Evaluasi bangunan bertingkat akibat beban gempa dengan balok prategang sebagai transfer beam = Evaluation of multi story building with prestress system as transfer beam under seismic loads

---

Abstrak

The need of vertical expansion in cities especially Jakarta sometimes has obstacle from the existence of heritage building which should be kept. Therefore the new building intended to be built above the heritage building must use particular transfer system, in this research it would be a prestress beam and its supporting column. Located in seismic region, later a seismic load including its vertical and horizontal component and gravity force will be assigned to the multi-story building. In addition, to guarantee the transfer system doesnt fail before the other structural components do, seismic forces for transfer system will be scaled up with excessive strength factor based on SNI 03-1726-2002.

This research shows that the performance of transfer system will be better with the increase of transfer beam dimension. Furthermore, the performance of transfer system also will be better with the increase of number of stories. Displacements at transfer beam mid-span will be less with increasing amount of stories held with different transfer beam dimensions and different prestress loads, also will be less with the increase of prestress beam dimension. It is observable since the existence of prestress system at transfer beam, the need of non-prestress longitudinal reinforcement will be reduced.