

EXTERIOR FIRE-X®

Guidelines for Finishing Exterior Fire-X Fire-Retardant Treated Wood

Exterior Fire-X treated wood can be finished with good results. Precautions and procedures for finishing Exterior Fire-X are similar to those for untreated wood. As with untreated wood, finish performance is highly dependent on moisture content, species, surface preparation, application method, and finishing system.

All surfaces of all exposed outdoor members should be given a protective water repellent preservative coating before installation.

▲Moisture Content

Moisture content at time of painting or staining is the most important factor in determining performance, whether treated or untreated. Unfortunately, post-installation drying and moisture content stabilization is often overlooked in the rush to complete a construction project. If moisture content is too high, finishing results will be poor. Moreover, the dark water-soluble extractives in some species such as western red cedar can discolor finishes, particularly if the wood is not dry when finished.

Exterior Fire-X treated wood should not be painted or stained immediately after installation. Finishing should be done after a period of dry, sunny weather when wood moisture content is uniformly low. Even though Exterior Fire-X is always kiln dried after treatment (KDAT) additional drying time is necessary after installation because of possible re-wetting on the job or moisture gain due to high humidity.

Furthermore, even freshly KDAT wood will not have a uniformly low enough moisture content for painting or staining, and shop application of paint or stain to freshly un-bundled wood is not recommended.

▲Species

Of the softwoods, western red cedar and redwood are rated easiest to finish; and southern yellow pine and Douglas fir are rated difficult to finish. Western red cedar and Douglas fir contain natural, dark extractives that sometimes bleed through finishes. Cedar and redwood have narrow bands of latewood, while southern yellow pine and Douglas fir are denser with wide bands of latewood and are more subject to dimensional change and poor paint adhesion.

▲Paint Or Stain?

According to the U.S. Forest Products Laboratory (FPL), wood shrinkage and swelling due to fluctuating moisture content constantly stresses a paint film and will cause cracking and peeling. Consequently, for exterior wood, penetrating stains are likely to perform better because they don't crack or peel.

FPL studies show that all-acrylic latex solid-color stains are generally superior to oil-based solid-color stains on exterior wood when two coats are applied. Stain-blocking primers are recommended. Brush application is more effective than spray or roller application. Primer and finish coat should be from the same manufacturer. If cracks and checks develop later, apply a clear water repellent preservative

If paint is used, FPL testing shows that two coats of all-acrylic top-coat paint applied over a stain-blocking acrylic latex primer lasts longer than other paint systems for exterior wood. Oil-based paint films usually provide the best moisture shield, but they tend to become brittle and are more likely to crack and peel. FPL recommends use of a paintable water repellent preservative as the first coat.

▲ **Contact Surfaces**

Where wood surfaces will be in contact and trap moisture these surfaces should receive a coating of preservative such as copper naphthenate, which is sold under brand names including Green End-Coat, Co-Nap, and Coppa. It should be applied before assembly to the wood-to-wood surfaces of laminated beams or joists, beam-to-post attachments, top edges of joists, and other contact surfaces that trap moisture.

▲ **Exposed Surfaces**

Exposed surfaces should receive a water repellent preservative coating. Water repellent preservatives are recommended for all exterior wood because they reduce moisture absorption, shrinkage and cracking, plus they help prevent mold and mildew. Be sure to use a paintable water repellent that also has a preservative ingredient.

Exposed (non-contact) surfaces of Exterior Fire-X joists, framing and decking should be coated on all sides with a paintable water repellent preservative before or during installation. Refer to the preceding section for protection of contact surfaces that will trap moisture. Coincidentally, coating of all surfaces is also recommended by the California Redwood Association for redwood even though it's considered decay resistant. Water repellent preservative coatings should be re-applied regularly because they are not permanent.

▲ **Surface Preparation**

Surface preparation is very important for painting or staining. In addition to being thoroughly dry, the surface must be free of dirt, surface deposits, pitch, dust, mildew and other contaminants. Sanding, scraping, brushing or wiping may be necessary to clean the surface. Avoid washing because it re-wets the wood.

▲ **Shop Pre-Staining Or Pre-Painting**

This is not recommended unless the wood can be thoroughly dried in the shop before finishing.

▲ **Effect Of Finishes On Flame Spread Rating**

The UL Classification label on Exterior Fire-X does not certify flame spread after finishing. Exterior Fire-X has a flame spread rating well under the Class A requirement

of 25 and a finish coat is not likely to increase the flame spread rating above 25, nor is it likely to affect the fire retardant treatment in the wood.

▲Testing Of Finishes

Due to the infinite variety of weather conditions, building exposures, storage conditions, finishing systems and construction techniques, Hoover Treated Wood Products Inc. cannot make more detailed recommendations for finishing systems to use on Exterior Fire-X treated wood and accepts no liability with regards to the finishing of its products.

IT IS THE USER'S RESPONSIBILITY TO TEST THE DESIRED FINISHING SYSTEM ON SAMPLE MATERIAL AND EXPOSE TO ACTUAL USE CONDITIONS TO DETERMINE IF THE DESIRED EFFECT CAN BE OBTAINED.

▲References And Recommended Reading

"Exterior Wood In The South - Selection, Application And Finishes," by Daniel Cassens & William Fiest. Published by USDA Forest Service, Report No. FPL-GTR-69, One Gifford Pinchot Drive, Madison, WI 53705. Also available from Southern Pine Marketing Council, P.O. Box 52468, New Orleans, LA (504) 433-4464; and the Southeastern Lumber Manufacturers' Association, P.O. Box 1788, Forest Park, GA 30051. (404) 361-1445.

"Finishing Exterior Wood Products," by the American Forest and Paper Association, 1250 Connecticut Avenue NW, Washington, DC 20036. (202) 463-2700.

"Wood Engineering Handbook," by the U.S. Forest Products Laboratory, Published by Prentice-Hall Business and Professional Division, Englewood Cliffs, NJ 07632.