

Using Tyre Ash as Ground Resistance Improvement Material-Health and Environmental Perspective

Authors : George Eduful, Dominic Yeboah, Kingsford Joseph A. Atanga

Abstract : The use of tyre ash as backfill material for ground electrode has been found to provide ultra-low and stable ground resistance value for grounding systems. However, health and environmental concerns have been expressed regarding its application. To address these concerns, the paper investigates chemical contents of the tyre ash and compares them to levels considered non-hazardous to health and the environment. It was found that the levels of the pollutant agents in the tyre ash were within the recommended safety margins. The rate of ground electrode corrosion in tyre ash material was also investigated. It was found that the effect of corrosion and the life of electrode can be extended if the tyre ash is mixed with cement. For best results, a ratio of 10 portions of tyre ash to 1 portion of cement is recommended.

Keywords : tyre ash, scrapped tyre, ground resistance reducing agent, rate of corrosion

Conference Title : ICECSE 2016 : International Conference on Electrical and Computer Systems Engineering

Conference Location : London, United Kingdom

Conference Dates : June 23-24, 2016