

以改善构件屈服前的耗能性能,但对大变形后的影响不大.

3 结论

(1)配置 HRB500 钢筋的 T 形截面混凝土异形柱具有良好的延性,钢筋与混凝土协同工作较好,钢筋锚固滑移影响较小.增大配箍特征值可以显著提高异形柱的承载能力及后期耗能能力.

(2)在小轴压比(0.1~0.3)下,随着轴压比的增大,构件腹板受压时初始抗侧刚度略有提高,但构件整体延性有所下降.

(3)在小轴压比和适宜肢宽肢厚比情况下,配置 HRB500 钢筋 T 形截面混凝土异形柱承载力退化较慢,延性性能和耗能能力等抗震性能指标较好,能够在强震区的异形柱结构中使用.

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Research on Seismic Behavior of HRB500 Reinforced Concrete T-shaped Section Columns

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Abstract: Based on the tests of four HRB500 RC T-shaped section columns under axial compression and low cyclic reversed lateral load, the failure mode, bearing capacity, ductility performance, rigidity degradation, hysteretic behavior, energy dissipation and cumulative damage of the specimens were studied systematically. The influence of reinforcement characteristic value and axial compression ratio on the seismic behavior was discussed in the investigation. Experimental results indicate that, under certain width-thickness ratio and appropriate axial compression ratio, the member's bearing capacity, ductility and energy dissipation are improved dramatically with the increasing of the reinforcement characteristic value. It has been revealed that the HRB500 RC T-shaped section columns have excellent seismic performance, which can be used in the structure with specially shaped columns in meizoseismal regions.

Key words: HRB500 reinforced bar; T-shaped section column; low cyclic reversed loading; seismic behavior