عنوان مقاله:

VALIDATING NUMERICAL MODELS OF EARTHQUAKERESISTANT STEEL BRACING MEMBERS

محل انتشار:

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خلاصه مقاله:

Concentrically braced frames (CBFs) are suitable for earthquake resistant design due to their economical strength and stiffness; however their seismic performance is very sensitive to brace behaviour. With reduced local brace slenderness, the onset of of local buckling reduces ductilityand may lead to brittle failure. Therefore, it is imperative to assess the significance of local buckling in the numerical analysis of earthquake resistant structures. In this paper, the finite element framework, OpenSees, is used to analyse 2-D brace member models under cyclic loading. Using experimental data gathered from complementary tests a correlation study is presented to investigate the performance and energy dissipation behaviour of such brace members and how they correspond to the numerical results. The study indicates that the numerical analysis has acceptable agreement in the cyclic brace response, particularly with reduced occurrence of local buckling.

کلمات کلیدی:

Braced, Frame, Steel, Modelling, CBF

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