

Miscibility, diffusion and hardening in epoxy oligomer – diaminodiphenyl sulfone system

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Abstract

Solution kinetics of diaminodiphenyl sulfone particles in epoxy oligomer was studied for the first time. Temperature region of the diffusion stage of solution without chemical reaction was determined, and the changes in the structure of the diffusion zone were estimated during chemical hardening. By the diffusion section, the diffusion constants and their changes were determined, and the effective activation energy of diffusion was calculated. It was shown that diaminodiphenyl sulfone solution in epoxy resin media takes place without chemical interactions within fixed temperature region, which is lower than the curing agent melting point.