

题目： 吉安市一中教学楼 A 座建筑结构
设计

论文题目：吉安市一中教学楼 A 座建筑设计

摘 要

本工程项目为吉安市一中办公楼 A 座建筑设计，四层现浇钢筋混凝土框架结构，总建筑面积为 2510m²，设计使用年限为 50 年。采用柱下独立基础设计。

本设计先分析建筑功能，再布置结构。选最具代表性的 6 号轴线一榀框架，首先初步确定构件截面尺寸，计算恒活风三种荷载，用分层法算出框架内力，再通过内力组合选取最不利组合，对各构件截面合理配筋。主要内容有恒活风荷载计算，横向框架在风荷载、恒活荷载作用下的内力计算，框架梁柱的内力组合及其截面设计，楼板、基础设计及楼梯设计。此外运用 PKPM 软件对手写计算书的配筋结果进行对比分析和相应地修改，运用浩辰建筑 CAD 和浩辰 CAD 绘制建筑图和施工图。

关 键 词：荷载计算；内力计算；内力组合；配筋计算

Title: Structural design of block a of Teaching Building No. 1 Secondary School in Ji'an

ABSTRACT

The project is a structural design of building block a of the No. 1 Middle School Office Building in Ji'an. The four-storey cast-in-place reinforced concrete frame structure is designed with a total Gross leasable area of 2510 M² and a design service life of 50 years. Independent Foundation Design under column is adopted.

This design first analyzes the building function, then arranges the structure. A frame with the most representative axis No. 6 is selected. Firstly, the section size of the member is preliminarily determined, the three loads of the constant live wind are calculated, the internal force of the frame is calculated by the method of Delamination, and then the most disadvantageous combination is selected through the combination of internal force, reasonable reinforcement of each component section. The main contents include the calculation of the constant wind load, the calculation of the internal force of the transverse frame under the wind load and the constant live load, the internal force combination and cross-section design of the frame beam and column, the floor Slab, the foundation design and the staircase design. In addition, the software PKPM is used to compare and modify the results of the hand-written calculation books, and the architectural drawings and construction drawings are drawn by Haochen architecture CAD and Haochen CAD.

KEYWORDS: Load-calculation; Internal force calculation; Internal force combination; Reinforcement calculatio

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