

Graphene Oxide Fiber with Different Exfoliation Time and Activated Carbon Particle

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Abstract : In recent years, research on continuous graphene oxide fibers has been intensified. Therefore, many factors of production stages are being studied. In this study, the effect of exfoliation time and presence of activated carbon particle (ACP) on graphene oxide fiber's properties has been analyzed. It has been seen that cross-sectional appearance of sample with ACP is harsh and porous because of ACP. The addition of ACP did not change the electrical conductivity. However, ACP results in an enormous decrease of mechanical properties. Longer exfoliation time results to higher crystallinity degree, C/O ratio and less d space between layers. The breaking strength and electrical conductivity of sample with less exfoliation time is some higher than sample with high exfoliation time.

Keywords : activated carbon, coagulation by wet spinning, exfoliation, graphene oxide fiber

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