Belco Forest Products

1-800-426-7214
www.belcofp.com

Just the Facts: Extractive Bleeding/Tannin Stains

What is Tannin?

Tannin is a natural extractive of wood that migrates to the surface of wood when water is present, leaving an ink-like, coffee colored stain or overall darkness on the wood after the water evaporates. Tannin stains are unsighlty, but not damaging to the wood or any coating on the surface.

Possible Causes?

A number of factors may affect the amount and type of extractive discoloration. The heartwood of certain species, like Western Red Cedar and redwood, may have high concentrations of water soluble extractives, where other species, like some pines and firs, may have higher concentrations of pitches and resins. The moisture content of the wood also affects extractive bleeding. Generally, the drier the wood prior to the application of any finish, the less chance for initial extractive discoloration. Dried lumber not only has fewer water soluble extractive problems than unseasoned lumber, but kiln drying tends to harden pitches and resins, making them much less likely to bleed. However, the introduction of moisture into the wood at anytime during the surface life can lead to extractive bleeding.

Non film forming finishes, like water repellents and semitransparent stains, are not effective at preventing extractive discolorations. For water soluble extractives in redwood or cedar, the most effective finishes are solvent-borne oil or alkyd based film forming finishes. Water based stain blocking primers have also been developed and have been moderately successful when applied over cedar or redwood and are preferred over veneered products, such as plywood. For non water soluble extractives, knot sealers and varnishes are currently used.

Can it be Prevented? Can it be Treated?

Although there is no sure fire way of stopping extractive bleeding, some steps may be taken to help prevent them. First, always keep your real wood materials stored above ground (ie - on a pallet) and under cover to keep them from the elements. If working with a primed product, be sure to re-prime any end cuts to help block any additional moisture from getting into the wood.

To remove tannin stains when they first appear, wash them in a mild solution of trisodium phosphate (or other detergent) and water. If they are not removed and permitted to oxidize, they become increasingly darker in color. In that condition, it may be necessary to remove them by scrubbing with a soft brush (do not use wire brushes) in a solution of 50% alcohol, 50% water.

WARNING: Never mix bleach with detergent containing ammonia, as fumes can be harmful or fatal.

Sources:
Lakeside Lumber | Wolman | Insl-X