

## **Compressibility characteristics of fibrous tropical peat reinforced with cement column**

### **ABSTRACT**

Peat soil is described as a naturally occurring highly organic substance derived primarily from plant materials. It is formed when organic (usually plant) matter accumulates more quickly than it humifies (decay). Various construction techniques have been carried out to support embankments over peat deposits without risking bearing failures but settlement of these embankments remains excessively large and continues for many years. Cement columns method is a method which may exclude settlement problem of peat soil. This study has investigated the effects of cement columns composition on compressibility parameters of fibrous tropical peat reinforced with cylindrical cement columns; and presents the compressibility characters of fibrous tropical peat. A comprehensive laboratory work was carried out in order to study the compressive parameters of fibrous peat stabilized with various quantities of cement which they were subjected to Rowe Cell Consolidation test. The results indicate that increasing the cement ratio decrease amount of settlement and compressibility of tropical peat soil.

**Keyword:** Peat soil; Fibrous; Cement column; Rowe cell; Coefficient of consolidation; Compression index; Coefficient of secondary compression; Coefficient of volume compressibility