

Effects of hybrid fillers on the electrical conductivity and EMI shielding effectiveness of  
PP/PC/binary conductive filler composites

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In this study, the effects of hybrid fillers and composite processing methods on the electrical conductivity and electromagnetic interference shielding effectiveness (EMI SE) of the polypropylene (PP)/polycarbonate (PC) (70/30)/Ni-coated carbon fiber (NCCF) composites with the second conductive fillers, such as TiO<sub>2</sub>, multi-walled carbon nanotube (MWCNT), and graphite were investigated. The electrical conductivities and EMI SE of the composites prepared by screw extrusion were found to be lower compared that of the composites prepared by injection molding machine, which seemed mainly due to the decreased fiber length of the NCCF when the composite was prepared by screw extrusion. This result suggested that fiber length of the NCCF affected significantly to the electrical conductivity and EMI SE of the PP/PC (70/30)/NCCF with the second conductive filler composites.