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## Experimental study of low yield point steel and benefits of using easy-going-steel

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Hardness is experienced on damages to structures with lower period. Specialists have constantly been attempting at designing the building structures in which the strength of steel is increased so conversely the thickness is reduced, hence it leads to weight reduction of structures that in turn will result in production of more economical steel. Meanwhile, the increase in steel strength is not always a desired and beneficial property, as in some structures the strength is reduced as much as possible in order to meet the required flexibility. In these structures that the imposed energy is to be absorbed by non-linear behavior, it is suggested to use low-yield or easy-going-steel that is in abbreviation is known as EGS 100 or Y.P 100. The most ideal method in building design is to merely change earthquake-resistant structures after the earthquake and maintain the function of the building. The result of studies shows that the application of mild steel provides the opportunity for innovation of new design methods to reach this purpose. The results of studies also indicated that the application of mild steel leads to increase of cutting stiffness, energy penetration and stability of structure with different types of earthquake-resistant systems including bracing, steel shear walls, etc. In addition, it also directs energy of earthquake to parts of the structure in order to amortize energy. Results of the studies about combination of mild steel application and plate-frame interaction theory in steel shear walls shows that mild steel application causes to gain drift of about 5% in the building. According to researchers conducted by the co-operation of MSC Co., the mentioned steel with the following specification yield point: 80-120, UTS: 200-300 MP and elongation 50% was produced and its behavior was analyzed in different structures.

### Biography

Sajad Hamedishahraki has completed his MSc in Civil Engineering from Azad University, Tehran, Iran in 2013. He is currently studying PhD in Civil Engineering from Azad University. He is working on projects about strength of steel structures by using low-yield or easy-going-steel that is in abbreviation is known as EGS 100 or Y.P 100, instead of commercial steel.

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