

## عنوان مقاله:

Development of Steel Yielding Seismic Dampers Used to Improve Seismic Performance of Structures: A Comprehensive Review

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## نویسندگان:

F. Behnamfar - *Department of Civil Engineering, Isfahan University of Technology, Isfahan, Iran*

M. Almohammad-albakkar - *Department of Civil Engineering, Isfahan University of Technology, Isfahan, Iran*

## خلاصه مقاله:

Seismic excitation can cause significant energy to be released within structures. By using special devices, this energy can be consumed and dissipated without deforming structural members significantly. Due to this, structural damage is minimized, casualties are prevented during earthquakes, and structures are extended in their useful life. Over the past five decades, it has been widely acknowledged that steel yielding dampers are among the best energy dissipation devices. It has been stated that the hysteretic behavior of steel yielding dampers could vary slightly depending on their geometry. From a practical point of view, they are suitable for the improvement of seismic safety in new and existing structures. The purpose of this paper is to present a review related to steel yielding dampers, their development, various types, and applications, in order to help understand the role of these dampers in improving the seismic performance of structures. In terms of their shape, steel yielding dampers can be categorized as steel plate dampers, pipe dampers, curved dampers, and slit dampers. The most common use of steel plate, such as ADAS and TADAS, and pipe dampers is within braced frames, whereas U-shaped, J-shaped, and S-shaped dampers are mostly seen in frames with chevron bracing. Steel curved dampers with a  $60^\circ$  angle in a steel-braced frame, on the other hand, provide the best energy dissipation and frame strength. In this direction, until today, steel slit dampers have been found to be the most commonly used steel yielding dampers.

## کلمات کلیدی:

Review paper, steel yielding, shear panel, Pipe Damper, Curved Damper, Slit damper

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