

Session ID: CMS-12

Title

SEISMIC BEHAVIOUR OF INNOVATIVE DUCTILE AND NON-INTERACTING INFILLS

Convenors

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Description

The traditional masonry infills that are built in full adherence with the surrounding structural frame have been fully demonstrated to interfere with the structure and their vulnerability is always a challenging aspect to deal with. Although the most common current technique is the strengthening of the of the masonry infill by, for example, applying external layers of high performance material, such an approach does not eliminate the interaction between the structural and non-structural elements. Moreover, it does not allow the deformation of the infill which could improve its ductility.

In the last years researchers from different parts of the world have studied and developed different innovative infill systems that either do not interact with the bounding frame or are able to deform through the insertion of sliding or deformable joints within the masonry. The prototypes have shown promising results, although, due to the novelty of the approach, investigations ahead the use of these solutions in real building sites are required. Hence, the studies are currently ongoing and spreading. The scientific state-of-the-art highlights the current need of a comparison between the systems and the sharing of information of the experimental and numerical studies with the final aim to identify the design criteria for practical application and standard provisions.

The seismic behaviour of innovative ductile and non-interacting infills session aims to gather the experts of a sector which is getting an increasing attention from many different actors (researches, owners, industries, governments, code developers) and to create a community of experts. The current state-of-the-art is worldwide distributed, with studies conducted in almost every continent.

Some generic main topics can be:

- Conceiving and developing the innovative systems;
- Experimental studies;
- Numerical investigations;
- Design criteria.

Invited Speakers

M. Preti ⁴, Y.P. Yuen ⁵, Y. Liu ⁶, H.-J. Lee ⁷, Y. Sanada ⁸

Affiliations

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