
三角湖小学教学楼建筑结构
设计

**Architectural structure design
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of teaching building of triange
lake primary school**

摘要

本次设计为小学教学楼的建筑设计，结构类型为钢筋混凝土框架结构，共六层。该建筑物在武汉市，建筑抗震等级为6级拟7级进行设计，场地类别为II类，钢筋混凝土结构的抗震等级为二级，海拔高度为23.2m，基本风压为 0.35KN/m^2 。在建筑设计中，主要对建筑物的功能与空间进行设计，并设计出两套方案，根据要求与造价的不同，选取最合适的方案。通过用平、立、剖图展示设计内容，符合功能、人流、物流畅通，符合小学教学楼的教学条件。在结构设计中，先完成构件的截面尺寸初选，绘出结构平面布置图。选取一榀框架，进行荷载计算，主要计算恒荷载、活荷载、风荷载、地震作用四个方面，接着用结构力学求解器计算并绘出内力图，进行内力分析与组合，找出构件的最不利内力进行截面设计。最后配上合适的基础，并绘制基础平面布置图与一榀框架的配筋图，编制毕业设计报告。

关键词：建筑 结构 框架 设计

Abstract

This design for the primary school teaching building structure design, structure type is reinforced concrete frame structure, a total of six floors. The building is in Wuhan city, the building seismic grade levels is 6 to 7 to carry on the design, site category for II class, the seismic grade of reinforced concrete structures for the secondary, height of 23.2 m above sea level, the basic wind pressure is 0.35 KN/m². In architectural design, the function and space of the building are mainly designed, and two sets of schemes are designed. According to the different requirements and costs, the most appropriate scheme is selected. Through the use of flat, vertical, profile to display the design content, in line with the function, people flow, logistics smooth, in line with the teaching conditions of primary school buildings. In the structural design, the sectional dimensions of the components are first selected and the layout of the structure is drawn. A truss of frame is selected for load calculation, which mainly calculates the four aspects of constant load, live load, wind load and seismic action. Then the internal force diagram is calculated and drawn with the structural mechanics solver, and the internal force analysis and combination are carried out to find out the most unfavorable internal force of the components for section design. Finally, a suitable foundation was provided, and a layout drawing of the foundation plane and a reinforcement drawing of a frame were drawn to prepare the graduation design report.

Key words: Buliding Structure Framework Design

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