

## **Strength and consolidation index parameters of stabilise clay soil using scrap rubber tyre**

### **ABSTRACT**

Scrap rubber tyres are one of the synthetic fibre materials that can be used as a soil stabilizer. This study looks into the effects of scrap rubber tyres as a soil stabiliser on clay soil. Soil samples were collected in Kota Kinabalu, and the scrap rubber tyre was passed through a 2 mm passing sieve. Three experimental tests were carried out: compaction, consolidation, and an unconfined compression test (UCT). During the compaction test, the maximum dry density (MDD) and optimum moisture content (OMC) parameters were determined using the proctor standard penetration test. The shear strength of all soil samples was determined using UCT. The consolidation test also looks at the compressibility index and swelling index. Four soil sample configurations were prepared, one as a control sample and three with different soils mixed with varying percentages of scrap rubber tires: 1.5%, 2%, and 5%. This study investigates the degree of compaction, shear strength, settlement behaviour (compressibility), and swelling behaviour of scrap rubber tyres as a soil stabiliser. According to the findings, the optimal amount of scrap rubber tyres as a stabiliser that could improve the properties of clayey soil is 2%.