



The Influence of Geometric Characteristics on The Performance of Steel Shear Wall

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ABSTRACT

The aim of this study is to investigate the mutual effect of geometrical properties of steel shear walls on their performance. This study was numerically performed using ABAQUS finite element software for simulation. In this study the effect of the diameter of the openings to the steel shear wall height ratio and the hardeners angles have been studied nonlinearly. The results show that as a result of the opening of the sheet, the shear resistance decreases proportionally to the decrease in its cross-sectional plane, but on the other hand, it increases the steel plate shear wall ductility and the 8% diameter is the largest diameter of opening which has a good effect on shear wall performance and the presence of reinforcing elements such as hardener increases the hardness of the steel shear wall and in this case it shows that using cross hardeners has the most effect in absorbing the energy of steel shear wall.

Keywords:

SPSW, Energy Absorption, Non-linear analysis, Opening and stiffener.