

## **Experimental Study of the Infill Masonry Walls Response Subjected to Out-Of-Plane Static Loadings**

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**Abstract :** Besides characterized as non-structural elements, infill masonry (IM) walls have an important contribute in the structural response of reinforced concrete structures as proved by the damages observed recent earthquakes. In particular, the out-of-plane (OOP) collapse has been one of the most observed failure mechanism. The aim of this research is to contribute to the increase of understanding regarding the OOP behaviour of full-scale infill panels considering different variables such as panel support width and axial load on the top of columns. For this, it was carried out in the Laboratory of Earthquake and Structural Engineering (LESE) an experimental campaign of five full-scale IM walls subjected to OOP distributed cyclic loadings. Specimens with different variables such as previous in-plane damage, support conditions, axial load on the top of the columns were studied. The results will be presented and discussed along the manuscript in terms of force-displacement hysteretic curves, cracking pattern, initial stiffness, stiffness degradation and accumulative energy dissipation.

**Keywords :** infill masonry walls, experimental testing, out-of-plane, full-scale

**Conference Title :** ICEES 2017 : International Conference on Earthquake Engineering and Seismology

**Conference Location :** San Francisco, United States

**Conference Dates :** June 07-08, 2017