Turkish Journal of Chemistry

Turkish Journal

of

Chemistry

Keywords
Authors

chem@tubitak.gov.tr

Scientific Journals Home Page

Corrosion of Reinforcing Steel in Concrete Immersed in Chloride Solution and the Effects of Detergent Additions on Diffusion and Concrete Porosity

Hülya KAHYAOĞLU
Niğde University, Faculty of Education
51100 Niğde-TURKEY
Mehmet ERBİL, Birgül YAZICI
Çukurova University, Faculty of Science and Art, Department of Chemistry,
01330 Adana-TURKEY
Ayse Bahar YILMAZ
Mustafa Kemal University, Faculty of Fisheries,
31040 Antakya-TURKEY
e-mail: aybahar@yahoo.com

Abstract: In order to investigate the corrosion of reinforcing steel in concrete and the effects of chloride ions, oxygen diffusion and detergent additives of linear alkylbenzene (LAB) and linear alkylbenzene sulfonate (LAS), potentiokinetic experiments were carried out. Thus, by embedding steel electrodes into concrete specimens with a water/cement (W/C) ratio of 0.45, current-potential curves were obtained and the compressive strength of the specimens was measured. The electrochemical approach can be used to identify the effect of chloride on steel corrosion in concrete. It was found that the diffusion of chloride and oxygen through concrete and the reduction of oxygen on the metal surface are important parameters controlling reinforcing steel corrosion.

Turk. J. Chem., **26**, (2002), 759-770.
Full text: pdf
Other articles published in the same issue: Turk. J. Chem.,vol.26,iss.5.