

## **FINISHING WESTERN RED CEDAR DECKS**

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The important characteristics of Western Red Cedar (let's call it 'cedar') that make it so desirable for wood decks are its outstanding dimensional stability, its fine texture, its freedom from pitch and resin, and its exceptional ability to accept and retain many different types of finishes.

For the best long-term performance, a new cedar deck should be maintained with a finish shortly after construction. The combination of a horizontal surface, foot traffic, pounding of water, and full exposure to sun and rain make cedar deck finishing more demanding than other finishing such as exterior siding. A full range of both penetrating and film-forming finishes are available for cedar decks. Because they don't form a film, the penetrating finishes give better overall performance and have the easiest maintenance and refinishing. Be forewarned that things are changing in the world of wood finishes and many traditional finishes based on petroleum based solvents (solvent-borne finishes) (such as semi-transparent stains and water-repellent preservatives) may not be available in some areas. Coatings formulated with natural biodegradable oils like Tung Oil and Linseed oil will fertilize existing mildew and cause it to grow in regions with high precipitation.

### **TYPES OF FINISHES AVAILABLE**

Penetrating finishes don't form a film and the cedar can breath and the finish cannot flake, crack, or peel. These treatments help repel water from rain and dew, and slow down the growth of staining micro-organisms like mildew. The penetrating finishes are often used as a natural finish for cedar decks. There are three types of penetrating finish: water repellents, water-repellent preservatives, and solvent-borne semi-transparent stains. The best of these finishes are solvent-borne.

Water repellents and water-repellent preservatives are essentially colorless penetrating finishes that are commonly used for cedar decks. These natural finishes enhance the appearance and service-life of cedar decks. The water-repellent preservatives are far preferable to the water repellents because they contain a mildewcide and sometimes other fungicides that help inhibit mildew growth on the surface. Many of them contain ultraviolet light blockers or absorbers that help protect the cedar from damaging sunlight. To date, the best of them are solvent-borne. The water-repellent preservatives finishes are very effective in stopping the absorption of liquid water thus reducing swelling and shrinking of the cedar.

Semi-transparent stains have pigments which provides color and greatly increases the durability of the finish. The pigments help block sunlight and protect the cedar surface, thus increasing service-life. The better of these stains contain water repellents and mildewcides or fungicides. The solvent-borne, semi-transparent stains penetrate into the cedar without forming a film and cannot blister or peel even if excessive moisture enters the cedar. However, latex semi-transparent stains can sometimes build up a film, especially on recoating, which can lead to problems. Newer latex stain formulations being developed may correct this problem.

Film-forming finishes cover a wide range of finishes from clear varnishes; to water-borne, latex-based semi-transparent stains; to paints; and to both oil-based and latex solid-color or opaque stains. All these film-forming products are normally not recommended for use on cedar decks because they can fail by cracking, flaking and peeling and be very difficult to refinish and maintain.

## **FINISHING NEW CEDAR DECKS**

The first finish applied to cedar decks is the most important. If the first finish is not done properly, it can sometimes be difficult to correct problems that develop later. The finish should be applied as soon as the cedar surface is dry. The deck should be cleaned if necessary, but power washing should never be used to clean cedar decks because this process can damage the wood surface fibers and make it difficult for the finish to penetrate.

Assuming that a penetrating finish is used, the next decision is whether or not to use a semi-transparent stain or a water-repellent preservative. The service life of water-repellent preservatives is about one year on the exposed surfaces; however, they are extremely easy to reapply to cedar decks. They absorb readily into the end grain of cedar and can stop water absorption into the end grain much longer than one year. Because they are not pigmented, problems with uneven wear are eliminated; however they afford less protection from the weathering effects of sunlight than pigmented finishes.

If you are unsure whether to use a semi-transparent stain or use a water-repellent preservative, apply the water-repellent preservative to the deck first. If a stain is desired in the future, just switch to a semi-transparent penetrating stain when the deck needs to be refinished. Even if the deck has been maintained with a water-repellent preservative for many years, the semi-transparent stain will perform satisfactorily, because it can penetrate the cedar and will not fail by peeling as do film-forming finishes. Just make sure the deck is clean and dry before refinishing.

Remember, cedar decks are best finished with transparent, penetrating water-repellent preservatives that contain ultraviolet light absorbers or blockers to protect against sunlight, and mildewcides to help prevent the blackening or graying of wood from mildew growth. These finishes are easily refinished. The next best finishes are the lightly pigmented penetrating semi-transparent stains. These oil- or alkyd-based finishes may last longer than the transparent finishes but will often require more surface preparation when refinishing. Fully exposed decks may need cleaning and retreatment yearly when transparent finishes are used, and every 2 years when penetrating semi-transparent finishes are used. Be sure to follow manufacturer's recommendations and instructions when applying the finish.

**A Last Note:** Cedar decking should not be left unfinished for 6 months to a year as indicated by some product literature or as recommended by some paint and lumber suppliers. This can be damaging to the cedar surface and discoloration and other finishing problems may result. The cedar should be finished when it is clean and dry.