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An Investigation into the Effect of End Connections on the Seismic Behaviour of All Steel Buckling Restrained Braces (AllSteel-BRBs)

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Abstract

This paper presents a finite element approach to investigate the effect of end connections on the seismic behaviour of all-steel buckling restrained braces (All-steel BRBs). Most of the times, these connections are assumed as end pinned-connections where they are not fully pinned at the ends in practice. This might cause unexpected behaviour, resulting in an incorrect prediction of their seismic behavior during the earthquakes. Also out of plane buckling of gusset plates needs to be taken into consideration because of connections rigidity. In this paper, it is aimed to conduct an analytical study on these connections and compare the real behaviour of the end connections with end pinned assumption.

Keywords: BRBs, all-steel buckling restrained braces, braced frames, end condition effects.