

Dynamic Analysis of RCC Framed Structure Considering Effect of Base Isolation

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Abstract: *Base isolation is a system that protects a building from the damaging effects of a seismic movement. If the structure separates from the ground during an earthquake, the ground is moving but the structure is still dormant. However, this scenario is not realistic. The current technology that is active and expanding is the introduction of a low lateral stiffness support that isolates the structure from the ground movement. The objective of base isolation system is to decouple the structure from the ground. It lowers the effect of ground motion transmitted to the structure. Behaviour of multi-storey buildings during earthquake motion depends on distribution of weight, stiffness and strength in both horizontal and vertical planes of building. A complete literature review is undertaken in this study to better understand seismic evaluation of building structures, the use of time-history analysis, and free vibration analysis. Design the footing for the G+14 building and assess its spring stiffness, as well as analyses the G+14 storey building and compare the findings of the fixed base structure with the isolated building structure using ETABS. A time-history analysis of fixed foundation structure and base isolation at building footing levels is performed to determine whether or not failure reduction occurs.*

Keywords: Base Isolation, Spring Stiffness, ETABS, G+14 Building

