

Seismic Strengthening of Re-entrant corner Masonry Building

Abstract— The seismic performance of the building is influenced by the presence of re-entrant corners in the structure. Re-entrant corner causes concentration of stresses and torsion related problem during a seismic event. This defect is more vulnerable in case of masonry building due to its brittle nature. This paper deals with the behavior of re-entrant corner irregularity in masonry building and strengthening measures for it. The objective of study is to compare the capacity of building in different cases of plan irregularities before and after retrofitting. An arbitrary L- Shaped masonry building is taken for analysis. Subsequent analysis of the structures after strengthening with the steel angle at the junction of re-entrant corner was also carried out. The results of analysis confirm the improvement of seismic capacity of the re-entrant corners of the building with slight reduction of story drift.

Keywords—Re-entrant corner, masonry, steel angle, seismic strengthening