

## Experimental Investigations of Eccentrically Loaded Circular Concrete-Filled Double Steel Tubular Short Columns

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**Abstract** – Circular concrete-filled double steel tubular (CFDST) column offers improved strength and ductility compared to conventional concrete-filled steel tubular (CFST) column. This paper reports an experimental program carried out on short CFDST columns loaded either concentrically or eccentrically. The test parameters examine the influences of the eccentricity ratio and the diameter-to-thickness ratio of the steel tubes. The eccentricity ratio varied from 0 to 1.64 while the diameter-to-thickness ratio of the outer and inner steel tubes ranged between 43.8 to 54.75 and 32.57 to 45.6, respectively. It is observed that the tested columns failed in a ductile manner, however, an increase of the eccentricity ratio reduces the ultimate loads of the columns remarkably.

**Keywords:** *Concrete-filled double steel tubes; eccentric compression; stub columns; composite columns; ultimate strength.*