World Academy of Science, Engineering and Technology
International Journal of Civil and Architectural Engineering
Vol:9, No:03, 2015

Evaluation of Corrosion by Impedance Spectroscopy of Embedded Steel in an Alternative Concrete Exposed a Chloride Ion

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Abstract : In this article evaluates the protective effect of the concrete alternative obtained from the fly ash and iron and steel slag mixed in binary form and were placed on structural steel ASTM A 706. The study was conducted comparatively with specimens exposed to natural conditions free of chloride ion. The effect of chloride ion on the specimens was generated of form accelerated under controlled conditions (3.5% NaCl and 25 ° C temperature). The Impedance data were acquired over a range of 1 mHz to 100 kHz. At frequencies high is found the response of the interface means of the exposure-concrete and to frequency low the response of the interface corresponding to concrete-steel.

Keywords : alternative concrete, corrosion, alkaline activation, impedance spectroscopy
Conference Title : ICCEAE 2015 : International Conference on Civil, Environmental and Architectural Engineering
Conference Location : Madrid, Spain
Conference Dates : March 26-27, 2015