electrochemical behaviour of some aluminum alloys in aqueous media

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1-The introduction included a literature survey of the different theories of corrosion and corrosion inhibition. The electrochemical behaviour of aluminium and aluminium alloys in neutral solutions was given with particular emphasis on the effect of aggressive as well as inhibitive anions.2-Cyclic galvanostatic polarization curves were constructed for aluminium and its four alloys (samplesl, II, III and IV, whose compo-sition is given in table 1) in 0.1M Na2SO4 solutions devoid of and containing aggressive Cl ions as well as inhibitive inorganicCr042’ HPO42’ Mo042- and HCO3 anions.a-The presence of the alloying elements affects the rate of the anodic dissolution of aluminium in 0.1M Na2SO4 solutions, and shifts the oxygen evolution potential to lower values.b-The thickness of oxide films formed on thedifferent electrodes surface at a potentialSummary and conclusion 114of 1.OV and before oxygen evolution decreases in the order:sample IV > sample III > Al > sample I > sample II This indicates that Cu is superior to Mg (at percent composition used) as an alloying element for retarding the anodic dissolution of Al 0.1M Na2SO4 solution.C- The concentration of Cl ions required to,just, initiate pitting corrosion of Al and its alloys increases in the order:sample III