基于沉降标准的卵砾石层中后注浆桩承载力预测

房 凯1，2，张忠苗1，2，刘兴旺3*

(1. 浙江大学 岩土工程研究所，浙江 杭州 310058；2. 浙江大学 软弱土与环境土工教育部重点实验室，浙江 杭州 310058；
3. 浙江省建筑设计研究院，浙江 杭州 310006)

PREDICTION OF BEARING CAPACITY OF POST GROUTING PILE IN GRAVEL LAYER BASED ON SETTLEMENT CRITERION

FANG Kai1，2，ZHANG Zhongmiao1，2，LIU Xingwang3*

(1. Institute of Geotechnical Engineering，Zhejiang University，Hangzhou，Zhejiang 310058，China；2. Key Laboratory of Soft Soils and Geoenvironmental Engineering of Ministry of Education，Zhejiang University，Hangzhou，Zhejiang 310058，China；
3. Zhejiang Province Institute of Architectural Design and Research，Hangzhou，Zhejiang 310006，China)

摘要	参考文献	相关文章

Download: PDF (179KB)　　HTML 1KB　　Export: BibTeX or EndNote (RIS)　　Supporting Info

摘要 用桩顶位移标准来确定桩的承载力对后注浆桩的设计有重要意义。在分析后注浆减小桩基沉降机制的基础上，通过对桩端位于卵砾石层的后注浆桩承载力提高量的统计分析得出在不同桩顶位移条件下承载力提高系数的分布情况，并通过正态分布函数进行拟合，给出一种基于沉降控制标准的后注浆承载力预测方法，并通过一个工程实例说明该方法的合理性。另外，统计表明在现有极限承载力设计体系下，当桩顶荷载对应于设计注浆桩承载力特征值时桩顶沉降比范围为1～2；当桩顶荷载对应于设计注浆桩极限承载力标准值时，桩顶沉降比范围为3～4。

关键词：　桩基础　后注浆桩　沉降标准　卵砾石层　承载力提高系数

Service

▸ 把本文推荐给朋友
▸ 加入我的书架
▸ 加入引用管理器
▸ Email Alert
▸ RSS

作者相关文章

Abstract：　It is of great significance to determine the bearing capacity of grouted piles based on settlement criterion. The mechanism of base grouting reducing the settlement of grouted piles is analyzed. Subsequently，statistical analyses are conducted to give the distribution of bearing capacity improvement factors under different tip displacements for grouted piles rested on gravel layer. The distribution curves are approximated by normal distribution function fitted to the statistical data，and a method of predicting bearing capacity of grouted pile based on settlement criterion is presented. Then，an illustrative example and comparison of results are presented to demonstrate the validation of the method. In addition，the ratio of ungrouted pile head settlement to the pile head settlement of grouted pile at corresponding load based on the current design method is studied. The statistical data indicate that the ratio is in the range of 1‒2 under a load equal to the characteristic value of design capacity，while it is in the range of 3‒4 under the ultimate design load.

Keywords：　pile foundations　post grouting pile　settlement criterion　gravel layer　bearing capacity improvement factor

引用本文：

房 凯1，2，张忠苗1，2，刘兴旺3.基于沉降标准的卵砾石层中后注浆桩承载力预测[J] 岩石力学与工程学报, 2012,V31(6): 1178-1183