



TECHNICAL BULLETIN

Sidewall Shingle Finishes/Coatings Western Red Cedar

Overview

Pre-finished shingles are often used on sidewalls and at dormer/gable end accents. Specifying pre-finished shingles depends upon project needs. Three basic types of pre-finishes are available; pre-stained, pre-primed and opaque. Coatings and finishes are classified as film forming or penetrating. Paint and solid body stains are film forming. Penetrating stains penetrate the wood. Latex stains are classified as film forming although some formulations are showing better penetration characteristics as they evolve. Custom colors as well as product and coating manufacturers' warranties are available.



Caution Areas

- Ensure wood is at equilibrium point prior to applying a finish or coating. Applying a finish or coating on wood which is green (not at the equilibrium point) will result in premature coating failure or inadequate penetration of the stain.
- Follow the manufacturer's instructions
- Never allow wood to weather before applying the finish/coating
- Coat all product surfaces for the best results
- Research product options BEFORE starting the job
- Use a stain blocking primer to minimize extractive bleeding when applying an opaque color (coating)

Specifications for Prefinished Rebutted and Rejointed Sidewall Shingles

- Pre-stained: pre-staining coats the shingle on all surfaces. Penetrating stains have been traditionally oil or alkyd oil-based. New latex formulations are being developed which show better penetration characteristics than older latex formulations. Penetrating stains are available in clear, lightly pigmented and semi-transparent. Alkyd oil refers to a type of durable synthetic resin or coating.
- Pre-primed: alkyd oil, stain blocking primer coats all surfaces of the shingle, usually gray or a shade of white. Latex stain blocking primers are evolving.
- Opaque: opaque color finishes are applied to the shingle after an alkyd oil stain-blocking primer has been applied to all surfaces of the shingle. Two or three coat systems are available. Factory finish equipment generally uses different formulations than over-the-counter solid body stains and paints. The factory finish topcoats are referred to as a finish coat.

If adding a coating at the job site, the base coat should contain a stain-blocking primer. The primer is to be applied to all surfaces of the shingle after the shingle has achieved equilibrium (12-14% and less moisture content in most of North America). Each of these finishes/coatings types has certain features and durability expectancy specific to the product, and certain brands may contain mold/mildew inhibitors.

Current Industry Trends

- The finishes/coating industries are continuously changing and improving product performance
- Nanotechnology is revolutionizing finishes and coatings
- Contact the USDA Forest Products Laboratory for more data. (www.fpl.fs.fed.us)

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Frequently Asked Questions:

How do I get started?

It is highly recommended that you consult the cedar shake or shingle manufacturer for finishes/coatings information and review the stated instructions for wood species' compatibility with particular products and or chemistry. Do your research PRIOR to starting the job.

What is extractive bleeding?

All forest products, including Western Red Cedar, contain extractives (tannins). Extractives are either water-soluble or non-water soluble. Western Red Cedar contains water borne extractives. Extractive bleeding (stains) on the surface of Western Red Cedar occur when extractives are dissolved and leached from the Western Red Cedar by water. The water then moves to the paint surface, evaporates and leaves the extractive discoloration which may be dark red or reddish-brown in appearance. Extractive bleeding is best minimized when the proper primer and topcoats are applied using the coating manufacturer's recommended spread rates, time of application and correct installation procedures. (i.e. not too cold/hot or in direct sunlight). Environment and moisture content level should be considered during the application phase.

Is there any way I can accelerate the weathering process?

Application of a bleaching oil or weathering stain can hasten the weathering process.

What about finishes/coatings on pressure impregnated treated products?

Ensure you check with the treatment company PRIOR to applying a finish/coating to cedar shakes or shingles.

Is the cheapest finish/coating product the best deal?

No, not usually. A cheap price usually means that lesser quality ingredients, or less ingredients, have been used in the finish/coating product formulation.

Do I let the wood weather outside before applying a finish/coating?

Proper preparation of the product and application of a good quality coating or finish are key to good coating performance and longevity. Wood should not be left to weather prior to applying a coating; exposure to the weather causes photodegradation of the top layer of the wood. The color changes as a result from the decomposition of extractives at the surface. The sunlight will decompose the lignin (the natural "glue" which holds wood fiber together) leading to a poorer adhesive bond when a film forming coating product is used. Before applying any type of coating, cedar should be acclimatized. Keep the wood dry and (if possible) out of the elements. Place the product off the ground and under cover. If storing over new concrete (such as a freshly poured concrete garage) or over damp ground, place a moisture barrier under the product. Allow air to circulate freely around the product. The time needed for a wood product to acclimatize will vary with the moisture content and thickness of the product. Ask the finish/coating manufacturer for the moisture content level recommended for your specific locale.

How does one check moisture content level?

Ask your professional painter to check it with a moisture meter.

The information in this bulletin is not intended to supercede local building codes. Check with your local building official for final approval. The CSSB assumes no liability for any application non-conformance.

This bulletin only provides a short overview of this technical topic.

For additional installation details consult:

- 1) CSSB's New Roof Construction Manual &
- 2) CSSB's Exterior and Interior Wall Manual; these are recommended reading materials.

For additional information:

Cedar Shake & Shingle Bureau www.cedarbureau.org
USDA Forest Products Laboratory www.fpl.fs.fed.us

Federation of Societies for
Coatings Technology www.coatingstech.org

Known as the recognized industry authority since 1915, the Cedar Shake and Shingle Bureau ("CSSB") is a successful, integrated and global trade association, offering a full range of services including technical assistance, building code updates, and weather resistant product details. Contact the CSSB for more information.