

## WATER IMPACT ON INCREMENT OF THE PHYSICAL CHARACTERISTICS OF MULTILAYERED PLYWOOD MADE FROM BEECH VENEERS

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### ABSTRACT

The researches presented in the paper are made on experimental eleven-layer and fourteen-layer plywood made from beech peeled veneers with thickness of 1,5 and 1,8 mm, overlaid with phenol-formaldehyde resin impregnated paper with surface weight of 120 g/m<sup>2</sup>, as well as on experimental nine-layer plywood made from beech peeled veneers with thickness of 2,2 and 3,2 mm without surface protection.

Phenol-formaldehyde resin with 47,10% dry matter content was used for veneer bonding, applied in quantity of 180 g/m<sup>2</sup>.

The criterion for evaluation of hygroscopic characteristics and dimensional stability of plywood is the increment of the physical properties that have a direct impact, i.e.: density, volume, thickness swelling and water absorption. The increment of the mean arithmetical values of these properties was traced for time interval of 1248 hours.

The research results showed that the panels are characterized by uniform density, stability in volume, without any deformation of the shape and dimensions of the test specimens. The changes in the physical properties for the period analyzed are proportional to the changes in the duration of the treating period of the test specimens. From the aspect of the analyzed physical properties, the panels are consistent on water impact and have dimensional stability, so they meet the requirements for application in high humidity condition and weathering.

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