

HYSTERETIC STEEL DAMPERS IN PERFORMANCE-BASED SEISMIC DESIGN

Asif Iqbal
Bangladesh Consultants Ltd.
Dhaka, Bangladesh
maiqbal@citechco.net

Specialized structural steel elements have been used for behavior under seismic loading. These devices exhibit hysteretic behavior during earthquakes. The main reason for their application is the significant energy dissipation capability.

The compatibility of these dampers with performance-based seismic design concept is investigated here. The concept of performance-based design is still emerging and not fully defined yet. Therefore attempts have been made first to elaborate the idea. Then the applicability of the hysteretic dampers in this design principle is investigated. The history and development of the application of steel dampers is analyzed. Example applications are reviewed to illustrate the details. It is found that the idea of using these elements fits reasonably within the overall performance-based seismic design philosophy.

Keywords: earthquakes, dampers, design