

## The Effect on the Thermal and Adhesion Properties of Poly imides containing Epoxy with Vinyl Phosphoric Acid

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Novel polyimides containing epoxy resins with improved thermal properties have been newly synthesized. Poly(epoxy)imides were prepared by a reaction between a hydroxyl group containing soluble polyimides, commercial epoxy resins and Vinyl Phosphoric Acid at 220°C for 1hour.

The synthesized poly(epoxy)imides were characterized by Fourier transform infrared spectra (FT-IR). According to the solubility, Polyimides were well dissolved in NMP, DMF, DMAc, DMSO and Acetone but insoluble in methanol and water. Thin film of Poly (epoxy)imides containing VPA exhibited high thermal stability. According to the scanning calorimetry (DSC) analysis and thermo gravimetric analysis (TGA), poly(epoxy)imides containing VPA exhibit excellent thermal stabilities characteristics at a given temperature in the nitrogen and in air.