ANALISIS PORTAL BETON BERTULANG PADA STRUKTUR GEDUNG BERTINGKAT BANYAK DENGAN TINGKAT DAKTILITAS PENUH DAN ELASTIK PENUH

SKRIPSI

diajukan guna melengkapi tugas akhir dan memenuhi salah satu syarat
untuk menyelesaikan Program Studi Ilmu Teknik Sipil (S1)
dan mencapai gelar Sarjana Teknik

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UNIVERSITAS JEMBER
2008

SUMARY

Reinforcement concrete portal analysis in multistoried buildings structure with completed ductility level and completed elasticity

In multistoried building design, we have known about Partial Ductility and Completed Ductility, beside a level of completed elastic of them, there is a different of them, the main different is Deviation of ductility factor. In general, the earthquake proof building designed by the application of ductility concept. The Completed of Ductility of structure level has the structure that is able to face the deviation after elastic. This happen when the conditions at the maximum collapse that the ductility's factor is 5,3. The Completed Ductility design is usually difficult for realization because of reinforcement detailing. It is contrast with the completed elastic. This do not need with special detailing, because the completed elastic designs the building do not allowed to be deviation after elastic.

The purpose of observation knows about the different of structure design between the structure that designed by the completed ductility and completed elastic in multistoried building.

The regular of building structure's is able to be the nominal earthquake load that caused by the influence of the prediction of earthquake loads in each main coordinate of structure sketch, this is a total design lateral force at the base. SNI 1726 arranges the earthquake load static equivalent (V). Beside the building category has an important factor (I). The main coordinate of structure sketch and the way of earthquake loads has a strength reduction factor of earthquake (R) and elastic fundamental period of vibration (T1), so the total design lateral force at the base storied is able to count by equation:

$$V = \frac{C_1 I}{R} W_t$$

Where:

C_1 = Seismic coefficient it's given by response spectrum
I = Importance factor
W_t = the total seismic dead load and live load
R = strength reduction factor
V = the total design lateral force or shear at the base

R = 5,5 for completed ductility design and R = 1,6 for completed of elastic level, and the building is in the seismic zone intermediate.

This result got by area of reinforcement. Then it is tried to make a changing (alternative design); the design of a cross section beams and different column for each storied, it use a completed ductility and it concluded that the elected of different

design of across section structures element is effective. It can reduce the reinforcement using is 34, 8 %

The building of earthquake proof design is better to give more priority in material quality because the high quality of material could reduce the determining of across section design of structures element. So it would reduce the shear force at each storied.

DAFTAR ISI

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