عنوان مقاله:

THE ANALYSIS OF FLEXIBLE CONCRETE FOUNDATIONS ON COARSE ALLUVIUM OF TEHRAN

محل انتشار:

سومین کنفرانس بین المللی بتن و توسعه (سال: 1388)

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خلاصه مقاله:

Regarding the increasing expansion of construction in Tehran, the design and construction of raft or grid concrete foundations are very common for tall buildings. Winckler springs are often used by professionals to model soils in the design of flexible concrete foundation. However, it presents a substantial problem because the Winckler springs are not coupled. Such a subgrade reaction theory is too simplified, i.e. it considers a fixed constant value for the stiffness of Winckler springs which leads to an incorrect design. Continuum mechanics theory and numerical simulation tools are available to be used for soil modeling but they are time consuming and most engineers prefer to use Winckler springs to model the soil. In the presented research, a computer program was firstly developed based on finite elements method. It could model a flexible foundation on springs but the springs are coupled by considering stress distribution within soil mass. The used method is very similar to Winckler springs model and tries to modify it. The method is employed for different geological formations in Tehran to show the effects of the properties of coarse alluvium of Tehran on the analysis of concrete foundations.

کلمات کلیدی:

tehran coarse grain alluvium, concrete foundation, stress distribution, deformation

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