SCREW WITHDRAWAL RESISTANCE OF COMPOSITE WOOD-BASED PANELS (PART II)

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ABSTRACT

The aim of the research presented in this paper is to determine screw withdrawal resistance of composite wood-based panels intended for use in construction.
For this purpose, three experimental wood composite 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 the composite panels was made of single-layer particleboard with thickness of 16 mm, which was overlaid on both sides with two-ply cross-laminated veneers. Models of composite panels were made by combining a different veneer species for particleboard overlay (beech/black pine, poplar/black pine and poplar/beech).
Water-soluble phenol-formaldehyde resin was used for particle bonding and veneering.
The results of the research showed that different combinations of veneer species used for particleboard overlay significantly impact screw withdrawal resistance of composite panels.
According to the obtained values of screw withdrawal resistance, composite panels can be used in construction.

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