عنوان مقاله:

Non-Linear Behavior and Shear Strength of Diagonally Stiffened Steel Plate Shear Walls

محل انتشار:

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خلاصه مقاله:

In this study, non-linear behavior of diagonally stiffened steel plate shear walls as a seismic resisting system has been investigated, and theoretical formulas for estimating shear strength capacity of the system have been proposed. Several validated analytical finite element models of steel shear walls with various stiffener dimensions are generated to verify and compare the analytical and theoretical outcomes. Non-linear transient analysis under monotonic loading are carried out and the pushover curves of the models are obtained. It is observed that the diagonal stiffeners have been able to reduce the buckling effects of the infill steel plate, and they have increased the elastic shear buckling strength and the ultimate shear capacity of the system in comparison with the un-stiffened thin steel plate shear walls, .and there are good agreements between the propounded theoretical method and the analytical results

کلمات کلیدی:

Steel Plate Shear Walls, Diagonal Stiffeners, Shear strength, Non, Linear analysis