Thermal Conductivity and Electrical Resistivity Of Copolymer Solutions

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The thermal conductivity and electric resistivity of poly (cyclohexene oxide - cyclopentene oxide) and poly (cyclohexene oxide - exo 2,3 epoxy Norborane) solutions were measured in the temperature range 10-50°C. Dichloromethane was used as a solvent. The thermal conductivity was measured by the hot-wire technique. The mechanism of heat transfer was discussed. The roles of convection and radiation were taken into consideration.

The electrical resistivity was measured by the electrometric method . The measurements were carried out for different concentrations of copolymers in the solutions. The values of the electric resistivity and thermal conductivity showed that the behavior of these properties depend on the temperature, the polymer concentration and the content of exo 2,3 epoxy. Norborane in the poly (cyclohexene oxide -exo 2,3 epoxy Norborane) copolymer. The effect of the addition of triphenyl amine and the triphenyl phosphine on the properties of these samples is discussed.