NAIL WITHDRAWAL RESISTANCE OF COMPOSITE WOOD-BASED PANELS MADE FROM PARTICLEBOARD CORE AND PEELED VENEERS FROM DIFFERENT WOOD SPECIES

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ABSTRACT

This paper elaborates the nail withdrawal resistance of composite water-resistant wood-based panels for use in construction.

Three experimental panels were made by combining particleboards and constructive peeled veneers of beech, black pine and poplar with thickness of 1,5 and 3,2 mm. The core layer of composite panels was made from single-layer particleboard with thickness of 16 mm. Particleboards were overlaid on both sides with two-ply cross-laminated veneers.

Water-soluble phenol-formaldehyde resin was used for particle bonding and veneering.

The results of the research showed that the different combination of veneer species used for particleboard overlay significantly impacts the nail withdrawal resistance perpendicular to the plain of the composite panels.

According to the obtained values of the nail withdrawal resistance, the composite panels can be used in construction.

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