ABSTRACT

Large camber or deflection is unacceptable when its occurrence affects not only the architectural appearance but also the efficiency of the building structure. In fully prestressing and ordinary reinforced concrete structures the large cambers and deflections occur due to the slenderness of the members or the effects of high prestressing forces together with the eccentricities.

The main purpose of this study is to investigate how the deflections and cambers in the concrete can be controlled by the partial prestressing technique incorporating the load-balancing concept. The main contents and details can be seen in the chapter four.

The results obtained have provided concrete evidence that the methods adopted in the present study can be used as an effective means of control on deflections and cambers. Some cost saving can also be achieved through the design using partial prestressing method with the use of combined both prestressing and ordinary reinforcing steels, flange beam section and over fix support.