

粗颗粒盐渍土溶陷性影响因素研究

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FIELD AND LABORATORY TESTS FOR INFLUENTIAL FACTORS ON SALT RESOLVING SLUMP OF COARSE PARTICLE SALINE SOIL

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摘要 粗颗粒盐渍土是近年来西北地区工程建设中常遇到、且比较棘手的一种特殊土。为了研究该类特殊土的工程特性,本文在新疆东北部和甘肃河西走廊地区选择了4个试验场地的28个现场试验点和576件室内试样对进行了溶陷性研究,结果显示:当地基土中易溶盐含量超过0.5%~1%以上,且地基土渗透系数不小于 10^{-7} 时,常会发生溶陷现象。同时发现在温度、易溶盐成分、水等共同作用下的地基土周期性胀缩现象比单一的盐胀或溶陷对建筑物安全影响更大。

关键词: 粗颗粒盐渍土 溶陷 影响因素 地层结构 易溶盐分布形态

Abstract: In recent years, coarse particle saline soil as a kind of special soils is often encountered in engineering construction in northwest China. In order to grasp the special engineering properties of the soil mass, this study selects 28 test points and 576 pieces samples of 4 test sites in northeastern Xinjiang and Hexi regions of Gansu Province to collapsible testing research. The test results show that the foundation soil can cause salt resolving slump when the easy resolving salt content exceeds 0.5%~1% and the permeability coefficient no less than 10^{-7} . At the same time, the test results show that soil's periodic expansion and contraction phenomenon are more dangerous than single salt expansion and salt resolving slump.

Key words: Coarse particle saline soil Salt resolving slump Influential factors Stratum structure Easy resolving salt distribution

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