

Comparison of conductive nanocomposite sensor for polymer health monitoring: concentration and nanofiller morphology

Abstract

Polymer health monitoring is important to avoid hazardous material leakage and save the cost in industry. In recent years, conductive nanocomposite sensor attracts more attention in polymer health monitoring. For polymer container which store liquid, the sensor need to detect the progress of solution diffusion, which show the polymer health in other way. This study consists of two different silver nanofiller composites sensor reflecting the influence of concentration and morphology. The nanocomposite sensors are soaked in phosphoric acid solution and measured by using a KEITHLEY 2700 multimeter/DATA acquisition system simultaneously. Results show that the speed of solution diffusion was highly dependent on the concentration and shape of nano-filler.