



EXPERIMENTAL TESTING ON MODERN CLAY MASONRY STRUCTURES

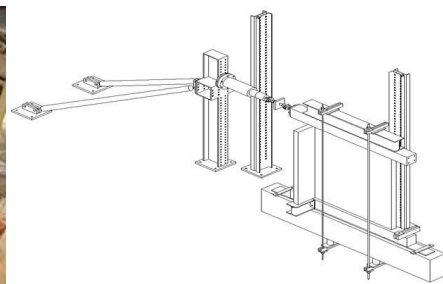
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During the past few years, the authors of this paper, in close collaboration with Wienerberger – main European producer of clay masonry units – and with other academic partners (University of Bristol, LNEC, University of Mons), have been involved in a number of experimental campaigns aiming at a good characterization of modern clay masonry structural elements in the perspective of an accurate prediction of load-bearing clay masonry buildings subjected to seismic loading. These test results are covering different scale of specimens as well as different loading procedures. More precisely, the list of tested configurations is the following:

- 11 horizontal cyclic tests on walls or wall combinations under pre-compression, including:
 - 1 reference plain wall;
 - 3 walls comprising acoustic isolation devices;
 - 4 walls with a door opening;
 - 3 walls with a perpendicular flange wall.
- 4 shaking table tests on single walls with and without acoustic isolation systems;
- 2 shaking table tests on two-storey full-scale houses;
- A full set of out-of-plane pushover and semi-cyclic bending tests on 1 m² wallets.

The detailed test results have been presented in various publications, included in other papers submitted in the present ECEES conference for what regard the most recent ones. The objective of the present contribution is therefore:

- To give a synthetic overview of this extensive corpus of experimental results;
- To evidence the advantages, drawbacks and complementarities of the different size and configurations of specimens and of the different testing procedures;
- To summarize the main outcomes that can be taken out of these results in the perspective of efficient prediction of the seismic behaviour of modern masonry buildings.



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Figure 1. Cyclic tests on single walls or simple wall assemblies

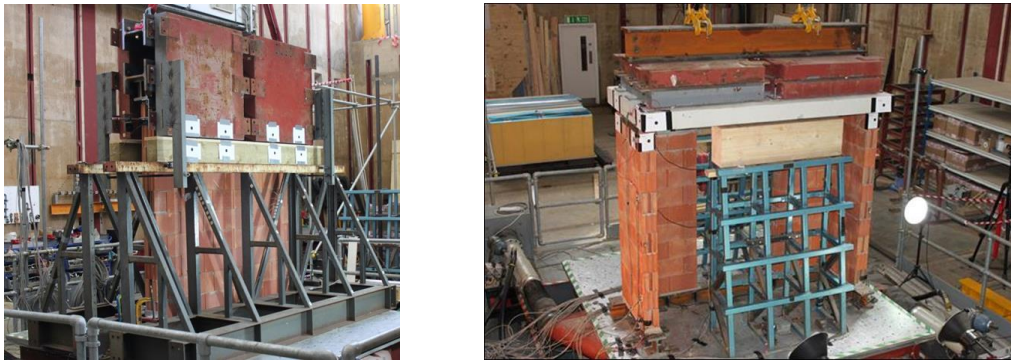


Figure 2. Small-scale shake table tests

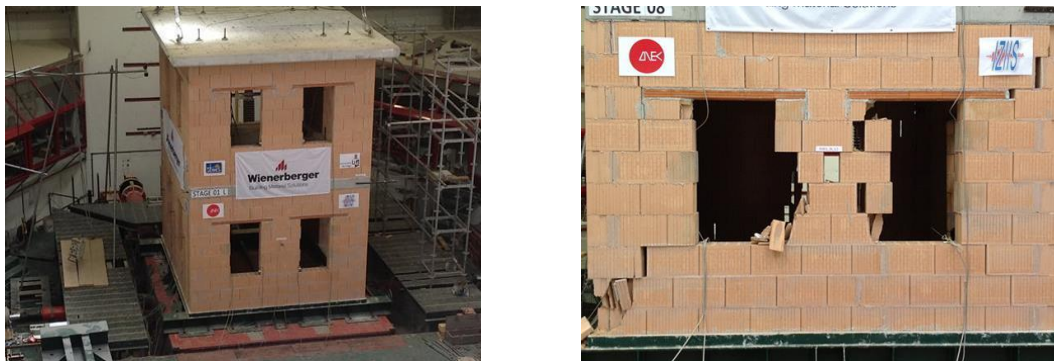


Figure 3. Full-scale shake table tests

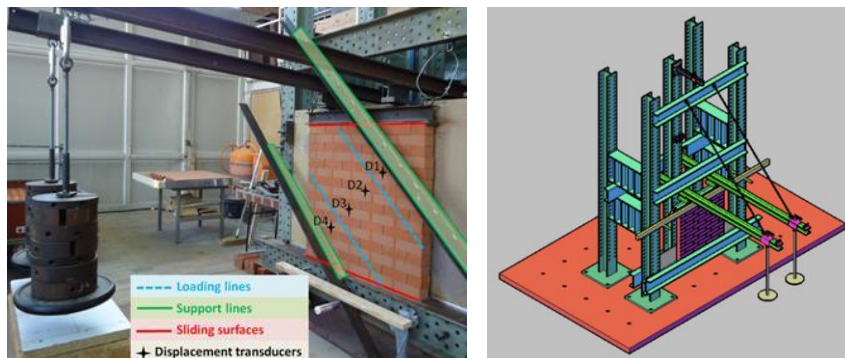


Figure 4. Out-of-plane pushover tests

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