

# PERENCANAAN GEDUNG 4 LANTAI MA'HAD IAIN SURAKARTA BERDASARKAN SNI 1726:2019

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## ABSTRAK

Gedung Ma'had IAIN Surakarta terletak di Kota Surakarta. Saat ini, Kota Surakarta merupakan daerah yang termasuk dalam zona gempa ringan, untuk itu dilakukan perhitungan ulang struktur gedung Ma'had IAIN Surakarta 4 lantai dengan memerhitungkan parameter gaya gempa. Perhitungan gedung tersebut bertujuan untuk menganalisa gaya geser dasar, output gaya dalam, dan perhitungan penulangan struktur bangunan gedung.

Pemodelan struktur menggunakan bantuan program Analisa struktur ETABS versi 18. Perencanaan menggunakan desain struktur beton bertulang dengan system rangka pemikul monem khusus (SRPMK), serta mengacu pada peraturan SNI 2847-2019 dan SNI 1726-2019.

Berdasarkan hasil Analisa, desain dengan sistem SRPMK yang memenuhi prinsip strong column weak beam menghasilkan balok G2 600x300 tulangan tarik 5D16 dan tulangan tekan 3D16 serta tulangan geser 2D16 dengan spasi 70 mm ditumpuan dan 150 mm di lapangan. Kolom K1 750x750 tulangan 32D19 dengan Sengkang lapangan 2D10-90 dan tumpuan 5D10-100, kolom K2 500x500 tulangan 24D19, kolom K3 300x300 tulangan 8D19.

Kata Kunci : Desain, Gempa, Struktur Gedung

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# PLANNING OF MA'HAD IAIN SURAKARTA 4-FLOOR BUILDING BASED ON SNI 1726:2019

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## ABSTRACT

The Ma'had IAIN Surakarta building is located in the city of Surakarta. At present, the city of Surakarta is an area that is included in the mild earthquake zone, for that reason, the structure of the 4-story Ma'had IAIN Surakarta building is carried out by taking into account the parameters of the earthquake force. The calculation of the building aims to analyze the basic shear force, output internal forces, and calculate the reinforcement of the building structure.

Structural modeling using the ETABS version 18 structural analysis program. The plan uses a reinforced concrete structure design with a special monem-bearing frame system (SRPMK), and refers to the regulations of SNI 2847-2019 and SNI 1726-2019.

Based on the analysis results , the design with the SRPMK system that complies with the strong column weak beam principle produces a G2 beam of 600x300 5D16 tensile reinforcement and 3D16 compression reinforcement and 2D16 shear reinforcement with 70 mm spacing supported and 150 mm in the field . K1 column 750x750 reinforcement 32D19 with field stirrups 2D10-90 and support 5D10-100, column K2 500x500 reinforcement 24D19, column K3 300x300 reinforcement 8D19.

Keywords: Design, Earthquake, Building Structure

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