

TECHNICAL NOTE NUMBER D-12

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

UNEVEN COATINGS ON WOOD CAUSE WARPING

Coatings of equal moisture resistance should be applied to all surfaces of wood products if they are to be kept entirely free from warp under changing atmospheric conditions. Tests at the Forest Products Laboratory have shown that even when wood is properly kiln dried no coating entirely prevents it from picking up or giving off moisture and, consequently, from swelling and shrinking under the influence of varying atmospheric conditions. Varnish, shellac, and other moisture-resistant finishes merely decrease the rate at which the moisture changes in wood occur. Ordinarily the higher the grade and the more coats applied, the slower will be the moisture changes.

Unequal coatings on opposite surfaces of a wooden article cause unequal rates of change in moisture content and hence unequal shrinkage on the two sides of the piece. The result is that the wood tends to cup or twist out of shape.

Inexpensive coatings can be applied to the backs of furniture or millwork which will be practically equal in moisture resistance to the face surface coatings. These coatings for backs can usually be applied in one or two coats, depending on the moisture resistance required. During the past few years the Forest Products Laboratory has examined a large number of different coatings, many of which are suitable for coating backs. Information may be obtained concerning these materials by addressing the Laboratory.