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BUCKLING RESTRAINED BRACE PARAMETRIC STUDY UNDER STATIC LOAD CYCLE

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Bracing systems are as a passive control system, an important role of these systems is in building resistance against lateral forces like an earthquake. One of the ways for utilization more and more economical use of the brace capacity is inelastic. Conventional braces under tension have good performance, but with buckling under pressure is not good plasticity (Gu et al., 2014). Because of its inherent property of Buckling Restrained braces prevent buckling before that the braces are increased ductility. In this article the behavior of Buckling Restrained braces under cyclic loading is investigated. Because static cyclic loading of the type of hysteresis energy absorption behavior charts with various models of three different frames of modeling is used to compare the strengthen brace (Yan-lin et al., 2015). In this article, in all hysteresis cycles charts of Buckling Restrained Braced that show also hardening in the elastic range, but at the end of the cycle, it will have plastic brace with declining resistance. This means that the stiffness is reduced from each cycle to other cycle (Hoveidae & Rafezy, 2012).

In this paper, the behavior of non-buckling braces under cyclic loading is considered. Since the loading is a static cyclic type, the behavior of braces (Khampanit et al., 2014). Modeling There is a lot of information frames in the hysteresis diagram. They can be obtained intuitively. The first finding is the level below the graph, which in fact is the amount of energy lost from the loads in the structure. The higher the surface, the greater the structural ductility, the more potential the structure will have on the loss of energy (Kim & Choi, 2004). In this paper, in all of the hysteresis diagrams, in the initial cycles of the non-buckling curvature that is within the elastic range, it exhibits a hardening behavior, but in the end cycles that curtain into the plastic environment, its behavior has a deterioration of resistance. That is, from one cycle to another, its hardness decreases (Razavi Tabatabaei et al., 2014).

In addition, in the hysteresis diagram, the slope of the graph decreases in successive cycles (Wanga et al., 2012). In fact, the hardening of the structure is faced with. The reduction of hardness occurs most often in the types of structures that are placed in long loading cycles and enter the plastic range. In all of these hysterical diagrams, we observe a reduction in hardness. In addition to the general behavior of hysteresis diagrams, all models, the models themselves, show the following behaviors in comparison to each other.

The yielding force on the hysteresis diagram indicates the static strength and the plastic deformation interval indicating the seismic resistance bracelet. Parameters such as the area of the hysteresis diagram and the deformation of the whole hysteresis symbolize the absorption capability the energy is brace. A design engineer must consider all the three (Tsai et al., 2003). Of the geometries identified, Figure A shows the highest absorption energy and earthquake resistance, and the geometry C represents the most stable static resistance.

Increasing the angular thickness of the core constituent increases the static strength of the sample and reduces the energy absorption capacity has an earthquake. The use of higher-yielding steel increases static strength and resistance to the silencer stroke, but reduces its energy absorption. The use of concrete with higher yield strength will increase the static strength and decrease the seismic resistance of the brace.

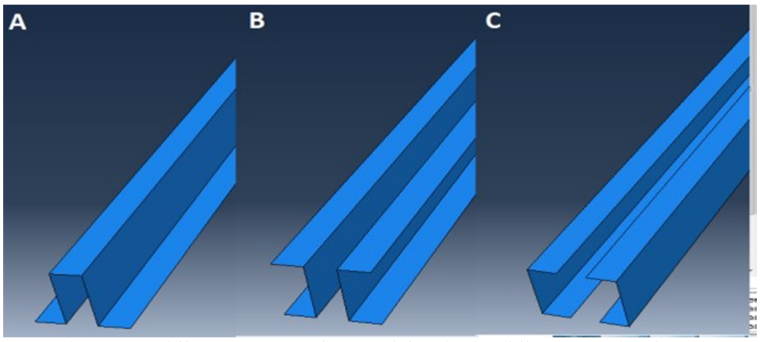

Figure 1. Different geometries used for the buckling restrained core.

Table 1. Properties required for steel.

Density	**0066 kg/m^3**
Elastic properties	
E	222 GPa
ν	6.3
Properties of plastic and hardness	
Sy	**266-366 MPa**
C_0	2666
Gama 0	11
Cyclic hardness properties	
Sy	266-366 MPa
Qinfinity	2666
b	6.20

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