**An experimental investigation on the seismic behavior of cold-formed steel walls sheathed by thin steel plates**

The use of cold-formed steel (CFS) frames has grown extensively in recent years, particularly in the earthquake-prone regions. However, the behavior of lateral resisting systems in CFS structures under seismic loads has not been scrutinized in detail. Towards this, an experimental investigation has been conducted on cold formed steel frames sheathed by thin galvanized steel plates, the results of which are presented here. The experiments involve 24 full-scale steel plated walls tested under cyclic loading with different configurations of studs and screws. Of particular interest were the specimens' maximum lateral load capacity and the load-deformation behavior as well as a rational estimation of the seismic response modification factor, R. The study also evaluates the failure modes of the systems. The main factors contributing to the ductile response of these shear walls are also discussed in order to suggest improvements so that the walls respond plastically with a significant drift and without any risk of brittle failure.

Keywords: Cold-formed steel, steel shear walls, lateral performance, seismic response modification factor.