

The Characteristics of Epoxy Resin Cured with Polyamine

Y. L. Kim and S. W. Kim

Dept. of Chem. Eng., The Univ. of Seoul, Seoul 130-743

Polyamine curing agents (primary, mixed primary with secondary, and combination of them with tertiary amine) were used to cure diglycidyl ether of bisphenol A (DGEBA). Among the curing agents, pot life of DGEBA/N-AEP system was shorter and the temperature of exotherm peak was higher than other systems. This was due to the higher reactivity of N-AEP with epoxy resin. The chain length of N-AEP was shorter than other curing agents, so the crosslink density was higher, which resulted in the higher T_g of DGEBA/N-AEP system.

Thermal decomposition characteristics of the cured epoxy systems were studied by Kissinger and Arrhenius equations. Thermal stability of the DGEBA/N-AEP system was also better than other systems.