

Influence of Surface Characterization of Activated Carbon Fiber on Hydrogen Storage

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In this study, activated carbon fibers were treated with various surface treatment methods and adsorption characteristics and hydrogen storage were measured. Hydrogen storage amount of these ACFs was measured by high pressure thermo-gravimetric analysis. Pore size distribution of these ACFs were varied on surface treatment. Hydrogen storage of ACFs were varied with respect to condition of surface characterization. It was decreased by ball milling and increased by acid treatment. It is assumed that pore structure deforms by ball milling but effective hydrogen storage capacity increases with edge exposure by acid treatment.