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## **Seismic Behavior of Reinforced Concrete Frame with Different Infills**

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### **ABSTRACT**

The present study investigate the seismic performance of reinforced concrete framed building with bare frame, equivalent diagonal strut, R.C wall and shear wall. The seismic behavior of a 10-storey building investigated using response spectrum analysis. Equivalent diagonal strut methodology is used to represent the behavior of infill walls, whilst the well-known software package ETABS is used for implementing all frame models and performing the analysis. The results such as maximum displacement, maximum drift, storey shear, base shear and mode shapes for the bare frame as well as the equivalent diagonal strut, R.C wall and shear wall are presented in a comparative way. The results of the study indicate that the interaction between infill walls and frames significantly change the responses of buildings during earthquakes compared to the results of bare frame building model. While comparing base shear, the value drastically decreases for the bare frame coming to the base shear for other models uniformly decreases. Whereas comparing storey drift, the value considerably decreases for the bare frame coming to the storey drift for other models uniformly increases.

**Keywords**— Bare frame; Equivalent diagonal strut; R.C wall; shear wall; Response spectrum analysis;



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