

JANKA HARDNESS OF PLYWOOD REINFORCED WITH FIBERGLASS PREPREGS

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ABSTRACT

Plywood properties can be enhanced by applying different non-wood materials in its structure.

The aim of this research is to study the Janka hardness of experimental plywood reinforced with fiberglass fabrics pre-impregnated with alcohol-soluble phenol-formaldehyde resin.

Plywood models were made of eleven layers of peeled beech veneers with thickness of 1,5 mm and 1,85 mm. Alcohol-soluble phenol-formaldehyde resin was used as plywood binder. The pre-impregnated fabrics (fiberglass prepregs) were incorporated as layers in the plywood structure. Different models of reinforced plywood were made by change of the position of the reinforcing layers in the structure of the panel. One additional model was made without reinforcements as comparing plywood model.

Tests for plywood hardness according to Janka were done on each plywood model.

The research results showed that the values of Janka hardness are affected by use of glassfiber prepregs as reinforcements in plywood structure.

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