

Dielectric spectroscopy as a method for studying curing processes of polymer composites based on epoxy oligomers

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Abstract

Relaxation processes, electric conductivity and dielectric permittivity in the curable compositions based on the epoxy oligomer, hardener and modifier were investigated by dielectric spectroscopy. This technique allowed to conduct real-time evaluation of conversion degree, gel and vitrification times, the beginning of phase separation in curing processes. Results of this method were proved by DSC and rheological investigations. There were measured physical and chemical parameters, as well as morphology of polymer system was studied.