

Bonding analysis of amino resin wood adhesive with pesticide using surface method

Abstract

Wood base industries are among the dominant players in Malaysia economic activities. In this research, by using Response Surface Method (RSM), studies of bonding between Disodium Tetraborate Decahydrate (DTD) pesticide and various formulation of wood adhesive i.e., Melamine-Urea-Formaldehyde (MUF) resin is carried out. The RSM formulated twenty-five MUF formulations, consisting combination of different amount of formaldehyde, melamine, urea added in stage-1 and stage-2 of resin synthesis and DTD pesticide. The liquid products of resin are then hardened and tested using Fourier Transformation Infra-Red (FTIR) and visible spectrophotometer (VIS), to analyse the bonding of the resin and pesticide. The data from the FTIR and VIS analysis were then compiled and analysed using Response Surface Method. The results show that, different amount of the formaldehyde, melamine, urea and DTD pesticide, gives specific impact to the strength of MUF resin-pesticide bonding. © 2007 Asian Network for Scientific Information.