ABSTRACT

The past studies shows that the provision of confinement reinforcement in column influence the better seismic force resistance. Therefore, the project work experimentally investigated the influence of different reinforcement configurations provided on the confinement reinforcement in the column. The cyclic behavior of an RC column embedded with conventional confinement reinforcement is compared with an embedded RC column with X-Shaped braced compartment reinforcement. A 1:3 scale RC column with a cross section of 150 mm x 150 mm and a length of 1.1 m is considered for the study. Except for the limited reinforcement configuration, all other characteristics, such as section size and reinforcement ratio, are identical in the reinforced concrete column. The RC column samples are subjected to a reverse cyclic in-plane load along the sustained axial load. The results showed that the RC column integrated with an X-braced fixed reinforcement effectively improved the ultimate load, ultimate displacement, yield load and yield displacement.

Keywords: RC column, ultimate load, ultimate displacement, yield load, yield displacement.