THE WATER VAPOUR PERMEABILITY OF THE COATED MEDIUM DENSITY FIBERBOARD

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ABSTRACT

The use of foil-faced medium-density fibreboard (MDF) in wood surface finishing enables a reduction in surface finishing time and an enhancement of specific properties of coated surfaces. The objective of this study was to evaluate the differences in water vapour permeability between foil-faced MDF and standard MDF panels (without foil), coated with polyurethane (PU) coating. Both types of coated MDF were exposed to water vapour for a period of 14 days, during which period differences in water vapour absorption and subsequent desorption (for the next 14 days) were examined. The results show that facing the wider face of MDF panels with foil reduced the water vapour absorption of the coated samples. Considering the results of water vapour permeability results, the use of MDF double-faced with ground foil prior to finishing shows the advantages for the use of furniture components in indoor environments with elevated moisture levels.

Keywords: medium-density fibreboard, polyurethane coating, foil-faced, water vapour permeability.