

## SUMMARY

**Dyah Ayu Pratsiwi**, Department of Civil Engineering, Faculty of Engineering, University of Brawijaya, Agustus 2016, *Re-design Composite Building of Program of Information Technology and Computer Science (Phase 1) Brawijaya University Based on SNI 1729-2015*, Academic Supervisor: Ari Wibowo, ST, MT.,Ph.D dan Dr. Eng.Ming Narto, ST, MT, M.Sc.

The needed of tall building was increased in this era of globalization. The tall building must accomodate the human activity in large quantities for example the learning of lectures on The building of Program of Information Technology and Computer Science Universitas Brawijaya. Consideration that often arise in the planning of tall building is the stability of the vertical and lateral loads are large. This lateral load give dangerous effects on the building, therefore should not be ignored in the design capacity of structure. Expecially in Indonesia is meeting such large plates Indo-Austrian cause earthquakes. Thus the tall building in Indonesia should be planned to be able to strong or withstand earthquake loads. Also expected are planned buildings with high power, the efficient of section properties, the serviceability limit load requirements of security and comfort.

This design of structure using composite materials by using a system structure SRPM (Frame Moment System). The concept design using DFBK method or LRFD (Load and Resistance Factor Design). Analysis of seismic loads while using the Respon Spectrum analysis necessary strength and power available using the DAM Direct Analysis Method).

This stuctural design using composite structural components. Composite beam is obtained in the form of a steel material with WF profile and concrete slab (thickness is 12 cm). While the materal to form composite steel columns WF shrouded profile concrete reinforced. As the transfer of force and strength needed headed stud shear connectors anchor. For the beam –column connections and beam anak-idak used weld connectors. While the connection of between the column the joints between columns using bolts used.

The results of this planning is the weight of the structure can be reduced, weight of steel can be reduced, Section properties that is used can be smaller and the stiffness of the floor plate increased so that many benefits are obtained when using a component of composite structure.

Keywords: DAM, DFBK , earthquake load , composite, SRPM.