

## **Effect of Epoxy Molding Compound Floor Life to Reliability Performance for Integrated Circuit (IC) Package**

This research studied about an epoxy molding compound (EMC) floor life to reliability performance of integrated circuit (IC) package. Molding is the process for protecting the die of IC package from mechanical and chemical reaction from external environment by shaping EMC. From normal manufacturing process, the EMC is stored in the frozen at  $5^{\circ}\text{C}$  and left at around room temperature for aging time or floor life before molding process. The EMC floor life effect to its properties and reliability performance of IC package. Therefore, this work interested in varied the floor life of EMC before molding process to analyze properties of EMC such as spiral flow length, gelation time, and viscosity. In experiment, the floor life of EMC were varied to check the effect of its property to reliability performance. The EMC floor life were varied from 0 hours to 60 hours with a step of  $25^{\circ}\text{C}$  and observed wire sweep, incomplete EMC, and delamination inside the packages for  $5 \times 5 \text{ mm}^2$  of QFN packages. The evaluation showed about clearly effect of EMC floor life to IC packaging reliability.

Keywords: Integrated circuit (IC) packaging, epoxy molding compound (EMC), molding compound floor life, gelation time

**Author:** Mr PEANPUNGA, udom

**Presenter:** Mr PEANPUNGA, udom

**Track Classification:** Magnetic and Semiconductor Physics