

广东深基坑支护工程的发展及新挑战

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DEVELOPMENT AND NEW CHALLENGES OF DEEP EXCAVATION SUPPORTING ENGINEERING IN GUANGDONG PROVINCE

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摘要

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摘要 广东地质条件多样性, 决定了广东深基坑工程支护形式的多样性, 各种支护形式都在应用, 这在全国是少有的。主要介绍近年广东基坑工程技术的一些新进步、新认识, 包括: 降水对周边环境的影响及一些处理方法; 坑底水的不同处理方案所产生的不同结果的案例分析及合理处理方法; 软土基坑中土方开挖产生工程桩侧移的问题及对策; 双排桩、盖挖法及中心岛法等新型支护成功应用的案例。提出基坑支护工程实践中一些尚需深入研究的理论问题, 如预应力锚索的合理计算、土压力的计算模式、基坑的位移控制、深厚软土地基中合理支护形式、地下水控制及其影响评估、残积土中水土压力等新的挑战性的科学问题, 需进一步深入研究。

关键词: [基坑工程](#) [深基坑支护](#) [位移控制](#) [水土压力](#)

Abstract: The diversity of geological conditions determines the variety of the pit supporting engineering in Guangdong. Thus, different kinds of supporting patterns are used in Guangdong, which are rare in our country. Some new progresses and understandings are introduced in the paper, including the impact of precipitation on the surrounding environment and ways to deal with it, analysis of some different treatments with different results on the water in the bottom of pits and reasonable treatments, problems and countermeasures of the lateral displacement of piles generated by earthwork excavation in soft soil. Except that, some new and successful supporting types and the applications of the double-row piles method, top-down method and mid-island method are also discussed. Finally, the further study of some theoretical issues are proposed in the practice of pit supporting engineering, such as reasonable calculation of the force of prestressed anchor cable, the calculation mode of earth pressure, control of the pit displacement, reasonable supporting patterns in the deep soft soil and water and earth pressures in the residual soil. All these new and challenging scientific problems require further research.

Keywords: [foundation pit engineering](#) [deep foundation pit support](#) [displacement control](#) [water pressure and earth pressure](#)

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