摘要

伴随着技术的进步与经济的发展，城市地下空间的利用开发越来越多，地下建筑规模越来越大，在地下水含量丰富的地区，建筑设施的抗浮问题是不能被忽视的重要设计项目。在工程实践中，常用加载配重法、盲沟排水法、释放水浮力法、抗浮桩、抗浮锚杆等方法协助抗浮，而抗浮锚杆具有良好的地层适应性、施工作业便利性、协调受力稳定性，在工程中得到了广泛的应用与推广。

本文分析说明了国内外抗浮锚杆的研究现状，通过研究抗浮锚杆的作用机理以及影响抗浮锚杆抗拔力的因素，总结出抗浮锚杆的设计理论。以武汉市汉口澎湃城高层建筑地下室为例，通过实地实习调研勘察获得工程相关基础资料，根据场地工程地质条件与水文条件，分析出该地块使用抗浮锚杆的必要性，结合相关设计规范，计算出抗浮锚杆的抗拔力设计值、配筋面积、锚固长度等详细设计参数，并对抗浮锚杆的施工工艺流程、防水养护措施进行了探讨。设计结果符合该地块的抗浮要求，与现场设计相比更为经济，为相关的高层建筑地下室抗浮设计提供了参考经验。

关键词：抗浮锚杆;受力分析;地下室抗浮;设计计算

ABSTRACT

With the progress of technology and the development of economy, there are more and more utilization and development of urban underground space, and the scale of underground buildings is getting bigger and larger. In the area with rich groundwater content, the anti-floating problem of building facilities is an important design project that can not be ignored. In engineering practice, loading counterweight method, blind ditch drainage method, release water buoyancy method, anti-floating pile, anti-floating anchor and other methods are commonly used to assist anti-floating, and anti-floating anchor has good formation adaptability, convenient construction operation and coordinated stress stability. It has been widely used and popularized in engineering.

In this paper, the research status of anti-floating anchor at domestic and abroad is analyzed and explained, and the design theory of anti-floating anchor is summarized by studying the action mechanism of anti-floating anchor and the factors affecting the pullout force of anti-floating bolt. Taking the basement of high-rise building in Pengpai City, Hankou, Wuhan as an example, the basic data of the project are obtained through field practice investigation and investigation. According to the engineering geological and hydrological conditions of the site, the necessity of using anti-floating anchor in this plot is analyzed. Combined with the relevant design codes, the detailed design parameters such as pullout resistance design value, reinforcement area and anchoring length of anti-floating anchor are calculated, and the construction process and waterproof maintenance measures of anti-floating anchor are discussed. The design results meet the anti-floating requirements of the plot and are more