

ABSTRAK

Keamanan dan kekuatan gedung bertingkat sangat penting, terutama untuk bangunan dengan fungsi penting seperti fasilitas kesehatan. Skripsi ini membahas tentang analisa perencanaan struktur atas gedung beton bertulang pada studi kasus Gedung *Medical Centre* di Jakarta Selatan dan direncanakan memiliki 5 Lantai. Diketahui bahwa bangunan ini akan dibangun di atas kelas situs tanah sedang dan termasuk dalam kategori desain seismik D sehingga perencanaan struktur menggunakan metode Sistem Rangka Pemikul Momen Khusus (SRPMK).

Perhitungan mengacu pada peraturan SNI yang berlaku. Tujuan utama penelitian ini adalah mampu menghitung penulangan dan menentukan dimensi elemen struktural seperti balok, kolom dan pelat lantai dengan metode SRPMK berdasarkan SNI 1726:2019, SNI 1727:2020, dan SNI 2847:2019.

Hasil perencanaan menunjukkan bahwa pelat lantai S1 dengan ketebalan 120 mm, dimensi balok induk tipe B1 berukuran 350x750 mm, dimensi kolom tipe K1 berukuran 700x700 mm.

Kata Kunci: struktur beton bertulang, gedung lima lantai, SRPMK, fasilitas kesehatan, perencanaan struktur

ABSTRACT

The safety and structural strength of multi-story buildings are crucial, especially for facilities with vital functions such as healthcare centers. This undergraduate thesis analyzes the structural planning of a five-story reinforced concrete building, with a case study of the Medical Centre Building located in South Jakarta. The building is planned to be constructed on a medium soil site class and falls under Seismic Design Category D. Therefore, the structural system is designed using the Special Moment Resisting Frame (SMRF) method.

All calculations refer to the applicable Indonesian National Standards (SNI). The primary objective of this study is to calculate the reinforcement and determine the dimensions of structural elements such as beams, columns, and floor slabs using the SMRF method based on SNI 1726:2019, SNI 1727:2020, and SNI 2847:2019.

The design results show that the floor slab type S1 has a thickness of 120 mm, the main beam type B1 has dimensions of 350x750 mm, and the column type K1 has dimensions of 700x700 mm.

Keywords: *reinforced concrete structure, five-story building, SMRF (Special Moment Resisting Frame), healthcare facility, structural planning*