

The Pore Effect of Surface-treated Carbon Paper on the Electrosorption Properties

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Porous Carbon paper electrodes with different porosities were obtained from carbon papers, which is from Donacarlo Co., by activating them at 650 under Ar gas with moisture. Specific surface area of treated carbon papers tends to increase with increased retention time. Microstructure of these carbon electrodes was observed by SEM. The performance of the capacitance in 0.5M NaCl solution was investigated with cyclic voltammogram experiments. The relationship between their physical properties and electrode properties was also evaluated. For more information about inorganic ion-adsorption of wastewater, Porous carbon electrodes were employed as adsorption agent in the CDI equipment. When applied constantly voltage of 1.4V and flowed of wastewater at 0.2cm/sec. of liner velocity, it was seen a maximum efficiency. This research was supported by a grant (4-4-1) from Sustainable Water Resources Research Center of 21st Century Frontier Research Program.