

Modeling of passive piles - an overview

ABSTRACT

Piles subjected to lateral loading from the moving soils is known as passive piles. These passive load induces forces and bending moment in piles that can lead to serviceability problems or even failure of the piles itself. This area of research is not recent and there were countless works that has been documented for the last three decades. In this paper, a review was conducted based on existing literatures and then classified to address four topics, namely; pile subjected to horizontal soil movement, pile-supported embankment, piles for slope stabilization, piles adjacent to deep excavation and failures of piles in open excavation. In addition, this paper intends to present a general overview on the state-of the-art research for passive piles. Based on the summary, passive piles in open excavation may indeed proved to be another recent and significant area of research that should be emphasized, as this will have invaluable contribution to the deep foundation industry.

Keyword: Passive pile; Horizontal moving soil; Embankment; Slope; Excavation