

Inhibitory Effectiveness Of 1, 2-Dehydroacetic Acid, Ethylène Diamine And Derived Schiff Bases Towards Corrosion Of Reinforced Concrete.

A. Keraghel, S. Keraghel, Y. Bellal, F. Benghanem, A. Ourari

Abstract : The corrosion of the rebars constitutes one of the principale factors limiting the life of the building of reinforced concrete. What causes many expensive replacements and repairs. The steel that is protected in the concrete can undergo the corrosion when many aggressive agents penetrate in the pores of concrete containing water and the oxygen. Various methods exist to protect steel against corrosion phenomenon. Among these methods the use of the corrosion inhibitors remains a protective means very easy and officient. The search for new corrosion inhibitors in particular to the reinforcement of concrete is a hot topics. New structures Schiff bases were tested and showed satisfactory results. The work presents a study of the protection towards corrosion of the steel destined to the construction in a concrete in the absence and in the presence of the aggressive ions as the chlorides. The inhibitory efficiency of organic compounds: * 1, 2-dehydroacetic acid ethylene diamine Schiff bases* Dehydroacetic acid * Ethylene diamine Towards the corrosion of this steel in investigated. This work based on the tests of corrosion at different times of immersion have been achieved with the use the cyclic voltammetry. The inhibition rate determined for this tow first compounds are similar. This result indicate that amines group has little effect towards inhibitory effectiveness of these Schiff bases. Experimental parameters demonstrate that these compounds are good inhibitors witch act with adsorption mechanism. The electrochemical results were confirmed by electronic microscopy MEB.

Keywords : corrosion, inhibitor, concrete, DHA, Schiff bases.