

TECHNICAL NOTES

FOREST PRODUCTS LABORATORY

U. S. FOREST SERVICE

MADISON, WISCONSIN

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FLAT PANELS AND NO SURFACE CHECKS

BY MAXIMUM-HUMIDITY METHOD

If panels are over-dried their tendency toward warping and twisting is greatly increased. The lower the moisture content the more the warp. The short time required for drying panels varying from a few hours for thin panels to a few days for thick ones, makes it impracticable to make actual determinations of moisture content to decide when the material has reached the desired degree of dryness.

An automatic method of insuring the proper moisture content in dried panels is proposed by the Forest Products Laboratory. This is what may be called the "maximum humidity method", in which the relative humidity of the air in the kiln or drying room is regulated so as to remain at the highest level which will permit the wood to dry to the desired degree (and no further) in a reasonable length of time. By this method, checking of face veneer is also prevented.

The maximum-humidity method lends itself to the most convenient and economical handling of the panel-drying operation. As there is little danger of over drying, the stock may be left in the drying chamber for any reasonable length of time beyond the minimum required. Thus, thin panels and thick panels may be taken from the press and placed in the kiln at the same time, and removed at the same time, even though the thin panels dried much quicker.

For panels made up of normally dry veneer, a kiln temperature of 120° F. throughout the drying period is a good schedule to follow. If with this temperature the humidity is maintained at 46 per cent, the panels will come uniformly to a final moisture content of about 8 per cent within a reasonable drying period. If the same temperature is used and the humidity is maintained at 57 per cent, the panels will not dry appreciably below 10 per cent.