

Polyamide66/maleated polypropylene/treated nanoclay nanocomposites (PA66/PP) containing maleic anhydride-grafted polypropylene (PP-g-MAH) were prepared by melt mixing and exposed to hygrothermal aging at three different temperatures, that is, 23, 60, and 90 °C. The analysis was focused on the water diffusion kinetics and physical changes induced by the hygrothermal degradation. The water absorption kinetics of the PA66/PP/nanoclay nanocomposites at immersion temperature of 23 and 60 °C conforms to Fick's law. The equilibrium water absorption (M_m) and diffusion coefficient (D) values are dependent on the nanoclay content and immersion temperatures. For all investigated temperatures, the diffusion coefficient was found to decrease as function of nanoclay loading. A relationship between temperature and diffusion coefficient was also established