

Polyetherimide (PEI)/ Graphene Nanocomposites

Alok Sainy, K.N. Pandey, R.M. Mishra and Abrar Ahamad

*Central Institute of Plastic Engineering and Technology, Lucknow- 226008, India
E-mail: alok999go@gmail.com*

Abstract—*The main objective of present work is to fabricate nanocomposites of polyetherimide reinforced with various amounts of graphene. The nanocomposites have been prepared by melt mixing process with the aid of twin screw extruder; mechanical property has been determined by UTM. Various analytical techniques have been utilized viz. thermal, morphological and structural property relationship by TGA, SEM, FTIR respectively. The TGA thermogram clearly demonstrates that there is maximum thermal stability at 0.03 phr loading of graphene in polyetherimide. SEM micrograph revealed good dispersion of graphene over PEI matrix. No void and debonding effect have been seen in SEM micrographs.*

Keywords: *graphene oxide, polyetherimide, nanocomposites.*