Book review

Structural Engineer's Pocket Book: Eurocodes

Fiona Cobb, 3rd edition, CRC Press, Abingdon, UK, 2014, ISBN 978-0-080-97121-6, £18.99, 464 pp.

This pocket book highlights some key features from the current Eurocodes suite. It first opens with two chapters discussing general topics on construction documentation and building regulations in the UK. Chapter 3 presents an interesting historical account of the use of building materials, which provides an essential reference for practitioners who work on some historical buildings. Chapter 4 discusses load factors and limit states design, which will enlighten students and fresh graduates on different design philosophies, in particular the use of allowable or permissible stress design in some codes of practice such as BS 449. The material-independent parts of the Eurocodes (EN 1990 and EN 1991) are briefly discussed in chapters 5 and 6, respectively. Chapter 5 highlights some typical load combinations and compares the load factors between the Eurocodes and British standards. Typical actions on structures, presented in chapter 6, will appear familiar to practitioners who have been using BS 6399-1. The reviewer appreciates the author's efforts in presenting the section on 'stability, robustness and disproportionate collapse'. The materials-dependent parts of the Eurocodes are addressed in chapters 7 to 11. The reviewer would like to commend the summary table in chapter 7, which presents the 'differences with BS 8110'. It highlights some key differences such as the use of cylinder/cube strength and the use of high-strength concrete in Eurocode 2. Chapter 8 discusses the design rules on hot-rolled steel structures – further coverage on cold-formed steel design could have been usefully included, to help

link up this chapter with chapter 9 on composite construction, in which cold-formed steel decking is frequently used in practice. The use of high-strength steel could also have been discussed, complementing the use of high-strength concrete discussed in chapter 7. The reviewer was pleased to read the section on 'Steel design to BS 449' – showing that what has been adopted previously can still be useful in current practice. Chapter 9 leaves some room for further expansion to incorporate the design of composite columns as well as the linkage between Eurocode 4 and Eurocodes 2 and 3, as the concrete strength in those parts can be further harmonised. Timber and masonry construction is common in the UK, and chapters 10 and 11 are well presented, highlighting the latest development in Eurocodes 5 and 6. Likewise, the comparison tables with British standards are highly commended. A brief review on geotechnical engineering is presented in chapter 12, which includes discussions on contaminated land and site investigation. The current trends in the development of the design code on structural glass are highlighted in chapter 13. Useful information has also been presented in chapter 14 on building elements, materials, fixings and fastenings. Chapter 15 on sustainability is a reminder of how engineers can play a part in addressing this global issue. To complete the coverage on the Eurocodes suite, the author may wish to incorporate further discussions on Eurocode 8 (earthquake design) and Eurocode 9 (aluminium structures).

All in all, the reviewer would wholeheartedly like to commend this concise and yet informative pocket book as an essential reference for all current practitioners as well as for the next generation of engineers.

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