MODIFICATION OF PHENOL-FORMALDEHYDE RESIN BY WASTE PRODUCTS OF SULFITE-CELLULOSE PRODUCTION

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ABSTRACT

Reducing the toxicity of plywood to the level corresponding to the requirements of European Standard (EN 717-2) is one of the main problems of plywood production. This problem has been solved by creating new types of resins and glues on their basis and justification of the chemical processes occurring in the interaction of lignosulfonates with phenol-formaldehyde resin grade SFF-3013, which was the purpose of the work. The factional chemical composition of the organic substance of sulphite lye is considered as a feedstock for the production of lignosulfonate. The structure of polymer chain of lignosulfonate is taken into consideration. The charts of co-operation of lignosulfonate are presented with phenol and formaldehyde. Due to the astringent, glueings and superficially active properties, lignosulfonate is used in production of plywood, as addition to resin. The influence of the modifier of lignosulfonate is an experimental research on maintenance of free formaldehyde in the prepared products. The introduction in the adhesive compositions based on phenolic resin products sulphite pulp production, improves the technological properties of adhesives; it accelerates the process of curing the adhesive bonding strength to increase and reduce the free formaldehyde content in the final product.

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