Field Test on Electro-Osmosis in a Heavy Metal Contaminated Soil: Electrokinetic Remediation and Reinforcement of the soil

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With the acceleration of urbanization, less land is available for the direct construction of infrastructure. The reuse of landfills can provide resources in this respect; however, this approach requires the simultaneous removal of heavy metal ions and the strengthening of foundation. In this study, Ningbo's landfill was selected as a field test site. The concentrations of five heavy metal elements (Cu, Zn, Pb, Cd, Cr) gradually decrease with depth. Fulvic acid can complex with heavy metal salts to form a stable soluble conjugate, which greatly improves the electric repair effect. The removal rate of heavy metals after electrokinetic remediation is approximately 25%-35%. The heavy metal removal effect of the F2 test group was the best. The anode settlement of each group of experiments is approximately 12% larger than the cathode settlement.

Keywords: Electrokinetic remediation; Pore water pressure; Landfill test; Reinforcement

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