

INNOSEIS Workshop, Pafos, December 8, 2017

The Workshop is intended to present the main results of the INNOSEIS - EU-RFCS Research Project.

INNOSEIS - "Valorization of Innovative Anti-Seismic Devices"

Following the international trends, extensive research on seismic resistant structures has been carried out in Europe during the last decade, with the introduction of several systems with innovative steel-based elements, as the result of European and national research projects. However, these systems have not claimed a fair share of the steel construction market, as provisions for their design have not been included in the Eurocodes and only a few designers are confident enough to employ them. The INNOSEIS project, which has received funding from the Research Fund for Coal and Steel (RFCS) with the participation of 11 partners, aims to deal with this shortcoming. In this paper, the valorization actions for 12 such innovative anti-seismic devices are presented. Information documents for all dissipative systems have been produced and combined in a single volume, translated in several European languages, for the dissemination to all partners of the construction sector such as architects, structural engineers, construction companies, steel producers and all potential decision makers of the construction sector. Criteria are proposed as to determine which of the systems are characterized as devices and are subject to CE marking in accordance with EN 15129, and which may be considered as innovative systems that require a code approval in EN 1998-1. For the latter, pre-normative design recommendations are drafted that will allow them to receive the status of code-approved systems. A reliability-based methodological procedure to define values of behaviour factors (q -factors) for building structures is proposed, which will be in turn applied to determine q -factors for structural systems with the anticipated systems. A number of case studies with application examples of realistic steel buildings, in which the systems are employed, are presented. Dissemination of the project includes seminars and workshops in several European and Mediterranean countries, as well as the development of online, printed and electronic material, which is free for all people involved in the construction sector, in order to achieve the wide application of innovative seismic resistance systems in practical design.

Venue: Akamas A Room, Coral Beach Hotel, Coral Bay Avenue, Peyia, Cyprus

Organized by:



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- 09:00 Registration
- 09:30 Greetings 1 – M. Leptos, President Neapolis University Pafos
- 09:40 Greetings 2 – S. Achiotis, President Cyprus Scientific & Technical Chamber - ETEK
- 09:50 Greetings 3 – P. Stylianos, President of the Cyprus Association of Civil Engineers - CYECE
- 10:00 Innovative systems for seismic resistance – the INNOSEIS project - I. Vayas – National Technical University Athens (GR)
- 10:30 The INNOSEIS approach on determining EN1998-compatible behavior factors for introducing new steel lateral load resisting systems – D. Vamvatsikos - National Technical University Athens (GR)
- 11:00 COFFEE BREAK
- 11:15 Innovative dissipative U-connections for steel braced frames - H. Degee – University of Hasselt (B)
- 11:45 Welded FUSEIS Beam Spllices: Technical information and design of a case study building – L. Calado, Instituto Superior Technico of Lisbon (P)
- 12:15 Seismic Resistant Composite Steel Frames with Replaceable Dissipative Devices, C.A. Castiglioni – Politecnico di Milano (I)
- 13:00 LUNCH
- 14:30 Seismic performance of industrial plant retrofitted with steel self-centering devices (SSCD) - J. Bellos - Neapolis University Pafos (CY)
- 15:00 Concentrically Braced Frames with Modified Braces – Seismic performance aspects for low-cycle fatigue endurance and self-centering capacities – T. Georgiev - University of Architecture, Civil Engineering and Geodesy of Sofia (BG)
- 15:30 Optimized earthquake response of multi-storey buildings using seismic isolation at various elevations - D. Charmpis – University of Cyprus (CY)
- 16:00 COFFEE BREAK
- 16:15 Modelling of the nonlinear response of base isolated buildings considering potential pounding under strong near-fault earthquake excitations - P. Komodromos – University of Cyprus (CY)
- 16:45 The Seismic Isolation of the Mall of Cyprus – C.Yiannouris-Maratheftis Yiannouris Architects Engineers (CY)
- 17:15 Design, testing and implementation of TADAS devices in three R.C. Buildings with shear-walls and coupling beams – Dr. R. Zemp – Nüyük_tek Europe (CH)
- 17:45 DISCUSSION
- 18:30 Closing Ceremony

On December 9th, a Technical Visit will be organized to the MALL OF CYPRUS in Nicosia, the largest based isolated building in Cyprus



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