

Cost Evaluation for 12-Storey Reinforced Concrete Apartment Building in Sabah due to Seismic Design

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Abstract

In June 2015, Ranau stated earthquake of moment magnitude M_w 6.1 which cause a lot of damage to buildings. Therefore, seismic design input should be applied for new buildings to minimize damage. This work investigates the influence of seismic design on structural works cost. A 12 storey apartment reinforced concrete apartment has been used as a model for the project. In this research, soil type D and 3 levels of seismicity were used as design variables. The reference peak ground acceleration, α_{gR} used were 0.08g, 0.12g and 0.16g. The results indicate that models with seismic design have greater structural costs, increasing 3.4% to 19.1%.

Keywords: Cost; Estimation; Seismic Design; Eurocode 8; Structural Work.