

### **Thermally Conductive of Carbon-based Polymer composites.**

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Thermal conductivities of carbon nanotube (CNT) and graphene filled poly (methylmethacrylate) (PMMA) and polystyrene(PS) composites were investigated. CNT/polymer composites were prepared by coagulation and atom transfer radical polymerization method and the latter gave a higher thermal conductivity. Thermal conductivities of MWNT/PMMA and SWNT/PMMA composites at 1 wt. % of filler loading were 0.32 W/mK and 0.39 W/mK, respectively. Graphene content and reduction time was varied in PS/Graphene composites and their effect on thermal conductivity was reported. Thermal conductivity of the graphene based composites increased with the reduction time up to 30 h. The high thermal conductivity suggests that the good dispersion and functionalization of fillers in the polymer matrix.