

ABSTRACT

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Institut Teknologi and Kesehatan Jakarta Campus C Building Project. Method of Implementation and Calculation of Material Iron Needs Column, 3rd Floor, Zone 7.

Majoring of Civil Engineering. Faculty of civil engineering and planning.

Gunadarma University

(XIV + 74 + Attachment)

Institut Teknologi and Kesehatan Jakarta Campus C Building Project is located at Jl. Boulevard Raya No. 2, Grand Depok City, Tirtajaya, Sukmajaya, Depok City. This building was built on a land area of $\pm 5,000 \text{ m}^2$ consisting of 1 basement floor and 5 campus floors. PT. MS International Educare as owner, PT. Aksa Internusa Putra (AIP) as construction management, and PT. Adhi Persada Gedung as the main contractor for this project. The type of contract used is the Lump Sum Fix Price with a contract value of Rp. 136,000,000,000.00. This project has an implementation period of 12 months starting from September 2019 to August 2020 and a maintenance period of 12 months after the project is completed. In a multi-storey building construction structure, the column is a vertical compression rod of the structural frame that plays an important role in a building, so that a collapse in a column is a critical location that can cause the collapse of the floor concerned and also the total collapse of the entire structure. The stages in the column implementation method are preparation for implementation, determination of column axles, reinforcement assembly (fabrication), reinforcing installation, reinforcement checklist, formwork installation, casting implementation, formwork opening, and curing. Calculation of column iron material requirements. There are 3 types of columns on the 3rd floor of zone 7, namely KL-2, KL-2A, and K-15. The quality of the concrete used for the column is f'c 35. The iron material required for all columns on the 3rd floor of zone 7 is 5382.278 Kg.

Keywords: Column, Method, Volume.