Book review

Construction Management and Design of Industrial Concrete and Steel Structures

Mohamed A. El-Reedy. CRC Press, Taylor and Francis Group, Boca Raton, FL, USA, 2010 ISBN 978-1-43-981599-1, £89.00, 554 pp.

Construction Management and Design of Industrial Concrete and Steel Structures by Dr Mohamed A. El-Reedy fills a gap in the design guidance publications available for civil and structural engineers by providing a resource focused on the unique aspects of the design of industrial structures. Since a heightened relationship exists between providing and maintaining the often very specific functional requirements and achieving the maximum benefit of the economic drivers that establish the need for an industrial structure's existence, the whole lifetime of these structures is considered. Detailed chapters on structural design and construction, protection, structural assessment, repair and maintenance are therefore included.

This is the third of four books published by the author since 2007 which bring together aspects that are relevant to industrial structural design from the fields of structural engineering, the subject of the author's first two books, and construction management, the subject of his recently published fourth book. Drawing from the author's considerable practical experience in the field, the importance of economics in determining each managerial and design decision is not only directly focused on from a project management and structural maintenance perspective but economic and expedient structural design and construction techniques are highlighted throughout all the chapters. This emphasises the importance of considering the whole construction process and design life in erecting competitive structures.

The design of common components of industrial structures – foundations to support static and vibrating equipment, the support of HVAC ductwork and piping systems, boilers and pressure systems, storage tanks, pipe racks and cable trays, open frame structures including stairways and ladders and crane structures – are set out through the use of worked examples, together with supporting design code material. The penultimate chapter follows through the design and construction techniques used for offshore structures. Clearer formatting could potentially help the reader navigate between the worked examples and their corresponding explanations.

American design codes, guidance and building regulations have been used as the principal basis for setting out both practical and structural design guidance with additional references made to the British Standards, international design guidance, relevant analysis software as well as relevant current research. In future editions updated references to the relevant Eurocodes would be useful.

Construction Management and Design of Industrial Concrete and Steel Structures offers a comprehensive reference book that practitioners and newcomers to the field will find a valuable guide and source of information.

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