

Numerical Analysis of End Plate Bolted Connection with Corrugated Beam

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Abstract : Steel extended end plate bolted connections are recommended to be widely utilized in special moment-resisting frame subjected to monotonic loading. Improper design of steel beam to column connection can lead to the collapse and fatality of structures. Therefore comprehensive research studies of beam to column connection design should be carried out. Also the performance and effect of corrugated on the strength of beam column end plate connection up to failure under monotonic loading in horizontal direction is presented in this paper. The non-linear elastic-plastic behavior has been considered through a finite element analysis using the multi-purpose software package LUSAS. The effect of vertically and horizontally types of corrugated web was also investigated.

Keywords : corrugated beam, monotonic loading, finite element analysis, end plate connection

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