

Numerical Study of The Gap Sizing Effect in BRBF Made From Dual Phase Steels

Mohammad Hussein Shirazi, Mohsen Lamea*

1. Master Student, Department of Civil Engineering, Kashan Branch, Islamic Azad University, Kashan, Iran, Shirazimohammadhosain@yahoo.com
2. Assistant Professor, Department of Civil Engineering, Kashan Branch, Islamic Azad University, Kashan, Iran, mohsen.lamea@gmail.com

ABSTARCT

Buckling restrained braced frames (BRBF) have been wildy used as an efficient seismic load resistant system in recent years mostly due to their symmetric and stable hysterical behavior and significant energy absorption capacity. this research tried to study about different energy absorbing when spaces are changed. the spaces between core and cases are changed from 1mm to 5mm and gaps between core and fillers are changed from 3mm to 40mm. In finally we achive that gaps are so effective and materials properties make huge diffrent in energy absorbed in BRBF's. the most diffrent energy absorbed appear when gaps between case and core are changed. The tests done by Tabatabayi et al. in Tehran University chose between many eligible researches because this examinations were newer and comprehensive than other researchs.

Keywords: BRBF, Dp600, ST52, Simulation

1.INTRODUSTION

in comparison to other lateral resisting systems, buckling restrained frames (BRBFs) have both high stiffness and ductility. to reach an optimum seismic design in which most of the energy dissipating potential is utilized, diffrent elements with various strenght stiffness are required. simulation brbf, first made by ST37 and verify to test are done, then model properties changed to Dp600 steel and comparing the energy dissipating in diffrent gaps between core and cases and fillers. Genna et al. were interested to compared energy dissipating when gaps are changed, but just 6 tests were done and it was not sufficient to