AN INTRODUCTION TO

DRICON®

FIRE RETARDANT TREATED WOOD
Dricon® FRT Wood

Treated lumber and plywood that is pressure-impregnated with a chemical treatment to reduce the spread of flames and smoke development as well as to prevent termite and decay damage.
The Purpose of Fire Retardant Wood

To reduce injury and damage from fires

Primarily by

• Reducing the spread of flames and smoke development
• Showing no significant progressive combustion in a 30-minute test
Reasons for FR Wood Specification

Meet building codes with an acceptable substitute for non-combustible material

*and ...*

- Limit damage in buildings with valuable contents
- Protect buildings remote from fire protection services
- Safety measure — increase escape time
- Avoid sprinklers
- Bring existing buildings up to code
- Add fire protection to light construction
Key Purchasing Drivers of Buyers

- Availability
  - Ranked by 2 of 10 respondents

- Price

- Code compliance

- Brand name
  - Ranked higher by specifiers
Types of Treatments

• Pressure-treated: Interior
  ― Must be shielded from direct precipitation
  ― FR is water-soluble

• Pressure-treated: Exterior
  ― Can be exposed to weather
  ― Useful for meeting Urban Wildland Interface codes
Typical Buildings for FRT Wood

• Schools
• Hotels
• Airports
• Military bases
• Department stores
• Restaurants
• Sports stadiums & theaters
• Multi-family homes
• Museums
• Convention centers
• Hospitals – assisted living
Common Uses

• Trusses
• Roof sheathing
• Interior framing
• Computer rooms
• Backing for mechanical panels
• Blocking for handrails, bathroom partitions
• Stairwell construction
• Shelving
History of Dricon® FRT Wood

• Developed in late 1970s
• Introduced commercially in November 1981
• Patent granted 1983
• No reported failures from heat degradation since its introduction
Special Features / Benefits

- Long history with current formulation
- Provides a benefit — termite & decay protection — when fire does not occur
- Backed by three warranties
- Meets standards of AWPA for fire retardancy (as FR-1) and preservation (as SBX)
- No restrictions or recommendations against use in contact with concrete that touches ground
- Substantial marketing support
Triple Warranty Backing

- 40-year roof system warranty
- 40-year preservative warranty
- 10-year truss manufacturers warranty
Roof System Warranty

- 40 years
- Strength will not fall below published values due to heat degradation
- Covers repair or refund of original cost of roof
- Resides with the builder
- One-time registration
- Exclusive remedy
Preservative Warranty

• 40 years
• Termite damage and fungal decay
• Includes damage from Formosan termites
• Covers replacement material
• Resides with owner
• No pre-registration necessary
• Not transferable
Truss Manufacturers Warranty

- 10 years
- Developed with Wood Truss Council of America (WTCA)
- Strength will not fall below published values due to heat degradation
- Covers replacement material
- Resides with truss manufacturer
- One-time registration
Can be upgraded to 40-year roof system warranty if truss manufacturer builds qualifying roof

Truss Manufacturers Warranty

10 years
Developed with Wood Truss Council of America (WTCA)
Strength will not fall below due to heat degradation
Covers replacement
Resides with truss manufacturer
One-time registration
How Does FR Wood Work?

- Passive and automatic at temperatures below 450°F
- Fire retardant chemicals react with combustible gases and tars and convert them to carbon char. This allows the wood to maintain its strength longer in a fire
- Fire retardant chemicals release carbon dioxide and water vapor which dilute the combustible gases to help reduce flame spread

Char insulates underlying wood and slows destruction.
Tunnel Test Determines Flame Spread Index

• The heart of qualifying as FRT wood is Tunnel Test
• How it works:
  • Wood placed in tunnel
  • Visual determination of flame spread
  • Sensors measure density of smoke.
Wood must be Class A to substitute for noncombustible materials.
In some cases, building codes do not require sprinklers when FR wood is used.

Eliminates chance of accidental activation and water damage to contents.
Using FR panels on roof on both sides of common walls in Type III, IV, and V construction of R-3 dwellings may eliminate requirement for parapets. This can provide a more homey appearance, and fewer roof penetrations so less chance of leaks.
At a wood treating plant, common species of lumber, timbers, and plywood are loaded onto trams and pushed into a large horizontal treating cylinder.
Steps in the Treating Process

Step 1
Dry wood is loaded into cylinder

Step 2
Initial vacuum pulls out air

Step 3
Liquid fire retardant chemicals fill cylinder
Step 4
Pressure forces fire retardant chemicals into wood

Step 5
Remaining liquid emptied for later use

Step 6
Final vacuum removes excess liquid
Basic material is wood, a sustainable natural resource
Plentiful species grown on managed timberlands
Low-energy requirements for production
Absorption and sequestering of carbon – reduced generation of greenhouse gases
Insulation value – thermal, acoustical, electrical
Treatment extends service life of wood
Promotional Tools

• Application Guide
• Rip ‘n’ Run sheet
• Website / Facebook / YouTube videos
• CEUs for architects
• Trade shows
Related Products

- Danback™ modular backers
  - Patented system
  - Exclusive to Dricon®
  - FRT wood
  - Distribution opportunities

- FireSheath™ coating
  - Surface coating
  - For utility poles and timbers

*FireSheath* is a trademark of Arch Wood Protection; *Danback* is trademark of Daniel Tollenaar
DRICON®
FIRE RETARDANT TREATED WOOD
FAQs
Will Dricon® FRT wood burn?

If a fuel source is present, Dricon® wood can burn. But, Dricon® wood will not support a fire.
What is the difference between Flame Spread & Fire Resistance?

Flame Spread: comparative rating of how quickly flame travels across surface of a material

Fire Resistance: hourly endurance rating of specific assemblies, such as doors, wall, ceilings, floors
What is the difference between Flame Spread & Fire Resistance?

FR wood has a Flame Spread rating but not, by itself, a Fire Resistance rating. However:

• FRT wood may be substituted for untreated wood in a tested assembly

• FRT wood may enable an assembly to be used when codes restrict untreated wood
Does it meet building codes?

Dricon® FRT wood has been issued a code evaluation report (ESR-1626) signifying compliance with ICC model codes. It’s also recognized by other US and international code regulatory agencies. Check local building codes to be certain of compliance.
Can Dricon® FRT wood be painted or stained?

Yes. Follow the same procedures you would for painting or staining untreated wood. However, flammability of the finish should be considered before application.
How should Dricon® FRT wood be stored at construction sites?

For maximum retention of fire retardancy, bundles of Dricon® wood should be shielded from precipitation and kept off the ground.
Is Dricon® FRT wood considered a hazardous material?

No. There are no special requirements for handling Dricon® FRT wood above what you would normally do for untreated wood.
What species can be treated?

Several species can be effectively treated, including southern pine, Doug fir, SPF and hem-fir.
Can Dricon® FRT wood be used outdoors?

It can be used outdoors in certain applications where it is shielded from weather. Otherwise, Dricon® wood is intended for interior use.
Is there a reduction in strength compared to untreated wood?

Yes. The treating and drying processes cause a reduction in strength that varies with treatment, species of wood, application, and specific properties.
What type of fasteners should be used with Dricon® FRT wood?

Galvanized steel hardware is recommended. Although the Dricon® FR treatment does not increase the corrosion rate of bare steel, the galvanizing process provides an extra margin of safety.
Can I cut Dricon® FRT wood?

Yes. Cutting lengths, drilling holes, and light sanding are permissible. It is not necessary to field-treat cut ends to maintain flame spread rating. Most species of Dricon® FRT lumber should not be ripped or milled. Dricon® FRT plywood can be ripped or cross-cut.
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FIRE RETARDANT TREATED WOOD
THANK YOU FOR YOUR ATTENTION