

عنوان مقاله:

The Assessment of Chin Method Based on Pile Static and Dynamic Load Test Results

محل انتشار:

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خلاصه مقاله:

Driven-pile foundations are frequently used in industrial projects in southwest lowlands of Iran. Static pile load test to failure is the ultimate procedure available to examine the capacity of piles. Being expensive and time-consuming, the procedure is often submitted for the application of a load to a certain factor (most often two) times the contemplated design load. In fact only a proof test is carried out while the ultimate capacity remains unknown. This paper examines the performance of chin's recommendations on the interpretation of pile static load test results. Also the ability of this method in predicting the proportion of shaft capacity is discussed by using static and dynamic load test results. The sites at which this study was conducted are located on the southwest of Iran in Khuzestan and Lorestan province. Case history analyses of 22 load-tested driven piles at four sites are presented. Chin method gives a very good prediction of ultimate capacity except the cases by plunging failure. The reliability of the Chin prediction improves when the last measured gross movement approaches 10% of the pile diameter. If head movement exceeds 5% of pile diameter Ultimate capacity predicted by Chin is in the range of 90% to 112% of measured capacity. The Chin method over predicts significantly the shaft resistance when the load is mainly resisted by the toe; When the shaft capacity is greater than 60%, predicted shaft capacity is in the range of 85% to 120% of the measured value

کلمات کلیدی:

Clayey Deposits, Pile Bearing Capacity, Chin Method, Dynamic Load Test, Static Load Test

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