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THE CHARACTERIZATION ON THE DISPERSIBILITY OF CARBON NANO TUBE IN EPOXY
RESIN BY ANALYZING THE VISCOSITY

Abstract

It is important to disperse carbon nano tube (CNT) in epoxy resin uniformly for taking full advantage of the reinforcement of CNTs. To character the dispersibility of CNTs easily, viscosity of CNTs in both epoxy resin and acetone was researched. The results indicated that the viscosity changed with the revolutions per minute (rpm) and mixing time of twin rotor mixer. higher rpm or longer mixing time resulted in higher viscosity. The viscosity decreased by reducing the amount of CNTs or adding surfactants. It was observed that better dispersibility resulted in higher viscosity. The re-aggregation of CNTs in epoxy resin after being mixed uniformly depended on aging time, and changed after a particular aging time thoroughly. in conclusion, the dispersibility of CNTs in epoxy resin can be analyzed by the viscosity.