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Analysis of Molding Process for Epoxy Resin Used for Electrical Insulator

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Small and light-ization is demanded of electronic parts. In connection with it, security of the strength reliability of electronic parts has been an important problem. There is a problem generated for internal stress by cure shrinkage. Moreover, not only internal stress but the thermal stress generated at cooling process cannot be disregarded. Cure shrinkage and thermal stress cause initial defects, such as delamination. Mechanical property of an epoxy resin changes with progress of temperature, time, and a reaction remarkably. In order to calculate for the epoxy resin behavior in a manufacturing process correctly, it is necessary to take into consideration reaction rate, time, and temperature dependency of a mechanical property. In this report, analysis in consideration of temperature, time, and the mechanical property that changes with reactions intricately was conducted. And the authors have attempted the simulation with a finite element method for actual process.