

Influence of Surface Oxidation of Nickel-Coated Carbon Fibre on Oxygen Evolution Reaction in Alkaline Solution

Tomasz Mikolajczyk*, Boguslaw Pierozynski

Department of Chemistry, Faculty of Environmental Management and Agriculture, University of Warmia and Mazury in Olsztyn, Plac Lodzki 4, 10-727 Olsztyn, Poland

*E-mail: tomasz.mikolajczyk@uwm.edu.pl

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This work reports on oxygen evolution reaction (OER), studied at nickel-coated carbon fibre (NiCCF) electrodes. The OER was examined comparatively on non-oxidized and electrooxidized NiCCF 12K50 tow materials in 0.1 M NaOH solution for the potential range: 1600-1800 mV vs. RHE. Electrochemical modification of NiCCF electrode results in significant facilitation of the OER kinetics, manifested through reduced, ac. impedance-derived values of charge-transfer resistance parameter and considerably modified Tafel polarization slopes.

Keywords: NiCCF; OER; Electrochemical impedance spectroscopy; NiOOH.

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