

Electromagnetic interference shielding effectiveness effect and mechanical properties of Ni-coated graphite/silicone rubber composite

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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. Normally, conductive fillers which include carbon materials have been used to EMI shielding. But 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. In this study, silicone rubber composites incorporated with NCG which result from electroless deposition method have been fabricated with varying loading concentrations. They are characterized as terms of morphology, electrical conductivity, EMI shielding effectiveness, 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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