OCCURRENCE AND REMOVAL OF GLUE STAINS

Caustic soda in glue, whether added to the glue as such or formed by chemical action during mixing, produces stains on certain species of wood, notably the oaks, maple, cherry, elm, ash, birch, and beech. Some glues stain the wood more than others, those that contain the most alkali usually being the most injurious. Generally speaking, a tendency to stain may be expected with starch, casein, or soybean glues. Blood, animal, artificial resin, and liquid glues as ordinarily formulated usually give no trouble with staining, although any dark colored glue may show through a thin, porous veneer of light colored wood. The staining effect of the alkaline glues is caused by the action of the alkali on certain constituents in the wood. While no method has yet been found to prevent the reaction, precautions may be taken that will reduce the troublesome discoloration.

Since marked staining occurs only when the alkali penetrates from the glue line to the face, little difficulty is experienced when gluing veneers thicker than 1/20". Precautionary measures on thin veneers are usually directed toward reducing the glue penetration.

Other conditions being equal, a thick glue will penetrate less and stain less than a thin glue that will be squeezed more readily through the pores of the wood. For this reason, the quantity of water that is used in the glue might be reduced or "fillers", such as wood flour, added if staining is feared.

The alkali from the glue line will penetrate more readily through wet veneer than through dry veneer. It is important, therefore, that thin veneer be re-dried
before gluing and that the gluing operation be carried out promptly after the veneer has cooled in order to prevent the veneer re-absorbing moisture from the air.

After spreading, the stock should be placed under pressure promptly, the schedule being so arranged as to avoid long assembly periods. It may prove advisable to use dry absorbent caulks between adjacent panels in the press.

The drying of the panels should be hastened as much as permissible without weakening the glue joint. In the usual procedure of gluing panels the bundles should be opened as soon as possible after the glue has set, the panels stickered, and drying hastened by providing for adequate circulation of heated air through the stickered piles.

Stains caused by alkali can be removed by moistening with a solution of sodium sulphite (one part sodium sulphite to 12 parts of water), followed by sponging with a solution of oxalic acid (also mixed in the concentration of one part of oxalic acid to 12 parts of water). The acid should be thoroughly washed from the wood afterwards or it may affect the finish. Oxalic acid is poisonous and must be used with appropriate care.