COMPARATIVE STUDY OF THE BEHAVIOR OF BUILDINGS USING MOMENT RESISTING FRAME, CONCENTRICALLY BRACED FRAME AND CONCENTRICALLY BRACED FRAME USING OUTRIGGERS TO VARIATIONS OF BUILDING HEIGHT

Student Name : Mohamad Gazali Rentua
NRP : 3106 100 087
Department : Civil Engineering, FTSP-ITS
Lecture Name : Data Iranata, ST,MT,PhD

ABSTRACT

Along with the rapid development of the times, the building has an essential role in supporting human social life. Not only serves as a venue for the transaction and administrative activities, the building is also widely used as well as the storage of goods to be traded. Planned structure must be able to produce a structure that is stable, strong, capable steward, durable, and meets heavy resistance building, basic seismic force and displacement. With the existing problems it is necessary the existence of a system that is in use in a building.

There are some systems that can be used to analyze the problem., As study materials will be calculated against height variations that building 60 floor building, 50, 40, 30 and 20 floors each floor premises 4 m high, 22 meter wide building, and using three the system bearers special moment resisting frame, special concentrically braced frame and special concentrically braced frame using outriggers. The
results obtained from this analysis, the building uses a special concentrically braced frame using outrigger stronger against earthquake forces and displacement work than the other two systems, although the dimensions used in SRBKK use outrigger smaller than SRBKK and SRPMK. This is because the function to reduce the deviation of lateral outrigger and holding torque tube.

Key word : moment resisting frame, concentrically braced frame, outrigger