, fire-retardant plywood installed vertically nailed to the wood framing with 1-7/8 in. long, 6d nails, spaced 6 in. OC. on the perimeter and 12 in. OC. in the field. Vertical and horizontal joints are backed by framing. Panels provided in nominal size of 48 in. wide by 96 in. long by 15/32 in. thick.
VIANCE L L C — D-BLAZE® treated plywood

5A. **Foamed Plastic* —** (Optional) **— For use with Item 5** — Foamed plastic boards, faced or unfaced, may or may not be bonded to fiberboard, plywood or OSB and placed between Structural Wood Members, (Item 5) and Exterior Facings (Item 6, Item 7, or Item 8).
See **Foamed Plastic*** (CCVW) category for names of Classified manufacturers.

6-6F. **Exterior Facings — For use with Item 4A and 4B** — Any exterior facing, as authorized by the Authority having Jurisdiction and installed in accordance with the manufacturer's installation instructions. Exterior facings may include but are not limited to:

6A. **Molded Plastic —** Solid vinyl siding mechanically secured to framing members in accordance with manufacturer's recommended installation details.

6B. **Brick —** Minimum 2.7 in. thick solid brick or 2.3 in. hollow brick, meeting the requirements of local code agencies. Brick attached to the studs with corrugated metal wall ties attached to each stud with 8d cement coated nails, every sixth course of bricks.

6C. **Particle Board Siding —** Oriented strand board, wafer board, or hard board exterior building sidings including patterned panels.

6D. **Plywood —** American Plywood Association rated siding including T1-11 and series 303 textures, rough sawn, MDO, brushed, channel grooved, and lap siding.

6E. **Cement Plaster —**Minimum 3/4 in. thick cement plaster (1:4 ratio of cement to sand for scratch coat and 1:5 ratio for brown coat with self-furring metal lath or adhesive base coat.

6F. **Fiber Cement Siding —** Fiber Cement Lap or Vertical Siding. Minimum 5/16 in. thick, fastened to studs through the Building Units, Item 5, with nails or screws, at the locations specified by the manufacturer.

7. **Exterior Facings —** (Not Shown) **—** For use with Item 4, Required for 2 Hour Rating on the Interior Face — The following exterior facing shall be installed in accordance with the manufacturer's installation instructions:

7A. **Brick —** Minimum thickness of 2.3 in. hollow brick or minimum 2.7 in. solid brick, meeting the requirements of local code agencies. Brick attached to the studs with corrugated metal wall ties attached to each stud with 8d cement coated nails, every sixth course of bricks.

8. **Exterior Facings** — (Not Shown) — Required for 1 Hour Rating on the Exterior Face. The following exterior facing shall be installed in accordance with the manufacturer's installation instructions:

8A. **Brick** — Minimum thickness of 2.7 in. of solid brick or minimum 2.3 in. of hollow brick, meeting the requirements of local code agencies. Brick attached to the studs with corrugated metal wall ties attached to each stud with 8d cement coated nails, every sixth course of bricks.

8B. **Cement Plaster** — Portland cement with self-furring metal lath. Minimum thickness of 3/4 in. with a mix ratio of 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2023-01-18

BPVV.R10647
Lumber, Treated

Page Bottom

Lumber, Treated

See General Information for Lumber, Treated

VIANCE L L C
80001 IBM Dr
CHARLOTTE, NC 28262 USA

R10647

Lumber, impregnated by pressure to reduce combustibility.

D-BLAZE

Specie Type or Grade	Flame Spread	Smoke Developed	Adjunct Statement
White Fir	FR-S	FR-S	C
Western Hemlock	FR-S	FR-S	C
Hem/Fir	FR-S	FR-S	C
Douglas Fir	FR-S	FR-S	C
Alpine Fir	FR-S	FR-S	C
Lodgepole Pine	FR-S	FR-S	C
White Spruce	FR-S	FR-S	C
Red Spruce	FR-S	FR-S	C
Black Spruce	FR-S	FR-S	C
Engleman Spruce	FR-S	FR-S	C
Jack Pine	FR-S	FR-S	C
Balsum Fir	FR-S	FR-S	C
SPF	FR-S	FR-S	C
Red Oak	FR-S	FR-S	C
Basswood	FR-S	FR-S	C
Southern Yellow Pine	FR-S	FR-S	C
Ponderosa Pine	FR-S	FR-S	C
Red Pine	FR-S	FR-S	C

Last Updated on 2014-04-02

Service. Always look for the Mark on the product.

BUGV.R10950 - Treated Plywood

Treated Plywood

See General Information for Treated Plywood

VIANCE L L C
8001 IBM Dr
Charlotte, NC 28262 USA

R10950

Plywood, impregnated by pressure process to reduce combustibility.

D-BLAZE

Specie Type or Grade	Flame Spread	Smoke Developed	Adjunct Statement
Douglas Fir	FR-S	FR-S	C
Lauan	FR-S	FR-S	C
CSP/SPF	15	0	—
Southern Yellow Pine and Red Pine	FR-S	FR-S	C

Last Updated on 2014-04-02

D-Blaze® FRTW in contact with concrete or masonry foundations

The chemical components used to manufacture D-Blaze FRTW are somewhat water soluble and for that reason, as with all interior type fire retardants, D-Blaze FRTW can only be used in dry interior applications. Limited wetting while unprotected during construction can be tolerated but the wood should be allowed to dry before enclosure.

The active fire retardant component in D-Blaze FRTW is a phospho-ammonium-borate complex. It is well known that certain borate compounds demonstrate biological activity against decay fungi and termites. However, in order to make claims of biological efficacy a product must be evaluated by U.S. EPA and registered for that purpose. In addition, from a building code perspective, there must be documented proof that a product has been evaluated in accordance with the American Wood Protection Association efficacy standards or that it complies with the ICC-ES AC 326. D-Blaze has not been evaluated by the US EPA, or the ICC-ES AC 326, nor standardized as a wood preservative by AWPA, so it follows that decay or termite efficacy cannot be claimed for the product.

There is considerable confusion in the marketplace about the use of FRTW for sill plates and interior framing. The International Building Code (IBC) and the International Residential Code (IRC) set specific requirements and restrictions on the use of wood in construction framing in part to address the potential for attack by decay fungi and termites. Section 2304.11.2.1 of the IBC and section R317.1 of the IRC state that where wood joists or the bottom of wood structural floors without joists are closer than 18" (457mm), or wood girder are closer than 12" (305mm) to the exposed ground in crawl spaces or unexcavated areas located within the perimeters of the building foundation, the floor construction (including posts, girders, joists and subfloor) shall be of naturally durable or preservative treated wood. It follows that D-Blaze FRTW would not comply with the code if the soil proximity criteria listed in sections 2304.11.2.1 of the IBC or section R317.1 of the IRC exist.

Section 2304.11.2.2 of the IBC relates to wood supported by an exterior foundation wall (e.g. a sill plate). It states that: Wood framing members including wood sheathing that rest on exterior foundation walls and are less than 8" (203 mm) from exposed earth shall be of naturally durable or preservative treated wood. It follows that D-Blaze FRTW can be used as a sill plate provided that the wood does not lie closer than 8" to exposed earth. In effect this can be interpreted to mean D-Blaze fire-retardant treated wood can be used in contact with concrete or masonry that will not get damp or wet in service. For example, window blocking, furring strips or cap blocking on concrete or masonry exterior walls are acceptable applications as long as they are enclosed within the weather envelope and not exposed to dampness or wetting.

D-Blaze FRTW can be used in contact with dry concrete floors but all interior FRTW treated wood should not be used in contact with damp concrete floors or concrete floors that may be subject to wetting, washing down, or flooding.

Dr. Kevin J Archer
Director Research and Development
2015

D-BLAZE®

FIRE RETARDANT TREATED WOOD

D-Blaze is highly effective at slowing the spread of flame and reducing smoke development as a result of fire.

TECHNICAL SPECIFICATIONS

D-Blaze® fire retardant treated wood (FRTW) is designed for interior applications where fire retardant construction materials are specified or required by building codes.

ICC ES
ESR 2645
Pressure Treated FRTW

CLASSIFIED UL
UL® FR-S Classified
Plywood & Lumber

CLASSIFIED C UL US
CANADA CAN/ULC® S102
CANADA CAN/ULC® S102.2

GREENGUARD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS
UL.COM/GG
UL 2818
GOLD

VIANCE®
TREATEDWOOD.COM

D-Blaze treated lumber and plywood is highly effective in slowing down the spread of flame and smoke development caused by fire. D-Blaze treated products show no evidence of significant progressive combustion after 30 minutes exposure to flame. In most applications, D-Blaze treated products offer a lower in-place cost than noncombustible-classified materials.

Common Applications

- **Roofs and Attics:** trusses, plywood sheathing, decks and rafters
- **Walls:** load-bearing & partition, plywood sheathing and studs
- **Flooring:** subfloors, joists, plywood sheathing, studs and trusses
- **Other structural uses:** stairways, steps, beams, blocking and paneling

ESR 2645
Pressure Treated FRTW

UL® FR-S Classified
Plywood & Lumber

CANADA CAN/ULC® S102
CANADA CAN/ULC® S102.2

Product Features

- UL® Class A (Class 1) with FR-S rating
- Building code compliant
- GREENGUARD GOLD certified
- AWPA UCFA Interior Type A High-Temperature (HT) FRTW
- 50-Year Limited Warranty
- Very low smoke rating
- Workable with common wood-working tools
- Low-corrosivity
- Low-hygroscopicity
- No VOC's or formaldehyde
- Non-blooming

D-Blaze Treated Products:

- Complies with International Building Code® (IBC) 2018, 2015, 2012, 2009, and 2006 and International Residential Code® (IRC) 2018, 2015, 2012, 2009, and 2006.
- Tested and classified by Underwriters Laboratories® (UL) with an FR-S rating.
- For the species listed in Table 5, D-Blaze FRTW exhibited a flame spread and smoke developed index of 25 or less under ASTM E 84 flame tunnel testing for a 30-minute duration without showing evidence of significant progression combustion. D-Blaze has a very low smoke rating.
- Tested for hygroscopicity in accordance with ASTM D 3201, resulting in classification of D-Blaze as an interior Type A (HT) fire-retardant wood as defined in AWPA Standards (UCFA).
- Tested by third-party inspection agencies: Underwriter's Laboratories (UL), Timber Products Inspection (TP) and Southern Pine Inspection Bureau (SPIB) to ensure quality control.
- Protected by a 50-Year Limited Warranty. Visit www.treatedwood.com for warranty details.

Structural Properties

D-Blaze FRT wood has been tested by independent laboratories following industry standards ASTM D 5516 & ASTM D 5664 to develop strength reduction factors for various use conditions, including roof temperatures of up to 150° F for lumber and 170° F for plywood. Consult Table 1 (D-Blaze Lumber Strength Design Adjustment Factors) and Table 2, 3 and 4 (D-Blaze Plywood Span Rating Adjustments) for specific adjustment factors.

Testing and Approvals

D-Blaze FRT wood meets or exceeds the guidelines for testing construction materials as set forth and/or established by the following authorities and specifications:

Testing

- ASTM E 84
- ASTM D 3201
- ASTM D 5516
- ASTM D 5664

Approvals

- Underwriters Laboratories Classified UL Class A (Class 1) with FR-S Rating CAN/ULC S102 & S102.2
- GREENGUARD GOLD Certified
- National Fire Protection Association (NFPA 255)
- City of Los Angeles Research Report: RR 24502 in accordance with ICC-ES ESR 2645
- New York City Building Code (MEA Numbers 406-87 and 407-87)
- National Building Code of Canada
- AWPA Standardized (P50, U1, UCFA) Interior Type A High-Temperature (HT) FRTW
- California Department of Forestry and Fire Protection CSFM BML Listings for D-Blaze Plywood and Lumber
- ICC-ES ESR-2645

Table 1

Strength Design Adjustment Factors for D-Blaze Fire Retardant Lumber compared to Untreated Lumber

Property	Service Temperature < 100° F (38° C)	D-Blaze Lumber Roof Framing Climate Zone[1,2]		
		1A	1B	2
Compression Parallel, Fc	0.935	0.935	0.935	0.935
Horizontal Shear	0.985	0.838	0.894	0.964
Tension Parallel	0.874	0.625	0.775	0.905
Bending: Modulus of Elasticity, E	1.000	0.977	0.986	0.997
Bending: Extreme Fiber Stress, Fb	0.972	0.740	0.828	0.939
Fasteners/Connectors	0.900	0.900	0.900	0.900

Table 2

Span Ratings for D-Blaze Fire Retardant Southern Pine Plywood for Roof Sheathing Applicable at a Temperature up to 170° F (77° C) Based on Uniform Loading, Two Span Construction and L/180 Deflection Limit

Plywood Thickness (Inches)	D-Blaze[1,2,3,4,5,8,9,10,11,12,13] Plywood Roof Sheatings Span Ratings Used at Temperatures > 100° F and < 170° F		
	Climate Zone[6,7]		
	1A	1B	2
3/8" (0.375)	20	20	20
15/32" (0.469)	24	24	24
1/2" (0.500)	24	24	24
19/32" (0.594)	32	32	32
5/8" (0.625)	32	32	32
23/32" (0.719)	40	32	40
3/4" (0.750)	40	32	40
7/8" (0.875)	40	40	48
1 (1.000)	48	48	48
1 - 1/8" (1.125)	48	48	48

Table 3

Span Ratings for D-Blaze Fire Retardant Douglas Fir and other species Plywood for Roof Sheathing Applicable at a Temperature up to 170° F (77° C) Based on Uniform Loading, Two Span Construction and L/180 Deflection Limit

Plywood Thickness (Inches)	D-Blaze [1,2,3,4,5,8,9,10,11] Plywood Roof Sheatings Span Ratings Used at Temperatures > 100° F and < 170° F		
	Climate Zone[6,7]		
	1A	1B	2
3/8" (0.375)	16	16	20
15/32" (0.469)	20	20	24
1/2" (0.500)	20	20	24
19/32" (0.594)	24	24	32
5/8" (0.625)	24	24	32
23/32" (0.719)	32	32	32
3/4" (0.750)	32	32	32
7/8" (0.875)	40	32	40
1 (1.000)	40	40	48
1 - 1/8" (1.125)	48	40	48

Table 4

D-Blaze Treated Plywood Subfloor Allowable Spans (Inches) used at Temperatures < 100° F (38° C)

Plywood Thickness (Inches)	Southern Pine	Douglas Fir
	Allowable Span (Inches)[1,2]	Allowable Span (Inches)[1,2]
3/8" (0.375)	16	12
15/32" (0.469)	16	16
1/2" (0.500)	16	16
19/32" (0.594)	19.2	19.2
5/8" (0.625)	19.2	19.2
23/32" (0.719)	24	24
3/4" (0.750)	24	24
7/8" (0.875)	24	24
1 (1.000)	32	32
1 - 1/8" (1.125)	32	32

Table 5

D-Blaze Lumber and Plywood Approved Species

The following species of Plywood and Lumber are UL and ULC Classified and building code compliant when treated according to specifications. The Plywood and Lumber species noted below carry a UL FR-S Classification in the United States.

Softwood Lumber			
Jack Pine	Red Pine	Hem-Fir	Black Spruce
Lodgepole Pine	Alpine Fir	Spruce-Pine-Fir (SPF)	Englemann Spruce
Ponderosa Pine	Balsam Fir	White Fir	Red Spruce
Southern Pine	Douglas Fir	Western Hemlock	White Spruce

Plywood	Hardwood lumber
Douglas Fir	Basswood
Lauan	Red Oak
Southern Pine	
Red Pine	

NOTE: From time to time, additional species will be tested. Check with your supplier if the species desired is not shown.

Notes

Table 1

[1] Climate Zone definition:
Zone 1 – Minimum design roof live load or maximum ground snow load ≤ 20 psf (960 Pa)
Zone 1A – SouthWest Arizona, South East Nevada (area bounded by Las Vegas- Yuma- Phoenix- Tucson)
Zone 1B – All other qualifying areas of the United States
Zone 2 – Maximum ground snow load ≥ 20 psf (960 Pa)

[2] Duration of load adjustments for snow loads, 7-day (construction) loads, and wind loads as given in the National Design Specifications for Wood Construction apply.

Tables 2 and 3

SI Units Conversion: 1 inch = 25.4 mm, 1 psf = 48 N/m2

[1] All loads are based on two-span condition with panels 24 inches wide or wider, strength axis perpendicular to supports.

[2] Fastener size and spacing must be as required in the applicable building code for untreated plywood of the same thickness.

[3] Roof spans and loads apply to roof systems having the minimum ventilation areas required by the applicable building code. Fifty percent of required vent area must be located on upper portion of sloped roofs to provide natural air flow.

[4] 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 inches, 23/32 for 32 inches); 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.

[5] For unblocked roof diaphragms panel edge clips are required for roof sheathing: one midway between supports for 24-inch and 32-inch spans, two at 1/3 points between supports for 48-inch span. Clips must be specifically manufactured for the plywood thickness used.

[6] 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 may be increased or decreased by the difference. Applicable material weights, psf: asphalt shingles - 2.0, 1/2-inch plywood - 1.5, 5/8-inch plywood - 1.8, 3/4-inch plywood - 2.2.

[7] Climate Zone definition:
ZONE 1 – Minimum design roof live load or maximum ground snow load ≤ 20 psf (960 Pa)
ZONE 1A - SouthWest Arizona, South East Nevada (area Bounded by Las Vegas- Yuma- Phoenix- Tucson)
ZONE 1B – All other qualifying areas of the United States
ZONE 2 – Maximum ground snow load ≥ 20 psf (960 Pa)

[8] D-Blaze treated plywood must not be used as roof sheathing if a radiant shield is used beneath the roof sheathing.

[9] The 19/32-inch and 5/8-inch thickness are limited to performance rated 4-ply or 5-ply. 23/32- and 3/4-inch thicknesses are limited to performance rated 5-ply or 7-ply.

[10] 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.

[11] Staples used to attach asphalt shingles must be minimum 15/16-inch crown and minimum 1-inch leg, or otherwise comply with the applicable code, with the quantity of fasteners adjusted in accordance with Table 1 of this report.

Table 4

SI Units Conversion: 1 inch = 25.4 mm, 1 psf = 48 N/m2

[1] Uniform live load = 100 psf and Dead load = 10 psf, LL deflection ≤ L/360, LL+ DL deflection ≤ L/240

[2] Fastener size and spacing must be as required in the applicable building code for untreated plywood of the same thickness.

How to Specify D-Blaze FRT Lumber and Plywood

To assure structural integrity in roof areas of high temperature and humidity, D-Blaze span and strength design adjustment factors have been determined by independent third parties in accordance with ASTM D 5516 for plywood and ASTM D 5664 for lumber. Extended specifications can be found at treatedwood.com and ARCAT.com.

All D-Blaze FRT lumber and plywood:

- Shall be pressure-treated with D-Blaze fire retardant to meet Underwriters Laboratories FR-S rating or a flame spread and smoke index rating denoting a surfaceburning characteristic rating of 25 or less for flame spread and smoke developed.
- Shall bear the Underwriters Laboratories label or stamp attesting to the FR-S rating or flame spread and smoke index rating, and to the fact that it also meets the American Wood Protection Association (AWPA) P50, U1, UCFA for interior Type A (HT) use.
- Shall be kiln-dried to a maximum moisture content of 19% for lumber and 15% for plywood.
- Shall be kept dry at all times during transit, job site storage and construction.

All structural design calculations shall be based on the D-Blaze Strength Design Factor Tables as published in the D-Blaze Technical Specifications Brochure.

Underwriters Laboratories

The model building codes require that every piece of FRTW wood bear the identification mark of an approved inspection agency. Each piece of D-Blaze lumber and plywood is stamped with an ink stamp bearing the classification mark of Underwriters Laboratories, Inc. (UL), describing its surface burning characteristics, and substantiating third party confirmation of flame spread and smoke developed index . The mark further identifies the name and location of the treating plant and will show that the material complies with AWPA standards, has been dried after treatment, and qualifies as an Interior Type A, (High Temperature (HT), low hygroscopic product. Companies may only use the UL mark on or in connection with products that have been investigated by UL and found to be in compliance with UL's requirements. The UL Building Materials Directory has listed over a dozen species of lumber and several species of plywood for fire retardant treatment with D-Blaze.

Shown below are examples of typical Plywood and Lumber Stamps used in the United States .

Chemical Formulation And Application

D-Blaze is formulated and then applied by means of pressure treatment in treating plants. Unlike field applied surface coatings, D-Blaze fire retardant treated wood is produced under a quality control program with inspections by Underwriters Laboratories, Inc (UL), Timber Products Inspection (TP), and Southern Pine Inspection Bureau (SPIB)

Tips On Use

Proper handling procedures should be followed when using D-Blaze lumber and plywood.

- D-Blaze wood should not be installed where it will be exposed to precipitation, direct wetting, or in contact with the ground.
- When storing D-Blaze wood, the material should be kept off the ground and covered to shield it from precipitation.
- When installing D-Blaze FRT lumber and plywood it is important to utilize the design value adjustments on our technical guide.
- D-Blaze plywood should be spaced and fastened as recommended in "APA Engineered Wood Construction Guide" (Form E30), published by APA-The Engineered Wood Association.
- Do not burn treated wood.
- Do not use pressure-treated chips or sawdust as mulch.
- Dispose of treated wood in accordance with local, state and federal regulations.
- Cutting to length, drilling, and diagonal cuts as well as light sanding are permitted. Exposed areas are not required to be field coated. Ripping dimensional lumber is not allowed.
- Cutting of lumber to length (cross-cutting and end cuts) are allowed. Holes and joints such as tongue and groove, bevel, scarf and lap are also allowed.
- Ripping of lumber along the length, such as ripping a 2x4 into 2x2's is not permitted. Similarly, cutting of stair stringers after treatment should not be done because the effect is similar to ripping.
- Milling (resurfacing) of lumber is not allowed. If special shapes or thickness are required, milling should be done prior to treatment.
- Cutting of plywood in any direction is allowed without restriction.
- Light sanding of lumber or plywood is permitted to remove raised grain or to prepare for finishing. Resurfacing or shaping or should be done before treatment.
- End coating is not required.

Safety

D-Blaze pressure-treated products do not contain any EPA-listed hazardous chemicals and are easy to work with, requiring no special precautions other than routine wood working safety procedures. When working with or machining pressure-treated wood, the following safety precautions should be followed with all treated wood products:

- Wear gloves to protect against splinters.
- Wear a dust mask to reduce the inhalation of wood dusts.
- Wear appropriate eye protection.
- Wash thoroughly with mild soap and water.

CLASSIFIED UL® FR-S Classified Plywood & Lumber

CLASSIFIED C UL US CANADA CAN/ULC® S102 CANADA CAN/ULC® S102.2

WESTERN WOOD PRESERVERS INSTITUTE

ARCAT

Refer to the latest D-Blaze Safety Data Sheet (SDS) at treatedwood.com.

Standardized 3-part specifications are available at treatedwood.com and ARCAT.com.

VIANCE®
TREATEDWOOD.COM

Viance, LLC | 8001 IBM Dr, Charlotte, NC 28262 | 800-421-8661 | Fax 704-527-8232 | treatedwood.com

D-BLAZE IS A PRESSURE-IMPREGNATED FRTW - NOT A SPRAY ON

Will not chip or flake during construction and handling.

D-Blaze® Fire Retardant Treated Wood (FRTW) is suited for interior applications where fire retardant construction materials are specified or required by building codes.

D-Blaze® treated lumber and plywood is highly effective in controlling the spread of flame and smoke development caused by fire, and show no evidence of significant progressive combustion after 30 minutes exposure to flame.

- **Low-corrosivity & Low-hygroscopicity**
- **Non-blooming with No VOC's or Formaldehyde**
- **Workable with common wood-working tools**
- **50-Year Limited Warranty**

TESTING AND APPROVALS

D-Blaze® FRT wood meets or exceeds the testing guidelines for construction materials as established by the following authorities and specifications:

- **Underwriters Laboratories® Classified**
  UL® Class A (Class 1) with FR-S Rating
  - *CAN/ULC S102 & S102.2*
- **National Fire Protection Association (NFPA 255)**
- **NYC Building Code (MEA Numbers 406-87 and 407-87)**
- **National Building Code of Canada**
- **AWPA Standardized (P50, U1, UCFA)**
  Interior Type A High-Temperature (HT) FRTW
- **ICC-ES ESR 2645**
- **California Department of Forestry and Fire Protection**
  CSFM BML Listings for D-Blaze Plywood and Lumber
- **City of Los Angeles Research Report: RR 24502**

BUILD IN ECONOMICAL FIRE PROTECTION

D-Blaze® FRTW treated wood is Compliant with 2009 model building codes under AWPA standards and or ICC ESR-2645. D-Blaze FRTW exhibits a flame spread and smoke developed index of 25 or less under ASTM E 84 flame tunnel testing of a 30-minute duration without evidence of significant progression combustion. Tested for hygroscopicity in accordance with ASTM D 3201, resulting in classification as an interior Type A (HT) fire-retardant wood as defined in AWPA Standards P50, U1, UCFA.

HOW TO SPECIFY D-BLAZE® FRTW LUMBER AND PLYWOOD

To assure structural integrity in roof areas of high temperature and humidity, D-Blaze span and strength design adjustment factors have been determined by independent third parties in accordance with ASTM D 5516 for plywood and ASTM D 5664 for lumber. Extended specifications can be found on the Product Information page of Treatedwood.com and at ARCAT.com.

All D-Blaze FRT lumber and plywood:

- shall be pressure-treated with D-Blaze® fire retardant to meet Underwriters Laboratories FR-S rating or a flame spread and smoke index rating denoting a surface-burning characteristic rating of 25 or less for flame spread and smoke developed.
- shall bear the Underwriters Laboratories label or stamp attesting to the FR-S rating or flame spread and smoke index rating, or the ESR 2645 Building Code Approval, and to the fact that it also meets the American Wood Protection Association (AWPA) P50, U1, UCFA for interior Type A (HT) use.
- shall be kiln-dried to a maximum moisture content of 19% for lumber and 15% for plywood.
- shall be kept dry at all times during transit, job site storage and construction.

*Note: Designer may wish to specify lower moisture content for cabinet and millwork.
All structural design calculations shall be based on the D-Blaze Strength Design Factor Tables as published in our Technical Specifications at www.treatedwood.com or in ICC ESR-2645.

WHAT IF D-BLAZE FRTW IS EXPOSED TO RAIN ON THE JOBSITE?

D-Blaze FRTW should be kept dry during transit, storage and while on jobsite. Since the degree of rain exposure would vary in every case, if D-Blaze gets wet during transit, storage or on jobsite, then the D-Blaze FRTW must always be dried to original specifications before being covered or enclosed.

HOW LONG WILL THE TREATMENT LAST?

D-Blaze® fire retardant treated wood is designed for above ground use that is sheltered from precipitation and direct wetting. Under these conditions, D-Blaze chemicals will not leach out and will remain stable and effective.

UNDERWRITERS LABORATORIES: Each piece of D-Blaze lumber and plywood is stamped with the mark of Underwriters Laboratories, Inc (UL) substantiating third party confirmation of flame spread and smoke developed index. Companies may only use the UL mark on or in connection with products that have been investigated by UL and found to be in compliance with UL's requirements. The UL Building Materials Directory has listed over a dozen species of lumber and several species of plywood for fire retardant treatment with D-Blaze.

CHEMICAL FORMULATION AND APPLICATION: D-Blaze is formulated and then applied by means of pressure treatment in treating plants. **Unlike field applied surface coatings, D-Blaze fire retardant treated wood is produced under a quality control program with inspections by Underwriters Laboratories, Inc (UL) and Timber Products Inspection (TP).**

DOES D·BLAZE FRTW QUALIFY FOR AN HOURLY RATING IN THE CODES?

FRTW has been awarded a UL classification for surface burning characteristics, and by itself, does not have a resistance rating in hours. Hourly ratings are assigned to wall, roof, deck or door assemblies. D-Blaze FRTW can be used as a component in these assemblies in structures where untreated wood is not allowed.

For example, the Gypsum Association "Fire Resistance Design Manual" shows a one hour wall or partition assembly (WP 3605) that has wood studs covered by 5/8" Type X gypsum board with specified nailing and positioning of the panels. This assembly could be used for interior, non-bearing partitions, requiring a one hour rating in a non-combustible structure if the studs were fire retardant treated wood. In a similar manner, by substituting FRTW for untreated wood, other one and two hour wall and ceiling assemblies can be used in non-combustible type buildings. The model codes also permit use of ceiling assemblies with the top membrane omitted where only unused attic space is above.

CAN D·BLAZE BE GLUED?

D-Blaze can be used as a substrate for floor tile, counter tops, cabinets, etc. Solvent based glues are recommended. If water based adhesives are used, test first to assure compatibility.

CAN D-BIAZE BE INSTALLED ON CONCRETE?

D-Blaze can be used as an interior sill plate material on concrete/masonry with the use of an impervious moisture barrier (sill sealer) and as approved by code officials.

CAN HOURLY RATED WOOD ROOF TRUSS ASSEMBLIES USE D-BLAZE FRTW?

Testing has provided effective and competitive designs for one hour rated floor/ceiling and roof/ceiling metal plate connected wood trusses. Unlike earlier designs, the one hour rating can now be achieved with only one layer of 5/8" Type C gypsum wallboard applied directly to the bottom chord of the truss. Various types of blocking and connectors are used in these constructions developed by the Truss Plate Institute and several independent companies.

Fire retardant treated wood can be used in place of untreated wood in any of these designs. FRTW construction will enable the use of these assemblies in many building construction types that do not permit untreated wood. These new construction assemblies provide greater savings than ever before when FRTW construction is substituted for hourly rated steel or concrete construction. Check your local building code for specific allowed uses.

DOES D-BLAZE TREATMENT AFFECT THE STRENGTH OF THE WOOD?

Yes. D-Blaze FRTW has been tested by independent laboratories following industry standards ASTM 5516 & ASTM 5664 to develop strength reduction factors for various use conditions, including roof temperatures of up to 150° F for lumber and 170° F for plywood. Specifiers, architects and designers should consult and adhere to the Strength Design Adjust Factors and Span Ratings published in the current D-Blaze product literature.

WHERE CAN I FIND LEED INFORMATION ON D-BLAZE® ?

All product and technical information pertinent to the Viance chemicals is available for download at **www.Treatedwood.com**. The chemicals in D-Blaze are free of VOCs and formaldehyde and Viance provides a letter affirming that fact on the Product Information page. Sustainable forestry programs such as FSC or SFI are managed entirely by the companies that procure and resell wood through their distribution networks. All FSC/SFI information would be provided by these lumber suppliers.

CAN I APPLY A PAINT OR STAIN TO MY D-BLAZE TREATED WOOD?

No. We do not recommend this because it could compromise the performance of the D-Blaze in terms of flame spread rating and smoke generation should a fire occur.

WHAT FASTENERS SHOULD I USE WITH D-BLAZE?

National and local building codes change frequently. Viance recommends that local building codes always be consulted for lists of currently approved fasteners and fastener systems. Currently, hot-dipped galvanized steel or stainless steel fasteners are recommended.

WHAT IS COVERED BY THE D-BLAZE 50-YEAR WARRANTY?

The D-Blaze 50-year warranty covers structural failure caused by a reduction in strength below the recommended design application values of D-Blaze treated wood products due to exposure to roof temperatures of 150° F (lumber) and 170° F (plywood).

CAN D-BLAZE FRTW BE CUT OR SURFACED AFTER TREATMENT?

Cutting to length, drilling, and diagonal cuts as well as light sanding are permitted. Exposed areas are not required to be field coated. Ripping dimensional lumber is not allowed.

- **Cutting of lumber to length** (cross-cutting and end cuts) are allowed. Holes and joints such as tongue and groove, bevel, scarf and lap are also allowed.
- **Ripping of lumber** along the length, such as ripping a 2x4 into 2x2's is not permitted. Similarly, cutting of stair stringers after treatment should not be done because the effect is similar to ripping.
- **Milling (resurfacing) of lumber** is not allowed. If special shapes or thickness are required, milling should be done prior to treatment.
- **Cutting of plywood in any direction** is allowed without restriction.
- **Light sanding of lumber or plywood** is permitted to remove raised grain or to prepare for finishing. Resurfacing or shaping should be done before treatment.
- **End coating is not required**

TIPS ON USE

Proper handling procedures should be followed when using D-Blaze® lumber and plywood.

- D-Blaze® wood should not be installed where it will be exposed to precipitation, direct wetting, or in contact with the ground.
- When storing D-Blaze® wood, the material should be kept off the ground and covered to shield it from precipitation.
- When installing D-Blaze® FRT lumber and plywood it is important to utilize the design value adjustments on our technical guide.
- D-Blaze® plywood should be spaced and fastened as recommended in "APA Engineered Wood Construction Guide" (Form E30), published by APA-The Engineered Wood Association.
- Do not burn treated wood.
- Do not use pressure-treated chips or sawdust as mulch.
- Dispose of treated wood in accordance with local, state and federal regulations.

SAFETY AND HANDLING

D-Blaze® pressure-treated products do not contain any EPA-listed hazardous chemicals and are easy to work with, requiring no special precautions other than routine wood working safety procedures. When working with or machining pressure-treated wood, the following safety precautions should be followed with all treated wood products:

- Wear gloves to protect against splinters
- Wear a dust mask to reduce the inhalation of wood dusts
- Wear appropriate eye protection.
- Wash thoroughly with mild soap and water.

Refer to the latest D-Blaze Safety Data Sheet (SDS) at www.Treatedwood.com.

Proud Sponsor

AWPA U1
P50, UCFA

ESR 2645
Pressure Treated FRTW

UL® FR-S Classified
Plywood & Lumber

CANADA CAN/ULC® S102
CANADA CAN/ULC® S102.2

Standardized 3-part specifications are available at Treatedwood.com and ARCAT.com.

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FIRESPEC

Guidance for properly specifying and using fire retardant wood products

Fire Retardant Wood and the 2018 International Building Code

The International Building Code (IBC) defines the specifications for manufacturing and using fire-retardant treated wood in construction. The code outlines the qualifications for fire retardant treatment, the testing required to confirm the protection, required strength adjustments and required fasteners for use.

The following excerpts are references for fire-retardant treated wood taken from the 2018 International Building Code:

Chapter 23 - Wood (from the 2018 International Building Code - IBC)

Section 2303 Standards of Quality

Section 2303.2 Fire-retardant-treated wood

Fire-retardant-treated wood is any wood product that, when impregnated with chemicals by a pressure process or other means during manufacture, shall have, when tested in accordance with ASTM E84 or UL 723, a listed flame spread index of 25 or less and show no evidence of significant progressive combustion when the test is continued for an additional 20-minute period. Additionally, the flame front shall not progress more than 10 1/2 feet (3200 mm) beyond the centerline of the burners at any time during the test.

2303.2.1 Pressure process

For wood products impregnated with chemicals by a pressure process, the process shall be performed in closed vessels under pressures not less than 50 pounds per square inch gauge (psig) (345 kPa).

2303.2.2 Other means during manufacture

For wood products produced by other means during manufacture, the treatment shall be an integral part of the manufacturing process of the wood product. The treatment shall provide permanent protection to all surfaces of the wood product. The use of paints, coating, stains or other survace treatments is not an approved method of protection as required in this section.

2303.2.3 Testing

For wood products produced by other means during manufacture, other than a pressure process, all sides of the wood product shall be tested in accordance with and produce the results required in Section 2303.2. Wood structural panels shall be permitted to test only the front and back faces.

2303.2.4 Labeling

Fire-retardant-treated lumber and wood structural panels shall be labeled. The label shall contain the following items:

1. The identification mark of an approved agency in accordance with Section 1703.5.
2. Identification of the treating manufacturer.
3. The name of the fire-retardant treatment.
4. The species of wood treated.
5. Flame spread and smoke-developed index.
6. Method of drying after treatment.
7. Conformance with appropriate standards in accordance with Sections 2303.2.5 through 2303.2.8.
8. For fire-retardant-treated wood exposed to weather, damp or wet locations, include the words “No increase in the listed classification when subjected to the Standard Rain Test” (ASTM D2898).

2303.2.5 Strength adjustments

Design values for untreated lumber and wood structural panels, as specified in Section 2303.1, shall be adjusted for fire-retardant treated wood. Adjustments to design values shall be based on an approved method of investigation that takes into consideration the effects of the anticipated temperature and humidity to which the fire-retardant-treated wood will be subjected, the type of treatment and redrying procedures.

2303.2.5.1 Wood structural panels

The effect of treatment and the method of redrying after treatment, and exposure to high temperatures and high humidities on the flexure properties of fire-retardant-treated softwood plywood shall be determined in accordance with ASTM D5516. The test data developed by ASTM D5516 shall be used to develop adjustment factors, maximum loads and spans, or both, for untreated plywood design values in accordance with ASTM D6305. Each manufacturer shall publish the allowable maximum loads and spans for service as floor and roof sheathing for its treatment.

2303.2.5.2 Lumber

For each species of wood that is treated, the effects of treatment, the method of redrying after treatment and exposure to high temperatures and high humidities on the allowable design properties of fire-retardant-treated lumber shall be determined in accordance with ASTM D5664. The test data developed by ASTM D5664 shall be used to develop modification factors for use at or near room temperature and at elevated temperatures and humidity in accordance with ASTM D6841. Each manufacturer shall publish the modification factors for service at temperatures of not less than 80°F (27°C) and for roof framing. The roof framing modification factors shall take into consideration the climatological location.

(cont. on page 2)

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Chapter 23 - Wood (cont.)

2303.2.6 Exposure to weather, damp or wet locations

Where fire-retardant-treated wood is exposed to weather, or damp or wet locations, it shall be identified as "Exterior" to indicate there is no increase in the listed flame spread index as defined in Section 2303.2 when subjected to ASTM D2898.

2303.2.7 Interior applications

Interior fire-retardant treated wood shall have moisture content of not over 28 percent when tested in accordance with ASTM D3201 procedures at 92-percent relative humidity. Interior fire retardant-treated wood shall be tested in accordance with Section 2303.2.5.1 or 2303.2.5.2. Interior fire-retardant treated wood designated as Type A shall be tested in accordance with the provisions of this section.

2303.2.8 Moisture content

Fire-retardant-treated wood shall be dried to a moisture content of 19 percent or less for lumber and 15 percent or less for wood structural panels before use. For wood kiln-dried after treatment (KDAT), the kiln temperatures shall not exceed those used in kiln drying the lumber and plywood submitted for the tests described in Section 2303.2.5.1 for plywood and 2303.2.5.2 for lumber.

2303.2.9 Type I and II construction applications

See Section 603.1 for limitations on the use of fire-retardant-treated wood in buildings of Type I or II construction.

Section 2304 General Construction Requirements

2304.10.5 Connections and fasteners in contact with preservative-treated and fire-retardant-treated wood

Fasteners, including nuts and washers, and connectors in contact with preservative-treated and fire-retardant-treated wood shall be in accordance with Sections 2304.10.5.1 through 2304.10.5.4. The coating weights for zinc-coated fasteners shall be in accordance with ASTM A153. Stainless steel driven fasteners shall be in accordance with the material requirements of ASTM F1667.

2304.10.5.3 Fasteners for fire-retardant-treated wood used in exterior applications or wet or damp locations

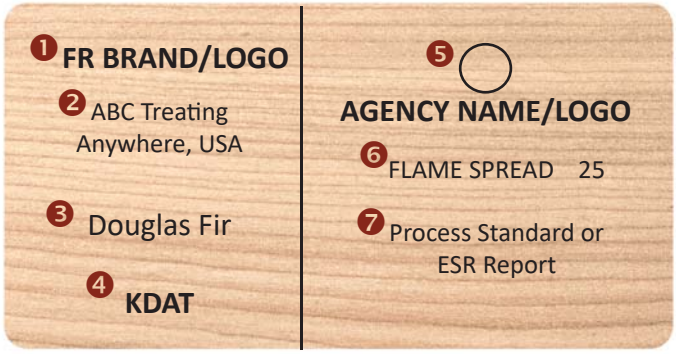
Fasteners, including nuts and washers, for fire-retardant-treated wood used in exterior applications or wet or damp locations shall be of hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper. Staples shall be of stainless steel. Fasteners other than nails, staples, timber rivets, wood screws and lag screws shall be permitted to be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B695, Class 55 minimum.

2304.10.5.4 Fasteners for fire-retardant-treated wood used in interior applications

Fasteners, including nuts and washers, for fire-retardant-treated wood used in interior locations shall be in accordance with the manufacturer's recommendations. In the absence of manufacturer's recommendations, Section 2304.10.5.3 shall apply.

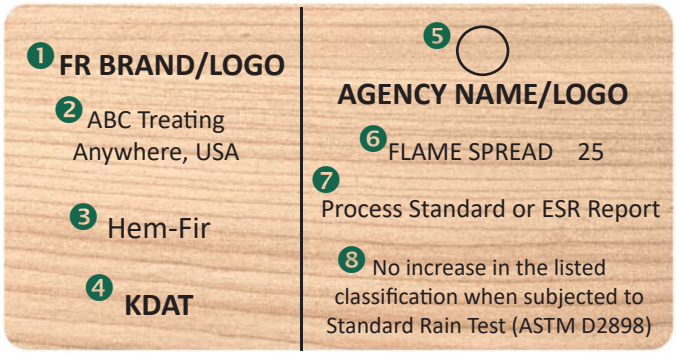
Code Compliant Fire Retardant Wood Stamps

Interior Fire Retardants



1. FR product name/logo
2. Treating manufacturer
3. Wood species
4. Drying method
5. Approved inspection agency name or logo
6. Flame spread/smoke developed index rating
7. Referenced standard

Exterior Fire Retardants



1. FR product name/logo
2. Treating manufacturer
3. Wood species
4. Drying method
5. Approved inspection agency name or logo
6. Flame spread/smoke developed index rating
7. Referenced standard
8. Referenced rain test

Licensed Treaters Produce D-Blaze® Interior Fire Retardant Treated Wood Products in Accordance with CSA O80 Standards

The CSA O80 series of Standards cover wood preservation and are designed to "facilitate selection of the appropriate wood species, preservative, penetration, and retention (loading) by the specifier and user of treated wood by more accurately matching the species, preservative, penetration, and retention for **typical moisture conditions and wood biodeterioration agents** to the intended use."

D-Blaze is used to pressure impregnate wood products to retard flame spread and smoke generation in the event of a fire in applications where the wood is continuously protected from wetting. Because the main purpose of pressure impregnating wood with D-Blaze is much different than pressure impregnating wood with a preservative to protect from biodeterioration agents such as insects and fungi, the CSA O80 Standards that apply to D-Blaze fire retardant treatment differ significantly from those of preservative treated wood products.

The purpose of this bulletin is to summarize the CSA O80 requirements for D-Blaze Fire-retardant-treated wood products (FRTW).

Section 8.9 of CSA O80.1 is the first section in the CSA O80 Standards that references fire-retardant treated products. The pertinent language in this section includes:

8.9 Fire-retardant-treated products

Notes:

1. *This Clause covers the fire retardant treatment of lumber, timber, and plywood using pressure processes. Whereas this Standard specifies exact processing limits and minimum preservative retentions and penetrations for preservative-treated products, it does not do the same for fire-retardant-treated products.*
2. *See also Clause 9.8 of CSA O80.2.*

8.9.1 Performance rating

The flame-spread and smoke developed classification of fire-retardant-treated solid sawn products and plywood shall be determined by tests conducted in accordance with CAN/ULC-S102 or CAN/ULC-S102.2. The specifier shall indicate the required classification for the product.

Note: *The published records of recognized fire-testing laboratories may be consulted for flame-spread ratings of plywood treated in accordance with this Standard.*

8.9.2 Plywood

8.9.2.1 General

Plywood shall meet the applicable requirements for exterior grade plywood specified in CSA O121, CSA O151, CSA O153, and ANSI/HPVA HP-1.

Panels with lumber core construction should not be treated with fire retardants.

The purchaser shall state where the material is to be used and how it will be finished.

8.9.2.2 Moisture content
After treatment, plywood shall be air dried or kiln dried to a final moisture content that approximates the expected moisture content during use. Waviness, grain raising, or checking resulting from treatment with a water-borne fire retardant shall not be cause for rejection.

8.9.3 Lumber — Moisture content
After treatment, material up to 38 mm thick shall be air dried or kiln dried to an average moisture content of 19% or less.

In Section 8.9 note 2 of the statement "See also Clause 9.8 of CSA O80.2" is included. Clause 9.8 is below. The important requirements for FRTW to take note of in 9.8 below are pressure limitations and drying requirements.

9.8 Fire-retardant-treated lumber, timber, and plywood

9.8.1 Treatment

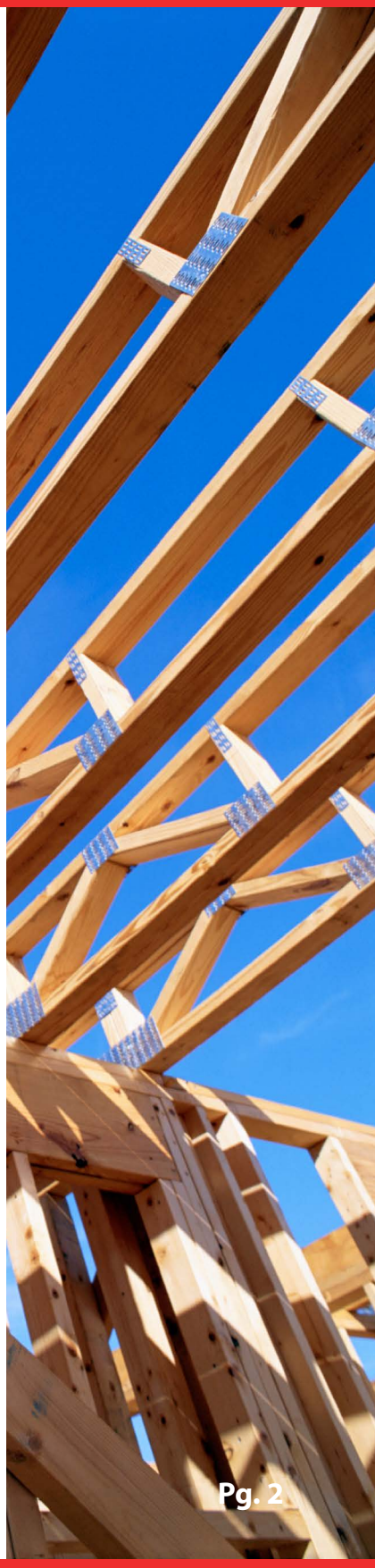
9.8.1.1 General
The following shall not be used in fire retardant treatment:
a) steaming
b) heating in preservative
c) Boulton drying
d) expansion baths
e) final steaming
f) solvent recovery

9.8.1.2 Pressure limitations
The pressure limitations specified in Clause **9.1** (for lumber and timber) and Clause **9.6** (for wood composites) shall apply.

9.8.2 Drying

9.8.2.1 General
After fire retardant treatment, lumber shall be air or kiln dried to a maximum moisture content of 19%, and plywood shall be air or kiln dried to a maximum moisture content of 15%. The equilibrium moisture content of wood products treated with some fire retardants differs significantly from that of untreated wood products. Measurement using resistance-type moisture meters is affected by the presence of the fire retardant compounds. Accordingly, users of a fire-retardant-treated product shall contact the manufacturer for recommended procedures and/or correction factors for moisture content measurements.

9.8.2.2 Air drying
When air drying is used, material shall not be exposed to conditions that cause fire retardant leaching.



9.8.2.3 Kiln drying of interior fire retardants

During kiln drying of lumber or plywood after treatment with interior fire retardant formulations, the dry bulb temperature of the kiln shall not exceed 71°C.

In 9.8.1.2 of Section 9.8 above, it indicates that pressure limitations are specified in Clauses 9.1 (for lumber and timber) and Clause 9.6 (for wood composites – includes plywood). Applicable language from Clauses 9.1 and 9.6 are included below to show the pressure limitations.

9.1.4.2 Maximum pressures

The following pressures shall not be exceeded:

a. eastern white, Jack, lodgepole, ponderosa, red, and southern pine: 1250 kPa (181 psi)
b. Hem-Fir, Hem-Fir North, and eastern and western hemlock: 1250 kPa (180 psi)
c. Eastern & Western Spruce-Pine-Fir, and Engelmann & western white spruce: 1040 kPa (150 psi)
d. coastal Douglas fir: 1040 kPa (150 psi)
e. western larch: 1040 kPa (150 psi)
f. western red cedar and yellow cypress: 1040 kPa (150 psi)
g. beech, birch, and maple: 1200 kPa (174 psi)
h. oak: 1720 kPa (249 psi)

9.6 Wood composites

Note:
1. *This Clause applies to pressure-treated plywood and structural glued-laminated timber.*

9.6.3.2 Maximum pressure

The maximum pressure used for treating assembled members shall not exceed 1040 kPa (150 psi).

In summary, the main CSA O80 Standards for fire retardant treated wood products that pertain to D-Blaze cover smoke generation and flame spread, the required grade of plywood, moisture content after treatment, maximum kiln dry bulb temperature during drying after treatment, and maximum pressure limitations.

The following table provides a matrix of these Standards, the CSA O80 section or clause they are found in, and ways to ensure conformance has been obtained.

CSA O80 Requirement or Standard	Section or Clause	Proof of Conformance
Smoke Generation and Flame Spread	8.9	Ink stamp on each piece or sheet of treated material with Underwriters Laboratory® (UL) logo and "ULC-S102"
Plywood Grade = Exterior	8.9.2.1	Grade stamp on each sheet of treated plywood
Plywood Moisture Content After Treatment	8.9.2.2, 9.8.2.1	Ink stamp on treated material with "KDAT", name of an accredited 3rd party inspection agency, and "Monitored Per STD DB-90"
Lumber Moisture Content After Treatment	8.9.3, 9.8.2.1	Ink stamp on treated material with "KDAT", name of an accredited 3rd party inspection agency, and "Monitored Per STD DB-90"
Kiln Drying After Treatment Maximum Kiln Dry Bulb Temperature of 71 °C (160 °F)	9.8.2.3	Ink stamp on treated material with "KDAT", name of an accredited 3rd party inspection agency, and "Monitored Per STD DB-90"
Pressure Limitations	9.1, 9.6, 9.8.1.2	Treating Plant Certificate of Treatment

Lumber and plywood pressure treated with D-Blaze by Viance licensed treater customers in accordance with American Wood Protection Association (AWPA) Standard P50 and with the conditions outlined in AWPA U1 Commodity Specification H- Fire retardants, AWPA and kiln dried at temperatures not exceeding 160°F (71°C) in accordance with AWPA Standard T1, Section H: Fire Retardant Lumber and Plywood in addition to Viance D-BLAZE® INTERIOR FIRE RETARDANT TREATED LUMBER AND PLYWOOD - STANDARD DB-90 will comply with the requirements of the CSA O80-1 standard, UL® Standard 723 and ULC® Standard S102.

CERTIFICATE
OF COMPLIANCE

Viance LLC.

D-Blaze Fire Retardant Treatment

81162-420
Certificate Number

06/10/2016 - 06/10/2022
Certificate Period

Certified
Status

UL 2818 - 2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

Building products and interior finishes are determined compliant in accordance with California Department of Public Health (CDPH) Standard Method V1.2-2017 using an Office and Classroom Environment.

Product tested in accordance with UL 2821 test method to show compliance to emission limits on UL 2818. Section 7.1 and 7.2.

GREENGUARD Gold Certification Criteria for Building Products and Interior Finishes

Criteria	CAS Number	Maximum Allowable Predicted Concentration	Units
TVOC (A)	-	0.22	mg/m³
Formaldehyde	50-00-0	9 (7.3 ppb)	µg/m³
Total Aldehydes (B)	-	0.043	ppm
4-Phenylcyclohexene	4994-16-5	6.5	µg/m³
Particle Matter less than 10 µm (C)	-	20	µg/m³
1-Methyl-2-pyrrolidinone (D)	872-50-4	160	µg/m³
Individual VOCs (E)	-	1/2 CREL or 1/10oth TLV	-

(A) Defined to be the total response of measured VOCs falling within the C_6 – C_{16} range, with responses calibrated to a toluene surrogate. Maximum allowable predicted TVOC concentrations for GREENGUARD Gold (0.22 mg/m³) fall in the range of 0.5 mg/m³ or less, as specified in CDPH Standard Method v1.2.

(B) The sum of all measured normal aldehydes from formaldehyde through nonanal, plus benzaldehyde, individually calibrated to a compound specific standard. Heptanal through nonanal are measured via TD/GC/MS analysis and the remaining aldehydes are measured using HPLC/UV analysis.

(C) Particle emission requirement only applicable to HVAC Duct Products with exposed surface area in air streams (a forced air test with specific test method) and for wood finishing (sanding) systems.

(D) Based on the CA Prop 65 Maximum Allowable Dose Level for inhalation of 3,200 µg/day and an inhalation rate of 20 m³/day

(E) Allowable levels for chemicals not listed are derived from the lower of 1/2 the California Office of Environmental Health Hazard Assessment (OEHHA) Chronic Reference Exposure Level (CREL) as required per the CDPH/EHLB/Standard Method v1.2 and BIFMA level credit 7.6.2 and 1/100th of the Threshold Limit Value (TLV) industrial work place standard (Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Building D-7, and Cincinnati, OH 45211-4438).

Treated Wood - Green Building Contributions

LEED, National Green Building Standard and GreenGuard Gold

Green Building Program	Rating System	Category / Points	Description
LEED – Materials and Resources	BD+C Building Design + Construction	**Building Life-Cycle Impact Reduction** Up to 6	Option 1. Building and Material Reuse (1-5 points BD&C, 2-6 points Core and Shell). Option 2. Whole-Building Life-Cycle Assessment (1-4 points)
LEED – Materials and Resources	BD+C Building Design + Construction	**Environmental Product Declarations** Up to 2 points	Option 1. Environmental Product Declaration (EPD) Option 2. Embodied Carbon/LCA Optimization (1 point) For credit achievement calculation, products sourced (extracted, manufactured, purchased) within 100 miles (160 km) of the project site are valued at twice their base contributing number of products, up to a maximum of 2 products. Impact categories: global warming potential (greenhouse gases), in CO2e; depletion of nonrenewable energy resources, in MJ using CML / depletion of fossil fuels in TRACI.
LEED – Materials and Resources	BD+C Building Design + Construction	**Environmentally Preferrable Products** Up to 5 points	Wood products must be Forest Stewardship Council (FSC) Certified, or USGBC-approved equivalent. Many of the treating facilities that use Viance preservative products have obtained a FSC Chain of Custody certifications. Verification may be obtained at http://info.fsc.org

	Operations & Maintenance Multifamily Core and Shell	Up to 6 points	Bio-based materials. Bio-based products must meet the Sustainable Agriculture Network's Sustainable Agriculture Standard. Bio-based raw materials must be tested using ASTM Test Method D6866 and be legally harvested, as defined by the exporting and receiving country. Local Production Framing .5 point Maximum 100 mile distance from extraction, processing and manufacturing to project site. 50% of building component required to meet criteria .5 point per component. Viance, LLC. produces all treatment and preservative solutions at Venator Materials at factory operations located at 5910 Pharr Mill Rd, Harrisburg, North Carolina 28075. Wood products must be Forest Stewardship Council (FSC) Certified, or USGBC-approved equivalent.
LEED – Materials and Resources	BD+C Building Design + Construction	**Sourcing of Raw Materials** Up to 2 points	Wood products must be certified by the Forest Stewardship Council or USGBC-approved equivalent. Products meeting wood products criteria are valued at 100% of their cost for the purposes of credit achievement calculation. For credit achievement calculation, products sourced (extracted, manufactured and purchased) within 100 miles (160 km) of the project site are valued at twice their base contributing cost, up to a maximum of 200% of cost.
LEED – Materials and Resources	BD+C Building Design + Construction	**Material Ingredients** Up to 2 points	Declare labels designated as Red List Free, LBC Red List Free, or Declared. Declare labels designated as LBC Red List Approved or LBC Compliant that demonstrate content inventory to 0.1% (1000 ppm) For credit achievement calculation, products sourced (extracted, manufactured, purchased) within 100 miles (160 km) of the project site

			are valued at twice their base contributing number of products, up to a maximum of 2 products.
LEED – Materials and Resources *D-Blaze FRTW, Preserve CA, Ecolife (EL2), and CCA preservatives produced by Viance do not contain added urea-formaldehyde.*	O+M, Building Operations & Maintenance Multifamily	**Purchasing** 1 point	Low formaldehyde requirements. Built-in cabinetry and architectural millwork containing composite woods must be constructed from materials documented to have low formaldehyde emissions that meet the California Air Resources Board requirements for ultra-low-emitting formaldehyde (ULEF) resins or no-added formaldehyde-based resins. Salvaged and reused architectural millwork more than one year old at the time of occupancy is considered compliant, provided it meets the requirements for any site-applied paints, coatings, adhesives, and sealants. Low emissions of volatile organic compounds excluding furniture: The following products must either be inherently non-emitting or be tested and determined compliant in accordance with California Department of Public Health Standard Method v1.2–2017, using the applicable exposure scenario. For products for school classrooms, the testing should be performed using the classroom scenario, for all other products use the default private office scenario Both first-party and third-party statements of product compliance must follow the guidelines in CDPH SM v1.2–2017, Section 8. Organizations that certify manufacturers' claims must be accredited under ISO Guide 65. Laboratories that conduct the tests must be accredited under ISO/IEC 17025 for the test methods they use. Option 2. Building Materials For at least one month, track all building material purchases (including furniture) used and/or installed as part of space reconfigurations, additions/alternations, or renovations. Purchase at least 50% (1 point) or 75% (2 points, Interiors only), by cost, of total building materials that meet at least one of the following criteria under Reporting, Optimization, and other attributes. Reporting: Health Product Declaration. The end use product has a published, complete Health Product Declaration with full disclosure of known hazards in compliance with the Health Product Declaration Open Standard. Cradle to Cradle Certified. Products purchased have earned Cradle to Cradle certification of any level, Version 3 or newer.

			Declare. The Declare label must indicate that all ingredients have been evaluated and disclosed down to 1000 ppm. EPD Optimization path: Products with Environmental Product Declarations (EPDs) that are third-party certified and demonstrate impact reduction below industry average in at least three of the following categories: global warming potential (greenhouse gases), in CO2e; depletion of the stratospheric ozone layer, in kg CFC-11; depletion of nonrenewable energy resources, in MJ.
LEED – Materials and Resources	O+M: Existing Buildings	**Purchasing** 1 point	Paper and wood products must be certified by the Forest Stewardship Council or USGBC-approved equivalent.
LEED – Materials and Resources	O+M: Existing Buildings BD+C MF Core and Shell BD+C New Construction: Retail Schools Homes MR, (Homes Midrise)	**Purchasing** 1 point	Pilot Alternative Compliance Path - Legal Wood Purchases consist of at least 50% Certified Sources as defined by ASTM D7612-10. Wood products sourced from Certified Sources are credited at 100% of their value provided: All wood products are verified to be from Legal (non-controversial) Sources as defined by ASTM D7612-10. And At least 70% (based on cost) of all wood products on the project are from Responsible Sources as defined by ASTM D7612-10.
LEED – Indoor Environmental Quality D-BLAZE FIRE RETARDANT TREATED WOOD D-Blaze (FRTW) fire retardant	BD+C	**Low-Emitting Materials** Up to 3 points	Wall panels: At least 75% of all wall panels, by cost or surface area, meet the VOC emissions evaluation, OR inherently non-emitting sources criteria, OR salvaged and reused materials criteria. Ceilings: At least 90% of all ceilings, by cost or surface area, meet the VOC emissions evaluation, OR inherently non-emitting sources criteria, OR salvaged and reused materials criteria.

formulations for interior use do not contain added urea-formaldehyde. No VOC's. The APA reference, "Formaldehyde in Structural Panels" documents that structural panels with this classification are manufactured with phenolic resin adhesives that do not contain urea formaldehyde.			Composite Wood: At least 75% of all composite wood, by cost or surface area, meets the Formaldehyde emissions evaluation OR salvaged and reused materials criteria. The composite wood product category includes all particleboard, medium density fiberboard (both medium density and thin), hardwood plywood with veneer, composite or combination core, and wood structural panels or structural wood products. Product meets the VOC content limits outlined in one of the applicable standards and for projects in North America, methylene chloride and perchloroethylene may not be intentionally added. • Certified as ultra-low-emitting formaldehyde (ULEF) product under EPA Toxic Substances Control Act, Formaldehyde Emission Standards for Composite Wood Products (TSCA, Title VI) (EPA TSCA Title VI) or California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM) • Certified as no added formaldehyde resins (NAF) product under EPA TSCA Title VI or CARB ATCM • Wood structural panel manufactured according to PS 1-09 or PS 2-10 (or one of the standards considered by CARB to be equivalent to PS 1 or PS 2) and labeled bond classification Exposure 1 or Exterior • Structural wood product manufactured according to ASTM D 5456 (for structural composite lumber), ANSI A190.1 (for glued laminated timber), ASTM D 5055 (for I-joists), ANSI PRG 320 (for cross-laminated timber), or PS 20-15 (for finger-jointed lumber).
LEED – Regional Priority	BD+C	Up to 4 points	These credits have been identified by the USGBC regional councils and chapters as having additional regional importance for the project's region. A database of Regional Priority credits and their geographic applicability is available on the USGBC website, www.usgbc.org/rpc. One point is awarded for each Regional Priority credit achieved, up to a maximum of four.

UL GreenGuard Gold Certified for Low Chemical Emissions

UL.com/GG UL 2818

UL GreenGuard Gold D-BLAZE FIRE RETARDANT TREATED WOOD			UL 2818 - 2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings Building products and interior finishes are determined compliant in accordance with California Department of Public Health (CDPH) Standard Method V1.2-2017 using an Office and Classroom Environment. Product tested in accordance with UL 2821 test method to show compliance to emission limits on UL 2818. Section 7.1 and 7.2.

National Green Building Standard – Home Innovations

NGBS Green Certificate #NGBSGCP-000220

Preserve CA (copper azole) Preserve CA	2012 NGBS 503.2(4) Erosion 2015 NGBS 503.2(4) 2020 NGBS 503.2(4)	Up to 5 points Up to 6 points Up to 6 points	Certification to the ICC-700 National Green Building Standard. Home Innovation Research Labs authorizes accredited verifiers to award points toward certification without additional documentation when the product(s) is used as noted below. Erosion reduced through use of terracing, retaining walls, landscaping and re-stabilization. Retaining walls built with this product must be an integral part of the installed landscape plan designed to limit long term erosion.
Preserve CA (copper azole) Preserve CA	2012 NGBS 602.1.6 Termite-resistant materials 2015 NGBS 602.1.6 2020 NGBS 602.1.6	2 to 6 points 2 to 6 points 2 to 6 points	Termite-resistant materials are used in portions of the building. To earn 2 points, product is used in conjunction with other termite-resistant materials for the first 2' of all the foundation, floor, and structural wall, wall cladding, and exterior deck components in zones with slight to moderate termite infestation. Four points are awarded when used in the first 3' in moderate to heavy termite zones, and 6 points are awarded for use in all of the foundation, floor, and structural wall, wall cladding, and exterior deck components in areas of very heavy termites.

National Green Building Standard – Home Innovations NGBS Green Certificate #NGBSGCP-000054			
Ecolife (EL2)  	2012 NGBS 602.1.6 Termite-resistant materials 2015 NGBS 602.1.6 2020 NGBS 602.1.6	2 to 6 points 2 to 6 points 2 to 6 points	Certification under ICC-700 National Green Building Standard. Home Innovation Research Labs authorizes accredited verifiers to award points toward certification without additional documentation when the product(s) is used as noted below. Termite-resistant materials are used in portions of the building. To earn 2 points, product is used in conjunction with other termite-resistant materials for the first 2' of all the foundation, floor, and structural wall, wall cladding, and exterior deck components in zones with slight to moderate termite infestation. Four points are awarded when used in the first 3' in moderate to heavy termite zones, and 6 points are awarded for use in all of the foundation, floor, and structural wall, wall cladding, and exterior deck components in areas of very heavy termites.

Resources

1. LEED Links – usgbc.org

LEED for Building Design and Construction

BD+C: New Construction
BD+C: Core and Shell
BD+C: Data Centers
BD+C: Healthcare
BD+C: Hospitality
BD+C: Retail
BD+C: Schools
BD+C: Warehouses and Distribution Centers

LEED for Operations and Maintenance

O+M: Existing Buildings
O+M: Data Centers

O+M: Hospitality
O+M: Retail
O+M: Schools
O+M: Warehouses and Distribution Centers

LEED for Interior Design and Construction

ID+C: Commercial Interiors
ID+C: Hospitality
ID+C: Retail

LEED for Building Design and Construction

BD+C: Homes
BD+C: Multifamily Midrise

LEED for Neighborhood Development

ND: Plan
ND: Built Project

2. The National Green Building Standard
   A home or multifamily building can attain one of four performance levels — Bronze, Silver, Gold, or Emerald.
   https://www.ngbs.com/the-ngbs-green-promise

3. UL GreenGuard Gold
   Products that have achieved GREENGUARD Certification are scientifically proven to meet some of the world's most rigorous third-party chemical emissions standards, helping to reduce indoor air pollution and the risk of chemical exposure.
   https://www.ul.com/resources/ul-greenguard-certification-program

* * * Section 1 - IDENTIFICATION* * *

Product Identifier:

D-Blaze® Fire Retardant Pressure Treated Wood

Trade Names

D-Blaze Fire Retardant Solution

Recommended Use

Lumber

Restrictions on Use

None known

Manufacturer Information

Call Viance at 800.421.8661 for the wood treater nearest your location.

General Comments

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

* * * Section 2 - HAZARD(S) IDENTIFICATION* * *

Classification in accordance with 29 CFR 1910.1200.

Toxic to Reproduction, Category 1B
Carcinogen, Category 2
Eye Damage / Irritation, Category 2B
Skin sensitizer, Category 1B
Respiratory Sensitizer, Category 1B
Specific Target Organ Toxicity - Single Exposure, Category 3 (respiratory system)

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

WARNING

Hazard Statement(s)

May damage fertility or the unborn child
Suspected of causing cancer

Causes eye irritation
May cause an allergic skin reaction
May cause respiratory irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statement(s)

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product.

Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

Store locked up.

Disposal

Dispose in accordance with all applicable regulations.

Hazard(s) Not Otherwise Classified

Combustible solid. Dust may form explosive mixtures with air. Wood dust is a potential health problem when wood particles from processes such as sanding, drilling, machining, and cutting become airborne. Inhalation of these particles may cause allergic respiratory symptoms, mucosal and non-allergic respiratory symptoms, and cancer.

* * * Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS* * *

CAS	Component	Percent
Not Available	Wood/ Wood Dusts	95-100
Proprietary	Phospho-Ammonium Boron Complex	<5

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Wood dust, all soft and hard woods.

* * * Section 4 - FIRST-AID MEASURES* * *

Description of Necessary Measures

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get medical attention, if needed.

Skin Contact

If wood splinters are injected under the skin, get medical attention immediately. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation occurs: Get medical advice/attention.

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.

Most Important Symptoms/Effects

Acute

Respiratory tract irritation, digestive system, eye irritation, allergic skin reaction.

Delayed

Reproductive effects

Indication of Immediate Medical Attention and Special Treatment Needed, If Needed

Respiratory ailments and pre-existing skin conditions may be aggravated by exposure to wood dust.

* * * Section 5 - FIRE-FIGHTING MEASURES* * *

Suitable Extinguishing Media

Use regular dry chemical, carbon dioxide, water spray, or regular foam Use water to wet down wood and to reduce the likelihood of ignition or dispersion of dust into the air.
Large fires: water spray or fog, alcohol-resistant foam

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Specific Hazards Arising from the Chemical

At elevated temperatures: May burn, but does not ignite readily. This product contains flame retardants. Combustible solid. Dust may form explosive mixtures with air.

Hazardous Decomposition Products

Combustion: oxides of carbon, ammonium compounds, phosphorus compounds, boron compounds

Special Protective Equipment and Precautions for Firefighters

This material will not burn. Product is a pressure treated wood containing a fire retardant. Wear full protective fire-fighting gear including self- contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures

Move product from fire area if it can be done without risk. Cool with water spray until well after the fire is out. Keep unnecessary people away, isolate hazard area and deny entry. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

NFPA Ratings: Health: 1 **Fire:** 0 **Reactivity:** 0 **Other:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

* * * Section 6 - ACCIDENTAL RELEASE MEASURES* * *

Personal Precautions, Protective Equipment and Emergency Procedures

No containment procedures are needed, as this product cannot spill or leak the preservative. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Use non-sparking tools and equipment.

Methods and Materials for Containment and Cleaning Up

Wear appropriate protective equipment and clothing during clean-up. Wet down accumulated dusts prior to sweeping or vacuuming in order to prevent explosion hazards. Sweep up or vacuum small pieces and dusts and place in appropriate container for disposal. Gather larger pieces by an appropriate method. Avoid the generation of airborne dusts during clean-up. Do not inhale dusts during cleanup.

* * * Section 7 - HANDLING AND STORAGE* * *

Precautions for Safe Handling

Obtain special instructions before use. Do not generate airborne dusts in the presence of an ignition source when sawing, cutting or grinding wood. Wash hands after handling and before eating. Avoid contact of wood dusts with skin and eyes. Do not breathe wood dusts. Do not eat, drink or smoke when handling this material or in areas where dusts of this product are present. When handling treated wood, wear washable or disposable coveralls or long-sleeved shirt and long pants, chemical resistant gloves, and socks plus industrial grade safety boots with chemical resistant soles. Contaminated clothing should be removed and laundered before reuse.

Conditions for Safe Storage, including any Incompatibilities

Maintain good housekeeping procedures, such as sweeping regularly to avoid accumulation of dusts. Store product in a dry area away from excessive heat, sparks and open flame. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

* * * Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION* * *

Component Exposure Limits

Wood/ Wood Dusts (Not Available)

NIOSH:	1 mg/m3 TWA (related to Wood dust, all soft and hard woods)
Alberta:	5 mg/m3 TWA (total, related to Wood dust, all soft and hard woods)
Nunavut:	10 mg/m3 STEL (related to Wood dust, all soft and hard woods) 5 mg/m3 TWA (related to Wood dust, all soft and hard woods)
Quebec:	5 mg/m3 TWAEV (except red cedar, containing no Asbestos and <1% Crystalline silica, total dust, related to Wood dust, all soft and hard woods)
Saskatchewan:	Present (beech, birch, mahogany, oak, teak, walnut, related to Wood dust, all soft and hard woods) 10 mg/m3 STEL (non-allergenic); 5 mg/m3 STEL (allergenic, including cedar, mahogany, teak, related to Wood dust, all soft and hard woods) 5 mg/m3 TWA (non-allergenic); 2.5 mg/m3 TWA (allergenic, including cedar, mahogany, teak, related to Wood dust, all soft and hard woods)

Appropriate Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of these product contain explosion relief vents or an explosion suppression system

or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Individual Protection Measures, such as Personal Protective Equipment

Eyes/Face Protection

Wear safety glasses with side shields when handling, cutting, sanding or grinding this material. Use a face shield during processes that may generate excessive dusts and splinters. Provide an emergency eye wash fountain in the immediate work area.

Skin Protection

Wear appropriate clothing to minimize skin contact.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

If ventilation is not sufficient to effectively prevent buildup of aerosols, mists, or dust, appropriate NIOSH respiratory protection must be provided. Respirators should be selected by and used under the direction of a trained health and safety professional following regulatory requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage must be implemented.

PPE Pictograms:




* * * Section 9 - PHYSICAL AND CHEMICAL PROPERTIES* * *

Physical State:	Solid	**Appearance:**	light to dark-brown Solid wood.
Color:	light to dark-brown	**Physical Form:**	solid
Odor:	odorless	**Odor Threshold:**	Not available
pH:	Approx. 7.0	**Melting Point:**	Not available
Boiling Point:	Not available	**Flash Point:**	Not available
Decomposition Temperature:	Not available	**Evaporation Rate:**	Not available
LEL:	Not available	**UEL:**	Not available
Vapor Pressure:	Not available	**Vapor Density (air = 1):**	Not applicable
Relative Density:	Not available	**Specific Gravity (water = 1):**	Not available
Water Solubility:	Not available	**Coeff. Water/Oil Dist:**	Not available
Auto Ignition Temperature:	Not available	**Viscosity:**	Not available

* * * Section 10 - STABILITY AND REACTIVITY* * *

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

Conditions to Avoid

Avoid contact with incompatible materials. Avoid generating dust.

Hazardous Decomposition

Combustion: oxides of carbon, ammonium compounds, phosphorus compounds, boron compounds.

* * * Section 11 - TOXICOLOGICAL INFORMATION* * *

Acute Toxicity

Acute or prolonged exposure may result in irritation of the eyes, skin, gastrointestinal tract and respiratory tract.

Toxicity Data: Toxicology data for components greater than 1 percent in concentration are provided below.
Toxicity data supplied by component manufacturer:

Boron Compound LD50: 45 g/kg

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

Information on Likely Routes of Exposure

Inhalation

May cause respiratory tract irritation.

Ingestion

May be harmful if swallowed.

Skin Contact

Exposure to dust may cause skin irritation.

Eye Contact

May cause eye irritation.

Immediate Effects

Respiratory tract irritation, digestive system

Delayed Effects

Reproductive effects

Medical Conditions Aggravated by Exposure

No data available.

Irritation/Corrosivity Data

Skin irritation, eye irritation.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Germ Cell Mutagenicity

No data available.

Carcinogenicity

Component Carcinogenicity

Wood/ Wood Dusts (Not Available)

IARC: Monograph 100C [2012]; Monograph 62 [1995] (Group 1 (carcinogenic to humans), related to Wood dust, all soft and hard woods)

NTP: Known Human Carcinogen (related to Wood dust, all soft and hard woods)

DFG: Category 3B (could be carcinogenic for man, except beech and oak wood dust, related to Wood dust, all soft and hard woods)

OSHA: Present (related to Wood dust, all soft and hard woods)

Reproductive Toxicity

Available data characterizes components of this product as reproductive hazards.

Specific Target Organ Toxicity - Single Exposure

Respiratory system.

Specific Target Organ Toxicity - Repeated Exposure

No information available.

Aspiration Hazard

Not expected to be an aspiration hazard.

* * * Section 12 - ECOLOGICAL INFORMATION* * *

Ecotoxicity

No information available for the product.

Component Analysis - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Persistence and Degradability

No information available for the product.

Bioaccumulation Potential

No information available for the product.

Mobility in Soil

No information available for the product.

* * * Section 13 - DISPOSAL CONSIDERATIONS* * *

Disposal Methods

Dispose of in accordance with all applicable federal, state and local regulations.

Disposal of Contaminated Packaging

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

* * * Section 14 - TRANSPORT INFORMATION* * *

US DOT Information

Shipping Name: Not regulated.

TDG Information

Shipping Name: Not regulated.

* * * Section 15 - REGULATORY INFORMATION* * *

U.S. Federal Regulations

All components are on the U.S. EPA TSCA Inventory List.

U.S. Federal Regulations

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

Acute Health: Yes
Chronic Health: Yes
Fire: No
Pressure: No
Reactive: No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Wood/ Wood Dusts ([1]related to: Wood dust, all soft and hard woods)	Not Available	No	No	Yes[1]	Yes[1]	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING! Drilling, sawing, sanding, or machining wood products generate wood dust and other substances known to the state of California to cause cancer.

State regulations may apply. Check individual state requirements.

WHMIS Classification(s)

D2A

Component Analysis - Inventory

No information is available.

* * * Section 16 - OTHER INFORMATION* * *

Date of Preparation

New SDS: 02/02/2015

Key / Legend

ACGIH = American Conference of Governmental Industrial Hygienists; **AU** = Australia; **BOD** - Biochemical Oxygen Demand; **C** - Celsius; **CA** - Canada; **CAS** = Chemical Abstracts Service; **CERCLA** = Comprehensive Environmental Response, Compensation, and Liability Act; **CFR** = Code of Federal Regulations; **CN** = China; **CPR** = Controlled Products Regulations; **DOT** = Department of Transportation; **DSL** = Domestic Substances List; **EINECS** = European Inventory of Existing Commercial Chemical Substances; **ELINCS** = European List of Notified Chemical Substances; **EPA** = Environmental Protection Agency; **ERG** = Emergency Response Guide; **EU** = European Union; **F** - Fahrenheit; **HEPA** = High Efficiency Particulate Air; **HMIS** = Hazardous Material Information System; **HPV** – High Production Volume Chemical (EU); **IARC** = International Agency for Research on Cancer; **IATA** = International Air Transport Association; **ICL** – In Commerce List (Canada); **IDL** - Ingredient Disclosure List; **IDLH** - Immediately Dangerous to Life and Health; **JP** = Japan; **KR** = Korea; **LEL** - Lower Explosive Limit; **MITI** = Japan Ministry of International Trade and Industry; **mg/Kg** = milligrams per Kilogram; **mg/L** = milligrams per Liter; **mg/m3** = milligrams per Cubic Meter; **MSHA** = Mine Safety and Health Administration; **NA** = Not Applicable or Not Available; **NFPA** = National Fire Protection Association; **NIOSH** = National Institute for Occupational Safety and Health; **NJTSR** = New Jersey Trade Secret Registry; **NTP** = National Toxicology Program; **NZ** = New Zealand; **OSHA** = Occupational Safety and Health Administration; **PH** = Philippines; **RCRA** = Resource Conversation & Recovery Act; **SARA** = Superfund Amendments and Reauthorization Act; **STEL** = Short Term Exposure Limit; **TDG** = Transport Dangerous Goods; **TSCA** = Toxic Substances Control Act; **TWA** - Time Weighted Average; **UEL** - Upper Explosive Limit; **US** - United States; **WHMIS** = Workplace Hazardous Materials Information System.

Other Information

Disclaimer: Supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Material Safety Data Sheet before handling product.

End of Sheet VIA-249

SECTION 06 05 73.13
FIRE RETARDANT WOOD TREATMENT – D-BLAZE

PRESSURE TREATED WOOD

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fire-retardant treatment of lumber and plywood.

1.2 RELATED SECTIONS

A. Section 06 10 00 - Rough Carpentry.

B. Section 06 15 00 - Wood Decking.

C. Section 06 20 00 - Finish Carpentry.

1.3 REFERENCES

A. ASTM International (ASTM):
1. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
2. ASTM A653 / A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
3. ASTM D3201 - Standard Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Base Products.
4. ASTM D5516 - Standard Test Method for Evaluating the Flexural Properties of Fire-Retardant Treated Softwood Plywood Exposed to Elevated Temperatures.
5. ASTM D5664 - Standard Test Method for Evaluating the Effects of Fire-Retardant Treatments and Elevated Temperatures on Strength Properties of Fire-Retardant Treated Lumber.
6. ASTM D6305 - Standard Practice for Calculating Bending Strength Design Adjustment Factors for Fire retardant Treated Plywood Roof Sheathing.
7. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. American Wood-Protection Association (AWPA):
1. AWPA E12 - Standard Method of Determining the Corrosion of Metal in Contact with Wood.
2. AWPA M4 - Standard for the Care of Preservative Treated Wood Products.
3. AWPA P5 - Standard for Waterborne Preservatives.
4. AWPA P17 - Fire Retardant Formulations.
5. AWPA P50 - Standard for Fire Retardant FR-2 (FR-2).
6. AWPA T1 - Use Category System: Processing and Treatment Standard.
7. AWPA U1 - Use Category System: User Specification for Treated Wood.

C. GREENGUARD Environmental Institute: GREENGUARD Green Certified Products.

D. National Fire Protection Association (NFPA) 255 Method of Test of Surface Burning Characteristics of Building Materials.

E. ESR 2645 D-Blaze Fire Retardant Treatment; International Code Council -Evaluation Service, ICC-ES.

F. Underwriters Laboratories, Inc. (UL) 723 Tests for Surface Burning Characteristics of Building Materials.

G. Hawaiian Local Building Code Standards.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's instructions for use, including requirements for storage, cutting, and finishing.

C. Preservative Treatment Certification: Treating plant's certification of compliance with specified standards, process employed, and preservative retention values.

D. Fire-Retardant Treatment Certification: Treating plant's certification of compliance with specified requirements.

1.5 QUALITY ASSURANCE

A. Wood Treatment Plant Qualifications: Wood treatment plant experienced in performing work of this section licensed by Viance, LLC.

B. Source Quality: Obtain treated wood products from a single approved source.

C. Preservative Treatment: Mark each piece of plywood and lumber to show compliance with specified standards.

D. Fire-Retardant Treatment: Mark each piece of plywood and lumber to show compliance with specified standards.

E. Regulatory Requirements: Provide fire retardant treatment which complies with the following regulatory requirements:
1. International Building Code (IBC).
2. International Residential Code (IRC).
3. International Code Council Evaluation Service ICC-ES ESR 2645.
4. City of Los Angeles, California RR24502.
5. City of New York, New York Building Code, MEA 406 and MEA 407.
6. Hawaiian Local Building Code Standards.

F. Independent Third Party Inspection:
1. Provide plant inspections.

G. Low Chemical Emission Certification:
1. GREENGUARD Gold Certified.

H. Kiln Dry after Treatment (KDAT): Provide kiln dry material as indicated or required.
1. Kiln dry after treatment to 19 percent maximum moisture content for lumber and 18 percent for plywood in accordance with AWPA T1, Section 7 - Drying After Treatment (lumber) and AWPA T1, Section: F: Pressure treated composites (3c) kiln drying after treatment.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Exposure: Prevent wood products against moisture and dimensional changes, in accordance with instructions from treating plant.

1.7 WARRANTY

A. Manufacturer's Warranty: Provide manufacturer's standard 50-year limited warranty for pressure-treated FRTW wood.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Viance - Treated Wood Solutions, which is located at: 8001 IBM Dr. Building 403; Charlotte, NC 28262; Toll Free Tel: 800-421-8661; Tel: 704-522-0825; Fax: 704-527-8232; Email: request info (info@viance.net); Web: www.treatedwood.com

B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

C. Substitutions: Not permitted.

2.2 MATERIALS

A. Dimension Lumber: As specified in Section 06 10 00 - Rough Carpentry.

B. Structural Plywood: As specified in Section 06 10 00 - Rough Carpentry.

C. Finish Lumber and Plywood: As specified in Section 06 20 00 - Finish Carpentry.

D. Fasteners and Metal Hardware Provide corrosion resistant steel fasteners with hot-dip zinc coating per ASTM A153/A153M, provide corrosion resistant hardware per ASTM A653 / A653M Class G-185 in compliance with building code requirements.

E. Fasteners used in D-Blaze Fire-Retardant Treated Wood: Use only code approved fasteners as specified in ICC-ES ESR 2645. Fasteners must be galvanized steel, stainless steel, silicon bronze or copper, in accordance with 2009 and 2006 IBC Section 2304.9.5, 2009 IRC Section R317.3 or 2006 IRC Section R319.3

2.3 FIRE RETARDANT PRESSURE TREATMENT OF LUMBER AND PLYWOOD

A. Fire retardant treatment for wood, including roof and floor trusses, roof decks and sheathing; subflooring, beams and purlins, blocking and furring, studs, joists and paneling, architectural millwork and trim, interior non-load bearing partitions and exterior load-bearing walls.
   1. Lumber: Comply with AWPA U1 UCFA, Type A or ICC-ES ESR 2645.
   2. Plywood: Comply with AWPA U1, UCFA, Type A or ICC-ES ESR 2645.
   3. Surface Burning Characteristics: UL FR-S rating; or flame spread, and smoke developed ratings of 25 or less in a test of 30 minutes' duration in accordance with IBC section 2303.2.
   4. Treatment: D-Blaze FRT as manufactured by Viance.
   5. Kiln dry after treatment to 19 percent maximum moisture content for lumber and 15 percent for plywood.
   6. Treat wood used for the following applications:
      a. Roof and floor trusses.
      b. Roof decks and sheathing.
      c. Subflooring.
      d. Beams and purlins.
      e. Interior non-load bearing partitions.
      f. Studs and joists.
      g. Exterior load-bearing walls protected by weather barrier.
      h. Millwork and trim.

PART 3 EXECUTION

3.1 INSTALLATION

A. Fire-Retardant Treated Wood:
   1. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.
   2. End cuts and drilling are permitted. Do not rip or mill lumber after fire-retardant treatment.

END OF SECTION

D-BLAZE®

FIRE RETARDANT TREATED WOOD

50-YEAR LIMITED WARRANTY

VIANCE hereafter called "Viance," warrants to Builder for the period of 50 years from the date of installation, that if a registered structure into which D-BLAZE® Fire Retardant Treated Wood (FRTW) is incorporated and built according to the design and standards in Section 2 "Conditions and Limitations," the D-BLAZE FRTW will not structurally fail due to a reduction in strength below the design specifications listed in the Viance D-BLAZE Technical Data Sheet, Tables 3 and 4, in effect at the time of installation due to temperatures of up to 150°F (lumber) and 170°F (plywood). This warranty is subject to the following conditions and limitations.

1. PRODUCT IDENTITY

This warranty applies only to D-BLAZE impregnated into wood in accordance with Viance specifications and labeled with an Underwriters Laboratories, Inc. label indicating that the wood is D-BLAZE treated and further, with respect to plywood treated with D-BLAZE, must be kiln dried under the Viance Standard DB-90.

2. CONDITIONS AND LIMITATIONS

A. This warranty shall be void and Viance shall have no liability whatsoever if any of the following conditions or limitations are not met:

i. D-BLAZE FRTW, when properly pressure-treated into wood, shall have been kept dry during storage and installation.

ii. The structure must be designed to take into account the published standards and design data for using D-BLAZE as set forth in Viance's published specifications (and are made a part hereof). D-BLAZE use must meet all architectural specifications and design standards, such as, but not limited to, adequate ventilation across all surfaces of wood in roof systems (enclosed cavities under flat or vaulted roofs require careful attention to detail to assure adequate ventilation).

iii. The roof design must be a design commonly used in the building industry.

iv. The D-BLAZE plywood used as roof sheathing must be a minimum 7/16" thick.

v. This warranty shall be void unless the D-BLAZE FRTW Builder Warranty Agreement has been fully executed by the Builder and delivered to Viance within 30 days of installation of D-BLAZE FRTW in the structure.

B. This warranty is subject to the following limitations:

i. VIANCE'S OBLIGATION UNDER THIS WARRANTY OR OTHERWISE, UNDER ANY THEORIES OF MISREPRESENTATION, NEGLIGENCE, BREACH OF WARRANTY AND/OR STRICT LIABILITY IN TORT, OR ANY OTHER THEORY OF LIABILITY IN TORT OR IN CONTRACT OR UNDER THE UNIFORM COMMERCIAL CODE, SHALL BE STRICTLY AND EXCLUSIVELY LIMITED TO THE REASONABLE COST OF REPAIR OF THAT PORTION OF THE STRUCTURE DAMAGED AS A DIRECT RESULT OF THE FAILURE OF D-BLAZE. UNDER NO CIRCUMSTANCES SHALL VIANCE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE AS THOSE TERMS ARE DEFINED IN SECTION 2-715 OF THE UNIFORM COMMERCIAL CODE.

ii. ANY ACTION AGAINST VIANCE FOR BREACH OF THIS WARRANTY SHALL BE COMMENCED WITHIN ONE YEAR OF THE DATE OF DISCOVERY OF SUCH DAMAGE OR REASON TO KNOW OF SAME.

iii. This warranty does not cover damage to D-BLAZE FRTW other than structural failure due to a reduction in strength below the design specifications listed in the Viance D-BLAZE Technical Data Sheet, Tables 3 and 4, in effect at the time of installation due to temperatures of up to 150° F (lumber) and 170° F (plywood) in an approved structure designed and constructed in accordance with paragraphs 2. A. i, ii, iii, and iv. The failure of D-BLAZE FRTW as a result of abnormal building conditions, poor design, roof leaks, delamination of plywood, poor quality lumber, or the owner, architect, or builder (including contractors and subcontractors) negligence is not covered by this warranty.

iv. This warranty does not cover structures that are not registered by the Builder with Viance through execution of the D-BLAZE BUILDER

v. WARRANTY AGREEMENT specific to the structure in question.

3. CLAIM PROCEDURE

A. In the event Builder believes or has reason to know any D-BLAZE FRTW failed within the coverage of this warranty, the Builder shall promptly notify Viance of the same. Upon direction from Viance, Builder shall remove samples of D-BLAZE FRTW at Builder's expense and forward them to Viance and an independent testing agency for strength testing. Viance reserves the right to have a representative inspect all D-BLAZE FRTW which is claimed to be defective and to have a representative observe the removal of D-BLAZE FRTW samples from the structure in question. Results of the strength testing must be sent to Viance with a letter certifying that the wood tested was D-BLAZE FRTW removed from the structure in question.

In the event that D-BLAZE FRTW is not defective, Builder shall be responsible for the cost of strength testing. If the D-BLAZE FRTW is proven defective, Viance will, at its option, authorize the repair to that portion of the structure damaged as a direct result of the defective D-BLAZE FRTW, or reimburse the Builder an amount equal to the original cost of the damaged portion of the structure. Viance will also reimburse Builder for the costs of strength testing if D-BLAZE FRTW is proven defective.

B. In the event the remedy set forth in Section 3A. fails or is for any reason not enforced, Viance's liability under this Agreement shall be limited to the replacement of defective D-BLAZE FRTW or reimbursement of the original purchase price of the defective D-BLAZE FRTW.

4. REPUBLICATION

This warranty is extended only to the Builder for the structure described in the Builder Warranty Agreement and shall not create any rights to any third party.

5. PARAGRAPH HEADINGS

Paragraph headings are for convenience only and shall not affect the interpretation of the terms of this warranty.

6. THIS WARRANTY SHALL BE INTERPRETED UNDER THE LAWS OF THE STATE OF NORTH CAROLINA WITHOUT REGARD TO PRINCIPLES OF CONFLICT LAWS.

D-BLAZE
FIRE RETARDANT TREATED WOOD

WARRANTY AGREEMENT

THIS AGREEMENT is made on _____(date) by and between VIANCE hereafter called "Viance," whose address is 8001 IBM, Building 403, Charlotte, NC 28262

and "Builder" _____whose address is _____

_____ Telephone: _____Fax:_____

THIS AGREEMENT applies solely to the building described below:

Name of Project_____

Building Address: _____

_____

_____

Date D-BLAZE® was Installed: _____

Name of Company that Supplied D-BLAZE: _____

WHEREAS, Viance manufactures D-BLAZE, a fire-retardant chemical to be applied by customers of Viance to plywood and other wood products which are then sold by the customers as D-BLAZE FIRE RETARDANT TREATED WOOD (D-BLAZE FRTW), and Builder wishes to purchase D-BLAZE FRTW for use in construction, and Viance encourages the purchase of D-BLAZE FRTW through offer of the warranty included in this Agreement.

NOW, THEREFORE, the parties agree to be bound as follows:

1. WARRANTY.

VIANCE hereafter called "Viance," warrants to Builder for the period of 50 years from the date of installation, that if a registered structure into which D-BLAZE Fire Retardant Treated Wood (FRTW) is incorporated and built according to the design and standards in Section 2 "Conditions and Limitations," the D-BLAZE FRTW will not structurally fail due to a reduction in strength below the design specifications listed in the Viance D-BLAZE Technical Data Sheet, Tables 3 and 4, in effect at the time of installation due to temperatures of up to 150° F (lumber) and 170° F (plywood). This warranty is subject to the following conditions and limitations.

2. WARRANTY CONDITIONS AND LIMITATIONS.

A. This warranty shall be void and Viance shall have no liability whatsoever if any of the following conditions or limitations are not met:

- D-BLAZE FRTW when properly pressure-treated into wood, shall have been kept dry during storage and installation.
- The structure must be designed to take into account the published standards and design data for using D-BLAZE as set forth in Viance's published specifications (and are made a part hereof). D-BLAZE use must meet all architectural specifications and design standards, such as but not limited to, adequate ventilation across all surfaces of wood in roof systems (enclosed cavities under flat or vaulted roofs require careful attention to detail to assure adequate ventilation).
- The roof design must be a design commonly used in the building industry.
- The D-BLAZE plywood used as roof sheathing must be a minimum 7/16" thick.
- This warranty shall be void unless the D-BLAZE FRTW Builder Warranty Agreement has been fully executed by the Builder and delivered to Viance within 30 days of installation of D-BLAZE FRTW in the structure.

B. This warranty is subject to the following limitations:

- VIANCE'S OBLIGATION UNDER THIS WARRANTY OR OTHERWISE, UNDER ANY THEORIES OF MISREPRESENTATION, NEGLIGENCE, BREACH OF WARRANTY AND/OR STRICT LIABILITY IN TORT, OR ANY OTHER THEORY OF LIABILITY IN TORT OR CONTRACT OR UNDER THE UNIFORM COMMERCIAL CODE, SHALL BE STRICTLY AND EXCLUSIVELY
- LIMITED TO THE REASONABLE COST OF REPAIR OF THAT PORTION OF THE STRUCTURE DAMAGED AS A DIRECT RESULT OF THE FAILURE OF D-BLAZE. UNDER NO CIRCUMSTANCES SHALL Viance BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE AS THOSE TERMS ARE DEFINED IN SECTION 2-715 OF THE UNIFORM COMMERCIAL CODE.
- ANY ACTION AGAINST VIANCE FOR BREACH OF THIS WARRANTY SHALL BE COMMENCED WITHIN ONE YEAR OF THE DATE OF DISCOVERY OF SUCH DAMAGE OR REASON TO KNOW OF SAME.
- This warranty does not cover damage to D-BLAZE FRTW other than structural failure due to a reduction in strength below the design specifications listed in the Viance D-BLAZE Technical Data Sheet, Tables 3 and 4, in effect at the time of installation due to roof temperatures of up to 150° F (lumber) and 170° F (plywood) in an approved structure designed and constructed in accordance with paragraphs 2. A. i, ii, iii, and iv. The failure of D-BLAZE treated wood as a result of abnormal building conditions, poor design, roof leaks, delamination of plywood, poor quality lumber, or the owner, architect, or builder (including contractors and subcontractors) negligence is not covered by this warranty.
- This warranty does not cover structures that are not registered by the Builder with Viance through execution of the D-BLAZE BUILDER WARRANTY AGREEMENT specific to the structure in question.

D-BLAZE
FIRE RETARDANT TREATED WOOD

WARRANTY AGREEMENT Cont.

3. CLAIM PROCEDURE AND BUILDER'S REMEDY.

- In the event Builder believes or has reason to know any D-BLAZE FRTW failed within the coverage of this warranty, the Builder shall promptly notify Viance of the same. Upon direction from Viance, Builder shall remove samples of D-BLAZE FRTW at Builder's expense and forward them to Viance and an independent testing agency for strength testing. Viance reserves the right to have a representative inspect all D-BLAZE FRTW which is claimed to be defective and to have a representative observe the removal of D-BLAZE FRTW samples from the structure in question. Results of the strength testing must be sent to Viance with a letter certifying that the wood tested was D-BLAZE FRTW removed from the structure in question.

  In the event that D-BLAZE FRTW is not defective, Builder shall be responsible for the cost of strength testing. If the D-BLAZE FRTW is proven defective, Viance will, at its option, authorize the repair to that portion of the structure damaged as a direct result of the defective D-BLAZE FRTW, or reimburse the Builder an amount equal to the original cost of the damaged portion of the structure. Viance will also reimburse Builder for the costs of strength testing if D-BLAZE FRTW is proven defective.

- In the event the remedy set forth in Section 3A. fails or is for any reason not enforced, Viance's liability under this Agreement shall be limited to the replacement of defective D-BLAZE FRTW or reimbursement of the original purchase price of the defective D-BLAZE FRTW.

4. INDEMNITY.

Viance will indemnify Builder against any loss or damage caused by breach of this Warranty provided herein if: a) the claim meets all provisions expressed in Section 2 "Warranty Conditions and Limitations," and b) it is brought by the owner of the building in question. Viance's commitment to indemnify Builder is contingent on notification by Builder to Viance within 15 days of learning of a claim or within 2 days of learning of litigation. Viance shall have the right to control the claim/litigation. Builder must cooperate fully with legal counsel selected by Viance at Builder's expense, and must conduct strength testing as required in Section 3, "Claim Procedure and Builder's Remedy." Viance shall have no obligation to indemnify Builder for loss or damage caused by failure to meet the conditions and limitations set forth in this Agreement.

5. REPUBLICATION.

The warranty given in this Agreement is extended only to the Builder for the structure described above and shall not create any rights to any third party. Builder shall not republish this Agreement or terms of the warranty to cover any other structure.

6. NOTICE.

All notices and communications required in this Agreement shall be in writing and delivered via registered or certified mail, return receipt requested, postage prepaid, to the addresses designated at the top of this Agreement. Or, they may be similarly delivered to such other address as may be furnished by one party to the other. All such communications shall be deemed to be delivered on the day such writing is received by the other party.

7. ENTIRE AGREEMENT.

This Agreement is the complete and entire agreement between Builder and Viance, and supersedes all prior representations or agreements made between them. This Agreement may not be amended except by a written amendment signed by officers of each company.

8. APPLICABLE LAW.

This Agreement shall be governed by the laws of the State of North Carolina, without regard to principles of conflict laws.
IN WITNESS HEREOF, the parties have caused this Agreement to be in effect by their signature of an officer of the company on the date given at the top of this Agreement.

BUILDER

By:_____

Title:_____

Witness:_____

VIANCE

By:_____

Title: _____

Witness:_____