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## EXPERIMENTAL INVESTIGATION ON BUCKLING BEHAVIOUR OF CONCRETE ENCASED STEEL COLUMN

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**ABSTRACT:** Nowadays Composite structures are highly used in high rise buildings, since it has high load bearing capacity and some other applications. Generally Composite member may be a concrete encased one or a concrete in-filled one. The concrete and the steel specimen used in a composite column generally behaves accordingly to provide higher efficiency compared to conventional member. These systems are found to be an alternative to conventional column. Encased columns are formed by I sections or built-up steel sections surrounded by concrete. Their integral behavior provides sufficient strength and stability to the concrete system. This project presents an investigative study on the behavior of concrete encased steel built-up columns with two different configurations which includes with and without spacing between the steel back to back welded specimens. The shape of the steel specimen used is supacee which has a slightly corrugated web which itself acts as a stiffener and also provides a good bond behavior between concrete and steel. The principle aim of this research is to gain an improved knowledge on the behavior of concrete encased built-up steel composite columns. This paper includes the analytical and experimental research works conducted on the buckling behavior of the encased column with respect to load and deflection.

**Keywords:** *Buckling, Encased, Column, Stiffener, Supacee*

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