

Behaviour of Reinforced Concrete Infilled Frames under Seismic Loads

Authors : W. Badla

Abstract : A significant portion of the buildings constructed in Algeria is structural frames with infill panels which are usually considered as non structural components and are neglected in the analysis. However, these masonry panels tend to influence the structural response. Thus, these structures can be regarded as seismic risk buildings, although in the Algerian seismic code there is little guidance on the seismic evaluation of infilled frame buildings. In this study, three RC frames with 2, 4, and 8 story and subjected to three recorded Algerian accelerograms are studied. The diagonal strut approach is adopted for modeling the infill panels and a fiber model is used to model RC members. This paper reports on the seismic evaluation of RC frames with brick infill panels. The results obtained show that the masonry panels enhance the load lateral capacity of the buildings and the infill panel configuration influences the response of the structures.

Keywords : seismic design, RC frames, infill panels, non linear dynamic analysis

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