Analisa Respon Seismik Struktur Bangunan Denah L Dengan Lead Rubber Bearing Di Lantai Atas = Seismic Response Analysis Of L Shaped Building Structure With Lead Rubber Bearing At Top Floor

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Abstrak

Dengan adanya perubahan peraturan SNI 1726 “Standar perencanaan ketahanan gempa untuk struktur bangunan Gedung”, maka bangunan yang lama akan mengalami penambahan beban gempa. Untuk mengembalikan beban gempa ke nilai awal dapat dilakukan dengan menggunakan isolator. Untuk penelitian ini isolator yang digunakan ialah lead rubber bearing dan ditempatkan pada lantai paling atas bangunan lalu menambah beban diatas lead rubber bearing. Objek pada penelitian ini ialah bangunan dengan denah berbentuk L yang akan divariasikan sebanyak 10 model berisolator dan 1 model fix-based. Hasil dari penelitian ini akan menganalisa pengaruh variasi beban dan kekakuan lead rubber bearing terhadap respons struktur bangunan, Analisa yang digunakan ialah Analisa respons spektrum dengan parameter yang dibandingkan meliputi: periode getar, gaya geser tingkat, simpangan antar lantai dan pusat massa. Berdasarkan hasil penelitian menggunakan analisa respon spektrum, penggunaan lead rubber bearing dapat mengurangi gaya geser dasar akibat gempa berkisar antara 19-23

.....With the amendment of SNI 1726 regulation "Standards for planning earthquake resistance for building structures", old buildings will experience additional earthquake loads. In order to restore the earthquake load to the initial value, it can be done using an isolator.The isolator that is used for this study is lead rubber bearing, and it is placed on the top floor of the building and then added an additional load at the top of lead rubber bearing. The object of this study is a building with an L-shaped plan with variation of 10 isolated models and 1 fix based model. The results of this study will analyze the structural response of buildings caused by variations in load and stiffness of lead rubber bearing on. The analysis used in this study was responses spectrum analysis with parameters that being compared covers: period of vibration, story shear, intersection between floor and center of mass. Based on the results of the study using response spectrum analysis, the use of lead rubber bearings can reduce the base shear due to earthquakes ranging from 19-23%.