

Cure of Epoxy Resin with Mixed Catalysts

II. DGEBA-Maleic Anhydride-Pyridine system

고 경진 조 원호

서울대 공대 섬유공학과

The effect of tertiary amine catalyst on the curing mechanism of diglycidyl ether of bisphenol A prepolymer with maleic anhydride was investigated by differential scanning calorimetry (DSC). The curing mechanism and the extent of cure were dependent of the amount of tertiary amine and anhydride.

The cross-linking density in the cured epoxy was increased with increasing the amount of tertiary amine. It was also found that double or triple peaks were distinctly observed on the DSC thermogram as the amount of tertiary amine was increased. The extent of cure was also increased with increasing the amount of anhydride.

Consequently, it is concluded that the structure and the properties of the cured epoxy resin could be controlled by adjusting the amount of tertiary amine and anhydride. The curing mechanisms of double or triple steps and the resultant structure will be discussed.