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The recent development of cold-formed steel shear walls using corrugated steel sheathing

Recent researches have proved a cold-formed steel shear wall with corrugated steel sheathing a promising lateral force resisting system for buildings in high wind and seismic zones. Extensive experimental investigations, including monotonic and cyclic tests on cold-formed steel shear walls with corrugated steel sheathing, were recently completed at the University of North Texas. This paper summarizes recent research results on the new shear wall system including experimental and finite element analysis on shear strength and collapse probability analysis on seismic performance. Recommended shear resistance of the corrugated steel sheathing shear walls under wind load and the seismic load was given in tabular form. A closed-form approach for calculating the story drift was developed. A set of seismic performance factors were proposed based on a compressive incremental dynamic analysis on six building archetypes.

Biography

Cheng Yu is a professor in the Construction Engineering Technology program at the University of North Texas. He completed his PhD in Civil Engineering from the Johns Hopkins University. He is the author of a number of articles on cold-formed steel behavior and design and serves on the AISI Committee on Specification and Framing Standards.

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