

Fabrication of Conductive Carbon Black Nano-fibers

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ABSTRACT

In this study, we investigate in the fabrication of conductive carbon black nano-fibers. At first, we research in the dispersion of carbon black in PMMA solutions. Then, we get non-woven fabrics consist of carbon black/PMMA nano-fibers with electro-spinning apparatus. The TEM results reveal that mostly carbon black particles disperse very well in PMMA fibers. However, the surface resistivities of non-woven fabrics do not below the $10^7\Omega/\text{cm}$ yet. Hence, forming conductive network by enhancing the carbon black density is the major work in future and we have confidence to make the conductive non-woven fabrics.

Keywords: conductive carbon black, poly(methyl methacrylate), nano-fiber, conductive fabric

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