Electrical, Rheological and Dynamic Mechanical Properties of Polycarbonate and Carbon Nanotube Composites

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Electircal, rheological, and dynamic mechanical properties of the PC/ MWNT composites were studied. PC/MWNT composites were prepared by dilution of a masterbatch using the melt extrusion. From the results of electrical conductivity and rheological measurements, the electrical and rheological percolation threshold of the composites showed at 1.5 wt% MWNT content. For the PC/MWNT composites containing the low content of the MWNT (≤ 4.0 wt%), single tan δ peak which corresponded to the Tg of the PC was observed. For the PC/MWNT composites containing the high content of the MWNT (≥ 7.0 wt%), double tan δ peaks were observed, which could be explained by the phase separation morphology model.

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