

Effect of Lintel Band on the Global Performance of Reinforced Concrete Masonry In-filled Frames

Abstract— Entryway and window openings are unavoidable components in RC masonry in-filled frames because of functional and ventilation requirements. The presence of entryway and opening in RC masonry in-filled frames reduces the lateral stiffness and strength of the wall, which modifies the structural behavior of structure. If these open spaces are located in the critical zones like areas within middle two thirds of a wall panel, then the wall needs to be reinforced by providing necessary structural elements such as lintel bands (i.e., horizontal/vertical bands) around them. Lack of such strengthening techniques may cause the structure to undergo severe damage during the earthquake. In this paper, the change in structural response of RC masonry infilled frames due to the presence of horizontal bands above the openings is studied. For studying the behavior of the frames, static non-linear pushover analysis tool has been used [2].

Keywords—*Unreinforced brick masonry infill walls, Lintel, Horizontal bands, Vertical bands and Static nonlinear pushover analysis*