

Spotlight on Structures

Research Journal of The Institution of Structural Engineers

In this new section of *The Structural Engineer*, we shine a spotlight on papers recently published in *Structures* – the Research Journal of The Institution of Structural Engineers.

Structures is a collaboration between the Institution and Elsevier, publishing internationally-leading research across the full breadth of structural engineering which will benefit from wide readership by academics and practitioners.

Access to *Structures* is free to all during 2015. From 2016, Institution members will continue to receive free access as one of their membership benefits. The journal is available online at: www.elsevier.com/locate/structures

The following articles 'in press' have recently been made available online:

Behaviour of PVC encased reinforced concrete walls under eccentric axial loading

Amr Abdel Havez, Noran Wahab, Adil Al-Mayah and Khaled A. Soudki, Department of Civil and Environmental Engineering, University of Waterloo, ON, Canada

<http://dx.doi.org/10.1016/j.istruc.2015.09.003>

Highlights

- Eighteen reinforced concrete walls were tested under eccentric axial load
- PVC encased wall specimens showed better behaviour compared to the control specimens
- VC enhancement increased at lower reinforcement ratios and higher eccentricities
- A model accounting for confinement effect is presented

Effect of stay-in-place PVC formwork panel geometry on flexural behaviour of reinforced concrete walls

Benjamin Scott^a, Noran Wahab^b, Adil Al-Mayah^b and Khaled A. Soudki^b

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<http://dx.doi.org/10.1016/j.istruc.2015.09.005>

Highlights

- Eighteen walls with or without PVC encasement were tested under flexure load
- Variables included concrete core thickness, reinforcing ratio, and panel type
- PVC encasement enhanced ductility, yield and ultimate load
- Flat panels outperformed hollow panels
- PVC encasement can reduce the thickness of the concrete walls by 25 mm

Seismic performance assessment of self-centering dual systems with different configurations

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<http://dx.doi.org/10.1016/j.istruc.2015.09.004>

Performance-based seismic design of an irregular tall building – a case study

Ali Ruzi Özyüçur, Department of Structural Engineering, YPU – Yapı Proje Uygulama Co., Istanbul, Turkey

<http://dx.doi.org/10.1016/j.istruc.2015.10.001>

Partial safety factor for reinforcement

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<http://dx.doi.org/10.1016/j.istruc.2015.09.002>

Coming soon...

Look out for the first 'special issue' of *Structures*, due to be published later in November. The issue will contain updated and extended versions of a selected collection of papers presented at the Mini-Symposium on 'Steel Structures: Mechanics, Simulation and Testing', held within the 9th European Solid Mechanics Conference (ESMC), Madrid, 6–10 July 2015.

The special issue will contain papers on a wealth of topics concerning the behaviour and design of steel (hot-rolled, cold-formed and stainless) and composite structural systems.