

# Fourier transform infrared spectroscopy of graphene nanoplatelets-glass and multi-walled carbon nanotubes-glass reinforced epoxy composite

## Abstract

This study investigates the effect of nanofiller loading of graphene nanoplatelets and multi-walled carbon nanotubes on the characterisation of glass reinforced epoxy composite. The GNP-glass and MWCNT-glass composites were prepared using the hand lay-up and vacuum bagging method. The nanofiller weight fraction at 0.5, 1.5, 3, and 5 wt. % was being analysed. FTIR spectra were used to evaluate the GNP and MWCNT nanofiller's contribution to different crystalline formations in the epoxy matrix. The result indicates a variation peak in GNP-glass and MWCNT-glass reinforced epoxy composites due to nanofiller incorporation. The stretching vibration peak in the transmittance percentage was related to the better bond formation of the nanofiller with the epoxy matrix.