

In The Field

The Barber Pole Effect

As veneer leaves are cut from a log, compression of the grain occurs on the inner side of the leaf as it passes over the beveled knife. This compressed side of the leaf is referred to as the “tight side”. The reactive effect that occurs on the other side of the leaf results in a slight expansion of the grain, known as the “loose side”.

When the veneer leaves are book matched (every other leaf turned over), the resulting veneer faces have alternating leaves with the tight side and loose side exposed. The variation in the surface density between the tight and loose sides causes light to reflect differently, creating a visible pattern of light and dark. The difference in density can also affect the amount of stain the wood will absorb. The resulting color variation is referred to as Barber Poling.

Although a natural occurrence in practically all plain sliced, book matched veneer, Barber Poling is most pronounced in Red Oak, less so in White Oak, and rarely noticed in other species. According to industry grading rules and accepted grading practice, this phenomenon is not considered a defect and not a cause for downgrading. Barber Poling can be minimized with proper sanding and finishing techniques.

Storage and Handling

- Store doors flat on a level surface in a dry, well-ventilated building. Covering should protect the doors from dirt, water, and abuse while allowing for air circulation under and around the stack.
- Cherry, Mahogany, Walnut, and certain other species of wood will discolor if exposed to sunlight or some artificial light sources. Protect doors in those species by also specifying that they be covered with opaque wrap.
- Oak and some other species of wood contain acids that react with ferrous metals, producing a dark blue-black stain. Avoid the use of steel wool on the raw wood.
- Do not subject interior doors to extremes of temperature and/or humidity. Prolonged exposure may cause damage. Recommended conditions for proper storage are 30 to 50 percent relative humidity and 50 to 90 degrees Fahrenheit.
- Do not install doors in buildings with excessively dry or moist environments. HVAC systems should be operating and balanced.
- Doors should be handled with clean hands or while wearing clean gloves.
- When moving doors, do not drag one door across the surface of the next door. Lift and carry each door to its new location.
- For more detailed information, refer to WDMA I.S. 1-A, Industry Standard for Architectural Wood Flush Doors.

Field Finish Guidelines

In the event that wood doors will be finished in the field rather than in the controlled environment of the factory, these recommended practices should be followed:

- Wood doors should not be stained or topcoat finished before the wood surface is properly prepared. Following these steps will promote a uniform appearance and avoid blotchiness. First, lay the door flat and block sand all surfaces to remove handling marks, drag marks, raised grain, scuffs, burnishes, and other unwanted blemishes. In order to avoid cross grain scratches, always sand in the same direction as the grain. Then apply a solution of solvent and sanding sealer and allow door to dry; this will uniformly raise the wood grain. Finally, sand the surface of the door using 120 to 180 grit sandpaper.
- Wood absorbs and releases moisture readily in its surrounding environment. As a result, it may change shape or warp.
- Wood door finishes must be properly maintained to prevent deterioration and promote the life of the door.
- Many manufacturers of architectural flush wood doors will not warrant the appearance or performance of doors that have not been properly finished. For more detailed information, refer to WDMA I.S. 1A, Industry Standard for Architectural Wood Flush Doors.