

地面水对黄土地区桥梁桩基承载力影响试验研究

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摘要 黄土因其特有的工程性质, 使位于黄土地区的桥梁桩基础在桩周土受地面水浸湿后产生湿陷变形, 该变形引起桩的负摩阻力, 降低了桩的承载力。通过陕西芝川河特大桥桩周浸水前、后的荷载试验, 对黄土区域桩基浸水前、后的承载性状进行了分析研究, 揭示了地面水对黄土区域桥梁桩基承载力性状具有较大的影响; 分析了桩及桩周土浸水期间的沉降变化规律。研究成果对黄土区域公路桥梁桩基础的设计与施工具有重要理论价值与指导意义。

关键词 [土力学](#); [黄土浸水试验](#); [静载试验](#); [桩基承载力](#); [负摩阻力](#)

分类号

EXPERIMENTAL STUDY ON EFFECT OF SURFACE WATER ON BEARING CAPACITY OF PILE FOUNDATION IN LOESS AREA

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Abstract

The special engineering feature of loess leads to the collapsible deformation of the pile foundation when the soil around piles is saturated. The deformation usually leads to negative friction and reduces bearing capacity of piles. Based on the loading test before and after saturation of pile foundation of Shaanxi Zhichuanhe Bridge, the bearing capacities before and after saturation are analyzed. It is found out that effect of surface water on the property of bearing capacity of pile foundation in loess area is significant. The regularity of settlement of pile foundation and soil around is summarized. The results can provide references to the design and construction of pile foundation in loess area.

Key words [soil mechanics](#); [loess saturated test](#); [static loading test](#); [bearing capacity of pile foundation](#); [negative friction](#)

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