

Fabrication and characterization of Ni-coated graphite/PDMS composites

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In recent, electrically conductive rubbers have attained to attract many interests in academic and industry fields because of their new applications such as electronic parts and materials for electromagnetic interference (EMI) shielding. In order to achieve the higher conductivity and the mechanical properties at the same time, nickel-coated graphite (NCG) has advantage in the performances at lower filler loading concentration. Also, NCG has low cost and good stability.¹

In this study, the polydimethylsiloxane (PDMS) composites incorporated with NCG which result from electroless deposition method have been fabricated with varying loading concentrations. ^{2,3} They are characterized as terms of morphology, electrical conductivity, electromagnetic interference shielding efficiency (EMI SE), and mechanical property and thermal conductivity. They have been compared with composites filled with other fillers such as raw graphite, alumina and boron nitride.

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