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CHAPTER - 6

Study on Buried Un-Plasticized Poly Vinyl Chloride pipes

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Abstract

Buried pipes are efficient means of transportation in the current scenario. Based on the Stiffness and the yield strength, the pipes are classified as rigid or flexible. However the distinction between them is still blurring. The use of flexible plastic pipe as horizontal buried conduits has gained much popularity over the recent years. Flexible plastic pipes made of Un-plasticized Poly Vinyl Chloride (UPVC) are replacing the more conventional type of pipes in water supply, sanitation and environmental application because of its high corrosive resistance, high durability, easy for installation and maintenance and low cost compared to other types of pipes. The objective of this paper is to present a critical appraisal on the behaviour of buried UPVC pipes embedded in sand backfill using the theoretical approach. In this study, the various theoretical equations presented by Modified Spangler Iowa formula, Watkins, and Greenwood and Lang's theory are used to predict the behavior of UPVC pipes buried in cohesionless backfill corresponding to loose and dense states under static conditions of loading.

Keywords: Stiffness, Deflection, Backfill, Hoop stress, Soil Modulus