DEVELOPMENT OF AN ENVIRONMENTALLY FRIENDLY SOYA HYDROLYSIS RESIN FOR BINDING PARTICLE BOARDS AND THEIR PROPERTIES.

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ABSTRACT

Fear of environmental impact of timber production has spurred exploration of alternative fiber sources for the production of wood based material. fast growing trees and agriculture residues are the two key alternative fiber sources. For reducing dependency on petrochemicals, development of adhesive resins from renewable resources has gained importance and become inevitable. Natural adhesive resins are free of health risks. Nowadays soya based adhesives are utilized for bonding of wood materials (particle boards)

Some of the factors that give rise to failure in adhesion of wood particles in composite board are poor chemical and physical interfacial interaction between the wood surface and resin and dissimilar swelling of resin and wood due to moisture absorption. Improvements to adhesive can be affected by way of changing the chemical nature of the polymer in the wood cell wall. The changes so effected trigger modification of properties such as dimensional stability, moisture absorption and compatibility with other materials.

Soya based bonding particle board possess high strength and moderate water resistance property. Because of this inherent property, soya based resins particle boards are used for interior applications.

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