

Water Stains

Among the most challenging discolorations on wood are water stains. They can range from light brown to jet black and appear on interior and exterior surfaces. How do water stains form? All wood contains components that are grouped under the category of “water-soluble extractives.” These extractives dissolve in water and are carried to the surface as the water, within the wood, evaporates. Generally, if wood is exposed to water for a brief period, the water does not have the time to penetrate deep into the wood and dissolve these water-soluble components. However, if the wood is exposed to water for days, weeks or months, the water can pick up a high concentration of these components and deposit them on or near the surface of the wood.

Exterior water stains typically occur around checks, fissures and other openings that collect rainwater. The water soaks into the wood and as the water evaporates, the colored extractives are brought to the surface. In some cases, water-soluble tannins may react with minute particles of steel on the surface forming dark iron tannate stains. This process may occur on bare wood or under an existing finish. Interior water stains typically develop during construction before the home is sealed or from an ongoing water leak. They can be particularly ugly and may cause distress.

Treatment of Water Stains

As previously stated, water stains can be just on the surface or deep into the wood. The first step in determining a course of action is to find how deep from the surface the stain goes into the wood. Remove ca. 1/16” sliver of the discolored surface with a sharp knife. If the discoloration comes off with the sliver, sanding or treatment with products like LogWash™, Wood ReNew™ or Oxcon™ are all possibilities to remove the discoloration. Since there are many components involved with water stains, it is impossible to predict which product will work best. We recommend starting with Log Wash™ and if that does not work, try Wood ReNew™ and finally Oxcon™. Wood ReNew™ and Oxcon™ should be reserved for exterior use only as they both require large amounts of water for rinsing. In some instances these products will not work, and sanding may be the best solution.

If the discoloration goes deep into the wood and is still visible after the sliver of wood is removed it will be very difficult to either sand or chemically remove the water stain. In this case there are only two options, either replace the discolored wood or hide the stains.

Hiding Interior Water Stains

Although Perma-Chink Systems manufactures and sells transparent finishes, some of our colors are heavily pigmented which gives them some hiding power. On interior bare wood surfaces Butternut is a good choice to cover the stain, since it is very close to the color of bare white pine. It may take several coats depending on the darkness of the discolorations. If the interior is going to be stained later, it would be a good idea to apply Prelude over the entire wall to even out the absorption of the stain and obtain a uniform final color. For hiding very dark discolorations, one or two coats of Kilz[®] primer will hide virtually anything. Kilz[®] is available in both water and solvent-based formulations but only comes in white. However, it can then be coated with our colored stains. This may not result in an exact match with the rest of the wall, but it will definitely look better than the dark water discolorations.

Hiding Exterior Water Stains

The best way to hide exterior water stains is to use a dark color finish like Walnut, one of the grays or wheat. If none of these are an option, you can try using the same hiding procedures as stated for interior stains, but on exterior walls the opaque finished areas tend to be more pronounced than on interior surfaces.



Exterior Water Stains
Under the Finish



Interior Water Stains
on Bare Wood



Interior Water Stains Under a Finish