

Preparation and characterization of polyimide with nanofiller : Influence of dielectric and thermal properties

남기호, 한학수^{1,*}

연세대학교; ¹연세대학교 화공생명공학과
(hshan@yonsei.ac.kr*)

Polyimide-Clay nanocomposite films were prepared by sol-gel process and thermal imidization.

Clay nanofillers - clays have been frequently used in recent research. Nanofillers were blended with polyimide to develop low dielectric constant(k) with improving mechanical and thermal properties of polyimide.

In this study, molecular structures of Polyimide-Clay nanocomposite films were measured by FTIR. The effect of nanofiller contents on the dielectric constant and thermal properties were studied by Dielectric analyzer, TGA and DSC.

Compared to typical Polyimide-Clay nanocomposites, these polymers exhibited better dielectric and thermal stability due to inorganic protective powder that is structured as a disilicate.