

Contract No: FAIR-CT96-1604

Title: Non-toxic aminoplastic adhesive for medium density fibreboards and new application panel products of improved weather and biological resistance

Duration: 01/12/1996 – 31/11/1999

Abstract

This project aimed to develop low formaldehyde emission adhesives for the use in particleboard and fibreboard production. Low formaldehyde content achieved through cocondensation of aminoplastic resins with aliphatic diamins and triamins, by a laboratory proven resin formulation using hexamine and by ionic polycondensation. Additionally, the fungi and insect resistance of the boards were improved by applying boron to the amino groups of the resin. The results of the project were eventually boards with higher water resistance (up to 40% increase in the V100 values), lower formaldehyde emissions and, if boron is added, increased durability.

CHIMAR was the coordinator of the project, participating directly in most tasks. Among CHIMAR objectives were also the harmonisation of the methods and directions followed, the chemical modification and the resins synthesis employing the most promising ones, the formulation of adhesives and process optimisation at a lab scale and eventually preliminary pilot trials implementing the technology proven viable at the lab scale.