

## Study on the Thermal and Morphological Properties of Carbon nanotube and Rigid Polyurethane composites

김지문, 강민정, 김우년\*  
고려대학교  
(kimwn@korea.ac.kr\*)

The carbon nanotube (CNT)/polyurethane (PU) composites were prepared by carbon nanotubes, polyether polyols, polymeric 4,4'-diphenylmethane diisocyanate (PMDI), silicone surfactants, amine catalysts, distilled water and cyclopentane as a blowing agent. Carbon nanotubes were used to decrease a cell size of the CNT/PU composites as well as improve the thermal insulating properties of the CNT/PU composites. The PU composites were prepared by adding carbon nanotubes in the range of 0.01 to 1 php. For adding carbon nanotubes, the cell size of the PUFs showed to decrease comparing the PUF without carbon nanotubes. Also, thermal conductivity of the PUFs with adding carbon nanotubes showed minimum thermal conductivity.

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