



Technical Bulletin: The White Line Syndrome

The Problem

Recently there has been more discussion of white lines showing up over dark-stained floors. This is not a new problem for floor finishes, but it is becoming a more common one. As VOC regulations become more stringent around the country, more floor finishers are trying out waterborne coatings. They are also finding that there are more differences in the products than just smell and application techniques. When a floor is stained with a darker-colored stain and then finished with waterborne coatings, white lines between flooring boards may appear anytime, especially during seasonal changes when the humidity drops in our homes.

The Reason

The reason for the white lines is that waterborne and other coatings tend to stretch, some more apparent than others. Our research shows that the isocyanate-crosslinked products we tested stretched across board edges, leaving white lines.

The Solution

Glitsa has been conducting tests on the reaction of different finish systems over dark stains and has found one system that offers a **solution to the white line problem: the Gold Seal System**. The Gold Seal System does not stretch across the boards as the floor expands and contracts, but instead breaks more cleanly and bonds tightly to the edges of the boards. To avoid white lines over dark-stained flooring, we recommend using any of our conversion varnish sealers (Bacca, Glitsa Sealer or Satin Sealer) with a topcoat of Gold Seal or Gold Seal Lite Scent.

Waterbornes & Other Floor Finishes

Waterborne coatings have the potential to produce white lines over dark-stained floors as well, but how noticeable the lines are varies widely. In testing isocyanate-crosslinked waterborne finishes (*HP, GlitsaMax and competing brands*), we found that white lines appear at varying severities.

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16 X magnified sections of treated floor

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During our testing of waterborne coatings we found that while they all showed white lines to some extent, Infinity II was found to show the least amount of white lines. Unlike other waterborne coatings, **Infinity II fractures as the floor expands and contracts.**

Sometimes there are residual stress fractures on the edge of the board where the coat does break and this can appear as a semi-transparent line from a standing position.

Shellacs - Tests using a shellac under a waterborne topcoat showed white lines (see fig. 6).

Other Considerations

Aside from the finish choice, there are other things to consider when finishing dark-stained floors. The dimensional stability of certain species of woods you are working with has a dramatic impact on white lines. The climate you are working in also has an effect.

When your customer requests a dark-stained floor, convey the proper expectations and warnings to them on the front end of the job so they do not have unrealistic expectations. It is always desirable to have your customers well informed on what can happen and why so that your professionalism and integrity can stay intact.

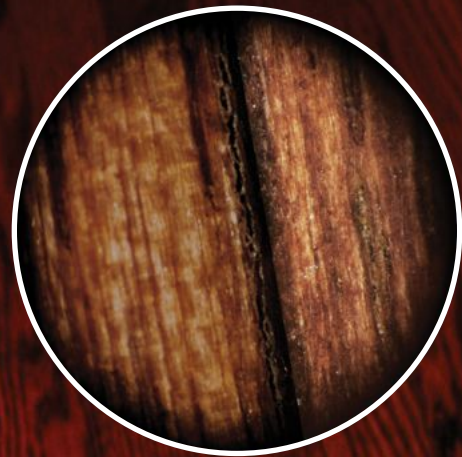


Fig 1: Gold Seal System



Fig 2: InfinityII under
Infinity II w/ProLink



Fig 3: Hybrid System
(Conversion Varnish
under Waterborne)



Fig 4: Quality Seal
& GlitsaMax

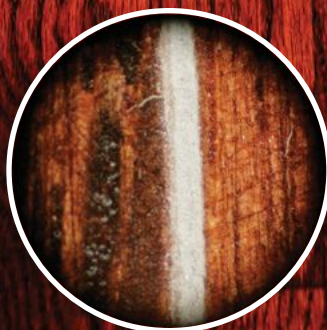
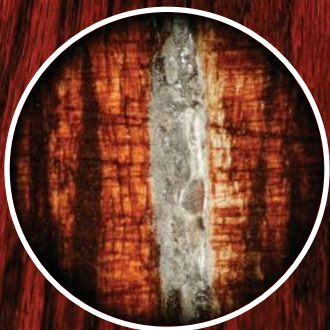


Fig 5: Competing Waterborne Systems

Fig 6: Shellac
under Waterborne