

Nano Composite of Clay and Modified Ketonic Resin as Fire Retardant Polyol for Polyurethane

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Abstract : In situ modified cyclohexanone-formaldehyde resins were prepared by addition of alendronic acid during resin preparation. Clay nanocomposites in ketonic resins were achieved by adding clay into the flask at the beginning of the resin preparation. The prepared resins were used for the synthesis of fire resistant polyurethanes foam. Both phosphorous containing modifier compound alendronic acid and nanoclay increases fire resistance of the cyclohexanone-formaldehyde resin thus polyurethane produced from these resins. The effect of the concentrations of alendronic acid and clay on the fire resistance and physical properties of polyurethanes was studied.

Keywords : alendronic acid, clay, ketonic resin, polyurethane

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