# 반도체 package 용 PI passivaton 의 기계적 물성 연구

## (Study on Mechanical Reliability of Poly-Imide Passivation in Microelectronics Packaging)

유민, 정지영, 김근수*

앰코테크놀로지코리아

Abstract

We have been using Poly imide (PI) for wafer coating material at wafer fabrication site due to its property like higher thermal stability, good mechanical property and a comparatively low dielectric constant. The surface morphology of passivation material is affected by process condition at fabrication house such PLASMA and cure condition. This surface morphology of PI passivation poses a significant threat to the reliability of microelectronics packaging and it attributed as being the principle cause of many premature package failure. Abnormal PI surface owing to uncured PI and PI derivative of PI is decisive factor to affect die top delamination. In this paper, the study on failure mechanism of mechanical reliability of PI passivation in microelectronics packaging is reported. The adhesion analysis with epoxy molding compound according to the morphology of PI surface and the characterization of morphology for PI surface are done to investigate the effect of PI surface on die top delamination in terms of AFM, FTIR, TEM and interfacial adhesion analysis.