Graphene reinforced polyester thermoplastic elastomers

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Abstract

Novel poly(trimethylene terephthalate-*block*-tetramethylene oxide) copolymer/graphene and graphene oxide nanocomposites were prepared by *in situ* polymerization. The thermal properties, crystlization behaviour, microstucture, and tensile properties were investigated. Scanning electron microscopy (SEM) and transmission elektron microscopy (TEM) show that graphene layers are homogeneouslydispersed in the polymer matrix. The mechanical properties of the obtained composites have been improved as evident from static and cyclic tensile tests.