

TECHNICAL NOTE NUMBER F-11

FOREST PRODUCTS LABORATORY - U. S. FOREST SERVICE - MADISON, WISCONSIN

GLUING VENEER AT HIGH MOISTURE CONTENTS

It is common practice among plywood manufacturers to dry veneer down to a very low moisture content before gluing it. The object in doing so apparently is to prevent shrinkage of the veneer and consequent marring of the appearance of the finished panel. The drying is done in plate redriers, textile and roller driers, or similar apparatus and adds appreciably to the cost of manufacturing panels.

That such preliminary drying may not be necessary for some classes of products is indicated by the results of investigations by the Forest Products Laboratory. Veneer panels were glued with casein glue at various high moisture contents (some over 50 per cent) and in various tests proved as strong as those made under drier conditions. In fact, in the moisture resistance tests, a considerable proportion of the veneer which had been dried before gluing showed signs of failure, whereas veneer glued at a moisture content of 15 per cent or higher gave practically perfect results. Panels glued up wet tend to check and warp if dried to a low moisture content, especially if the drying is done rapidly. This trouble may be reduced somewhat by careful drying.

The use of moist veneer, of course, is not practicable for some purposes, but it is quite certain that some of the veneer which is now being painstakingly dried before gluing might advantageously be glued at a higher moisture content. It seems possible, for instance, to cut the cost of producing panels of lower grade, such as are used in boxes, by the use of water-resistant glue and the reduction or even elimination of preliminary drying.