

**W. A. Badawy, G. M. A El-Hafez, H Nady, Electrochemical performance of tungsten electrode as cathode for hydrogen evolution in alkaline solutions, *International Journal of Hydrogen Energy* 40 (2015) 6276-6282.**

The electrocatalytic activity of the tungsten metal as cathode for hydrogen evolution in alkaline solutions was investigated by open circuit potential measurements, potentiodynamic polarization techniques and electrochemical impedance spectroscopy (EIS). It was found that the onset potential of the hydrogen evolution reaction (HER) on tungsten is in favor of the hydrogen generation at lower overpotential, compared to Pt electrode. The effect of electrolyte concentration, scan rate on the rate of the HER as well as the electrochemical stability of the cathode was studied. The kinetic parameters characteristic for the hydrogen evolution reaction i.e. cathodic transfer coefficient, exchange current density and also corrosion rates were determined using Tafel extrapolation method.

The results reveal that tungsten can be considered as a good candidate for hydrogen evolution on large scale and for long term production. The rate of hydrogen evolution is relatively high under low overpotential