

## Editorial

R. Smith MEng, CEng, MICE

This issue starts with an impressive set of full-scale loading tests. It is rare to find such large-scale testing of portal frame structures.<sup>1</sup> The tests are based upon tapered portal frame structures designed using BS 5950. Although this structural type has existed for a long time, much of the testing was done over 30 years ago before the common use of finite-element (FE) modelling. The authors (Rankin *et al.*) propose that this form of construction will become more popular as automated welding technology becomes more widely available. Certainly, the ubiquitous nature of portal frame modelling software is no impediment to this form of construction. It is a pity that the BS 5950 code is about to be made obsolescent by the introduction of Eurocode 3.

The next paper in the issue, by Skelton *et al.*,<sup>2</sup> looks at economic trends in tall building design. It examines the cyclical nature of tall building construction, and suggests how the 'Skyscraper Index' can be used to predict recession; obviously a very topical subject. Although not a pure engineering paper, the subject matter should be of interest to all involved in high rise design and construction—it is the market that drives the construction of high rise.

Vielma *et al.*<sup>3</sup> look at a common form of construction, the waffle slab, which is used frequently in Europe and Latin America. It is also used frequently as part of the seismic resistance of a building structure. The Spanish earthquake resistant design code NCSE-02 gives rules for their use and it is this application that is the subject of the paper. The performance of waffle slabs is compared against moment frames and, not surprisingly, the moment frames perform better. The authors conclude that the prescribed ductility levels stated within the code are too high and the best way to improve the performance of waffle slabs is to increase their depth!

Continuing a long string of papers examining structures and fire, Khoury *et al.*<sup>4</sup> look at the fire safety evaluation in tunnels. In this case, the approach is holistic, looking at the social and economic consequence of fires, methods of evaluation, escape strategies and upgrading options. This is set against a background of an EU directive setting minimum safety standards.

Adam *et al.* provides a second paper on the subject of columns strengthened by steel cages.<sup>5</sup> The same authors have previously

written on the same subject.<sup>6</sup> In this case the axial capacity of the strengthened columns is reviewed, comparing experimental and FE test results.

Lastly, we have some discussion on Eurocodes and a book review.<sup>7,8</sup> The discussion relates to risk and reliability in Eurocodes, particularly with respect to the partial safety factor. A number of cases are examined, reviewing how simplifications in the factoring system can lead to some unusual scenarios. An interesting read to anybody who ever uses load factors.

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