

## Effects of the Coupling Agent in Polyurethane Foam/Clay Nanocomposite

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To improve the properties of rigid polyurethane foam(PUF), the PUF/clay nanocomposites, which was well-dispersed clay structure in the PUF by using coupling agent, was prepared. In the studies of the PUF/clay nanocomposites, the effects of the coupling agent on the dispersibility of the clay were investigated. To avoid of the clay aggregation, the coupling agent was used for the formation of the chemical bond between the clay and MDI. In the studies of the IR spectra, the specific interaction among the MDI-coupling agent-clay was observed. Also, from the studies of the TEM and XRD analysis of the PUF/clay nanocomposites, the exfoliation of the clay was observed. From the mechanical and thermal conductivity studies, it was observed that the mechanical and thermal properties were increased.

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