عنوان مقاله:

Overall Buckling Behavior of All -Steel Buckling Restrained Braces

محل انتشار:

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خلاصه مقاله:

One of the key requirements of desirable mechanical behavior in buckling restrained brace under severe earthquake loading is to prevent its global buckling, until the brace member reaches enough plastic deformation and ductility. This paper presents the finite element analyses results of proposed all-steel buckling restrained braces. The proposed BRBs have identical core section but different buckling restraining mechanism (BRM).The objective of the analyses is to conduct a parametricstudy for BRBs with different amount of gap (between core and BRM) and initial imperfection toinvestigate global buckling behavior of the brace. Analys results showed that BRM flexural stiffness could significantly affect the global buckling behavior of the brace. In addition a minimum ratio of the Euler buckling load of the restraining member to the yield strength of the core is suggested for the design purposes. This is the main parameter that controls the brace global buckling.

کلمات کلیدی:

All-steel buckling restrained brace, Global buckling, Finite element analysis, Cyclic loading