

산화처리 탄소의 전기화학적 거동 및 이를 이용한 EDLC 특성

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Oxidation-treated of Oxidized Carbons and its Electrochemical Performances for Electric Double Layer Capacitor

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Abstract : This work describes the effect of the number of roll pressing and the composition of carbon black on the electric and mechanical properties of carbon-PTFE electrode, in which composition is MSP 20 : carbon black : PTFE = 95-x : x : 5 wt.%. It was found that the best electric and mechanical properties were obtained in sheet electrode roll-pressed for about 15 times and in sheet electrode, in which composition is MSP 20 : carbon black : PTFE = 80 : 15 : 5 wt.%. These behaviors could be explained by the network structure of PTFE fibrils and conducting paths linked with carbon blacks, respectively. On the other hand, cell capacitor using the sheet electrode with 15 wt.% of carbon black attached on aluminum current collector with the electric conductive adhesive, in composition is carbon black : CMC = 70 : 30 wt.%, has exhibited the best rate capability in the current range of 0.5mA/cm² ~ 100mA/cm² and the lowest equivalent series resistance

Key Words : EDLC, Sheet electrode, Electric conducting adhesive