

Book review

STEEL-CONCRETE COMPOSITE BRIDGES

David Collings. Thomas Telford, London, 2005.
ISBN 0 7277 3342 7, £49, 198 pp.

Steel-Concrete Composite Bridges describes and discusses the wide range of forms that such structures can take. From simple beam bridges to trusses, arches and cable-stayed structures the text gives informative, practical and straightforward advice on how to select the most appropriate form and how to design the primary elements. It is written in an easily readable style and is pitched at a level that sits comfortably between that of graduate and senior engineer.

Chapter 1 defines the general concepts on which the book is based and highlights the author's intention to provide an understanding of the structural behaviour of composite bridges that goes beyond the mathematical equations which are the basis of the codes and regulations. A need to understand how such structures are constructed is also noted and throughout the book examples based on designs or checks carried out by the author illustrate this fundamental approach.

Chapters 2 to 11 address in turn, simple beam bridges through to prestressed steel-concrete composite bridges including traditional truss structures, arches and box girders and the more recent advances made in relation to integral bridges, cable-stayed structures and prestressing techniques for composite structures. All are tackled systematically and although some sections are at best brief, good use is made of a wide range of references that promise more detail for those with a specific interest. Of

particular interest are the examples given, which are instrumental in enabling the author to realise his aim of making the book 'a journey of experience'. This is achieved, but as a consequence the book will date and it must be acknowledged that what is currently seen as an appropriate technical solution will not necessarily always be so. This is not to criticise the approach that is adopted, for it is refreshing to see such explanations aired in public, but rather to highlight a potential drawback of such an approach.

In Chapter 12 it is recognised that the approach to assessment is different to that of design and thus the author endeavours to give brief advice on the application of current assessment rules to composite structures. This chapter does seem a little out of place given that the focus of the book is primarily on that of conceptual considerations, and because this chapter is so brief, its value is rather more suspect. Nevertheless it is a reasonable introduction to the topic and it can be anticipated that for the young engineer with no experience of assessment it would provide a satisfactory starting-point.

This book is easy to read, one might even say entertaining, and yet it is, without doubt, informative, practical and founded on a sound theoretical base. It will be a valuable addition to the collection of anyone wishing to develop an understanding and expertise in the design of steel-composite bridges and how they are verified against design codes.

R. J. LARK