



The best solution for wood protection

Important Information: Iron Stain

Iron stain, is an unsightly blue–black or gray discoloration that is often incorrectly described as "mold" because of its frequently "spotty" appearance. Iron stain can occur on nearly all woods, however some woods are particularly prone to iron stain because they contain large amounts of tannin-like extractives. The discoloration is usually caused by a chemical reaction between extractives and iron content in steel products, such as nails, screws, and other fasteners. Steel used in contact with wood must be protected from corrosion by using stainless steel or processes such as hot dip galvanizing.



Problems with iron contamination can come from traces of iron left on wood from cutting, grinding or slicing; cleaning the surface with steel wool, wire brushes, or iron tools; using finishes stored in rusty containers; and using previous iron-containing or iron-contaminated finishes. Iron dust from metalworking and even plant fertilizers can be sources of iron along with removal of old rusted guttering, handrail construction and contact by steel capped boots. Merely striking wood with a hammer can cause iron stain on some wood. Urine on wood floors will also hasten the reaction with iron and wood extractives, producing the typical iron stain discoloration. Unprotected lumber that gets wet on or off site prior to fixing are particularly vulnerable as the water soluble extractives are more readily mobilized to react with any iron contamination.



Testing For Iron Stain

A simple test can be used to determine whether wood discoloration is caused by iron. Apply undiluted **CUTEK®ProClean**, scrubbing into the stained wood surface. If the solution removes the stain after approximately one hour, then iron is present on the wood. If the solution does not remove the stain, try applying bleach to the stained area. If the iron stain is spotty, try to view the stained wood under a 10x magnifying glass. "Chunky" discoloration is usually a result of molten

metal and looks like clinkers from a grinding operation. Stain that resembles slivers or flakes could be from steel wool. An even discolouration throughout the stain indicates that the iron was in solution when it contaminated the wood, probably in a contaminated finish or iron contaminated water.

Removing Iron Stain

It is easy for iron to contaminate wood, as there are so many possible sources of iron contamination on a building site that are often not initially recognized. To remove iron discolouration scrub stained wood with undiluted **CUTEK®ProClean** and leave to soak for one hour. After one hour, thoroughly wash the surface with fresh water (preferably with a power washer) to remove excess **CUTEK®ProClean**. It is very important to rinse the **CUTEK®ProClean** off thoroughly because if all sources of iron are not removed or protected from corrosion, staining will occur again. In other words, treatment with **CUTEK®ProClean** is only a temporary solution if iron remains on or in the wood. **CUTEK®ProClean** reacts with iron tannates to form a colorless complex. In time, the residual unrinsed **CUTEK®ProClean** /iron complex will break down, permitting the iron to react with the extractives to form a dark-coloured stain again.