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Experimental Study on Load Carrying Capacity of Cold Formed Steel Built-up Column

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Abstract: The cold formed steels are best alternative to the hot rolled sections in the present situation but still the usage of built-up columns are still under the research. The structural behavior and stability of columns have been studied by many researchers. This paper states the experimental and numerical analysis of a cold formed open and closed built-up column section. The columns were connected using bolted connection. For the finite element modeling ABAQUS 6.10 software was used. Geometrical and non-linearities are included in the model and the nodes are taken from AutoCAD and are imported in ABAQUS. A linear elastic buckling analysis was performed to obtain the buckling loads and associated buckling modes. A non-linear ultimate strength analysis has been carried out to know the ultimate axial load capacity and experimental investigation results were compared.

Keywords: Cold Formed Steel, Built-up Cold Formed Steel, Connectors, Types of Buckling, ABAQUS.

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