

Book reviews

Design aids for Eurocode 2

E. & F. N. Spon, London, 1997, 244 pp. ISBN 41921190X. £50.00

This book provides guidance for the use of EC2, the Eurocode for the design of structural concrete. The book is the result of a project financed by a European SPRINT initiative, the contributing organizations being the German, UK and Netherlands Concrete Societies.

The project itself had three phases,

- (a) an investigation of what guidance and design tools industry needed
- (b) the development of the preferred tools
- (c) publication and dissemination.

This publication marks the completion of the first and second phases and the start of the third.

The book contains four kinds of material, a series of detailed flow charts, chapters on various design topics, design charts and tables and, finally, a series of numerical examples.

The flow charts, the reviewer found to be helpful. They refer in detail to the sections and clauses of the Eurocode and present them in a logical order such that the designer is unlikely to make significant omissions when first using the code. Three levels of flow chart are provided. Level 1, an overview chart of the whole code, runs to four pages and is almost a pictorial index of the complete document. The level 2 charts consider design in general, followed by ultimate limit state sections. These direct the user, through the appropriate route, to the various level 3 charts, which deal with the various design effects, bending, shear, torsion, buckling in appropriate detail.

The various chapters on the design topics take the various effects, flexure at ULS, serviceability, buckling, shear, etc., and in each case provide a commentary to the code and a series of design aids. These are in various forms (tables, graphs and nomograms) and are very helpful. However, they are not referenced back to

earlier flow charts, and in some cases 'rival' flow charts are presented.

The design examples are straightforward and easy to follow, but are not rigorous in the context of the flow charts. It would appear that the examples have been developed in order to demonstrate that it is possible to make short cuts when using the Eurocode in practice and that the Eurocode presents 'no basic difficulties . . . when applying the new European Prestandard in a practical design process.' For a new user of the Eurocode this may be reassuring, but it would have been more useful to have had a more formal link with the other parts of book, particularly the flow charts.

The contributions from the concrete societies also show differences of interpretation of the code clauses. The three countries have different design cultures, and these result in the Eurocode clauses being interpreted in different ways. The reader should be aware of this possibility, and not accept that every part of this book is correct and the only way in which the Eurocode should be used.

The book is very well produced and is a useful addition to the Eurocode for a new user. It certainly gives value for money. The lack of direct linkage between the various sections and the different approaches give an alternative presentation of the code material, which can aid understanding. The editorial standard is high, higher than that for the Eurocode itself. For example, the book does not use the comma, either as a delimiter between expressions or as a component of expressions themselves, as the Eurocode does.

The book is of use to any engineer who is using the Eurocode for the first time. Certainly the reviewer found it of value.

H. P. J. TAYLOR