

Seismic Behaviour of an Experimental Model Made of Thin-Walled Cold Formed Steel Profiles - Hardell Structures

Author(s): Ionuț-Ovidiu Toma • M. Budescu • Gh. Albu

Tomme: LV (LIX) | **Fascicle:** 1 | 2009

Pages: 67-78

Abstract text:

The experimental results of the shaking table test of a Hardell structure made of thin-walled cold formed steel profiles are presented. The structure has the in-plane dimensions of 4x4 m and a height of 6 m, being classified as a P+1E type of structure. The dynamic characteristics of the structure were determined during the first stage of the experiment. Afterwards, the structure was subjected to different types of dynamic loadings such as sine-sweep functions and to seismic actions simulating the El Centro and Vrancea earthquakes. The damages induced by the seismic excitations consisted of local buckling of the steel profiles and breaking of two anchorage bolts holding the structure to the shaking table. Based on the experimental results it can be concluded that the structure can safely withstand seismic loads up to certain intensity, provided that some requirements are met.

Key Words:

Seismic Behaviour; Shaking Table Tests; Hardell Structures.

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Author(s) Information

Ionuț-Ovidiu Toma

Affiliation: „Gheorghe Asachi” Technical University, Jassy, Department of Structural Mechanics.

Email: iotoma@ce.tuiasi.ro

M. Budescu

Affiliation: „Gheorghe Asachi” Technical University, Jassy, Department of Structural Mechanics.

Email: mbudescu@ce.tuiasi.ro

Gh. Albu

Affiliation: „Gheorghe Asachi” Technical University, Jassy, Department of Structural Mechanics.

Email: -

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T. LVI (LX), Fasc. 3, 2010

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