

Contract No: 92 BE 317

Title: Development of an adhesive system based on urea and formaldehyde for the production of particleboards and medium density fibreboards with low formaldehyde emission

Duration: 01/05/1994 –31/ 06/1996

Abstract

This project aimed to study the influence of synthesis parameters on the performance of UF resins and the development of a low free formaldehyde emission resin by appropriate modification of these parameters (pH, temperature and time of polymerisation reactions, number of polymerisation phases and molar ratio in the main polymerisation phase).

CHIMAR, the coordinator of the project, cooperated with the Aristotle University of Thessaloniki and managed to point out all the different production parameters that affect the procedure as well as their influence degree on specific resins characteristics. CHIMAR also found the correlation between these characteristics and the final bonding resin ability adjusting thus the production process in order to achieve final products with excellent properties. Finally, the project led to a resin production with low formaldehyde emission and fine bonding ability suitable to be used for the production of E1 wood-based panels (according to the German specifications).