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Abstract

Literature can hardly be found on the effect of post-curing parameters on the performance of graphene reinforced nanocomposites. In this study, the effect of post-curing temperature and time on the mechanical and thermal properties of graphene nanoplatelets (GNPs) reinforced E-glass fabric/epoxy nanocomposites is investigated. Tensile, flexural and TGA tests were carried out for the mechanical and thermal characterization. An opposite relation between mechanical and thermal properties was observed. Also, the already reported decrease of the mechanical properties while increasing the post-curing time begins later (after 4 hour and 6 hours for tensile and flexural tests, respectively) for the GNPs nanocomposites.

Keywords: A. Polymer-matrix composites (PMCs); B. Cure behavior; B. Mechanical properties; B. Thermal properties.