

EVALUASI DESAIN STRUKTUR BETON BERTULANG BERDASARKAN SNI TAHUN 2019 Studi Kasus Gedung Pusat MAN 2 Kulon Progo

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ABSTRAK

Penelitian ini dilakukan untuk mendapatkan hasil besaran gaya gempa, konfigurasi tulangan struktur, serta nilai simpangan antar lantai berdasarkan SNI 2847:2019 dan SNI 1726:2019. Penelitian ini mengambil studi kasus Proyek Pembangunan Gedung Pusat MAN 2 Kulon Progo yang masih mengacu pada Standar Nasional Indonesia tahun 2013. Analisa penelitian ini menggunakan metode perancangan ulang struktur beton bertulang dan nilai-nilai parameter beban gempa berdasarkan SNI 2847:2019 dan SNI 1726:2019, serta menganalisis struktur bangunan menggunakan bantuan *software ETABS v17*. Berdasarkan analisis menggunakan acuan SNI tersebut, pada hasil penelitian mendapatkan besaran gaya gempa statik sebesar 1254,68 kN dan gaya gempa dinamik sebesar 1338,78 kN. Menghasilkan jumlah tulangan pada balok B1 sebanyak 13 buah tulangan pokok D19 dan 4 buah tulangan susut D13, pada balok B2 sebanyak 12 buah tulangan pokok D19 dan 2 buah tulangan susut D13, pada balok B3 sebanyak 8 buah tulangan pokok D19 dan 2 buah tulangan susut D13, serta pada kolom K1 sebanyak 14 buah tulangan longitudinal D19. Serta mendapatkan nilai simpangan antar lantai maksimum yang tetap memenuhi syarat, dimana nilai simpangan $\max 21,63 \text{ mm} \leq 42,00 \text{ mm}$ simpangan izin

Kata kunci: Perancangan ulang, SNI 1726:2019, SNI 2847:2019, *ETABS*

EVALUATION OF REINFORCED CONCRETE STRUCTURE DESIGN BASED ON SNI IN 2019

Case Study of Central Building MAN 2 Kulon Progo

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ABSTRACT

This research was conducted to obtain the results of the magnitude of the earthquake force, the configuration of structural reinforcement, and the value of the drift between floors based on SNI 2847:2019 and SNI 1726:2019. This research takes a case study of the Central Building Construction Project of MAN 2 Kulon Progo which still refers to the 2013 Indonesian National Standard. The analysis of this research uses the method of redesigning reinforced concrete structures and earthquake load parameter values based on SNI 2847:2019 and SNI 1726:2019 ; and analysis of building structures using ETABS v17 software. Based on the analysis using the SNI reference, the results of the study obtained the magnitude of the static earthquake force of 1254.68 kN and the dynamic earthquake force of 1338.78 kN. It is also known that the amount of reinforcement in beam B1 is 13 principal reinforcements D19 and 4 pieces of shrinkage reinforcement D13, in beam B2 there are 12 pieces of basic reinforcement D19 and 2 pieces of shrinkage reinforcement D13. In beam B3 there are 8 principal reinforcements D19 and 2 shrinkage reinforcements D13, and in column K1 there are 14 longitudinal bars D19. The maximum deviation value between floors still meets the requirements, where the maximum deviation value is $21.63 \text{ mm} \leq 42.00 \text{ mm}$ the allowable deviation

Keywords: redesign, SNI 1726:2019, SNI 2847:2019, ETABS