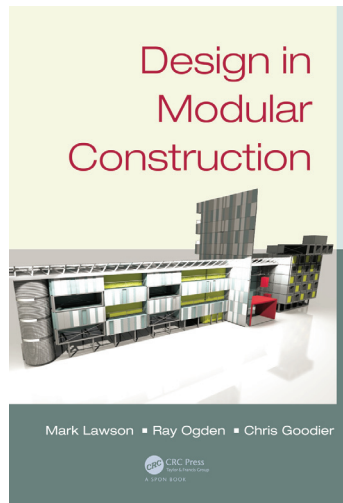


Review



Richard Haigh finds this book to be a useful introduction to volumetric modular construction for structural engineers, although more in-depth publications are available for individual materials.

Design in Modular Construction



Authors: Mark Lawson, Ray Ogden and Chris Goodier

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This book provides a useful introduction to 3D volumetric modular construction, but is heavily biased towards steel volumetric components, with only moderate consideration of concrete components. There is only very limited consideration of other off-site methods, such as elemental and planar systems, and of other modern methods of construction in commonly used materials, such as cross-laminated timber (CLT), structural insulated panels (SIPS) and the structural plate system (SPS).

The book is well laid out with a useful introduction to the history and development of modular construction, types of steel modules, precast modules and other types of modules.

There are a number of chapters on planning of modular buildings, with guidance provided on planning grids, typical floor and wall zones etc. There is specific guidance on housing and residential buildings, hospitals and medical buildings, schools and educational buildings, and finally specialist buildings such as supermarkets, retail units, military accommodation and prisons. This is useful background information for the structural engineer but is probably more appropriate for architects.

There is a dedicated chapter on the design of light steel modules, covering important

topics such as connections between modules, stability systems, construction tolerances, design of structural elements and structural integrity.

There are also dedicated chapters covering the design of concrete modules, which provide quite a lot of general information, although this is not very different to *in situ* or other precast methods of construction. But the devil is in the detail, and the book only provides very limited information regarding the design and detailing of connections between modules and connections to other elements of the structure, which would be of particular interest to structural engineers. There are better texts available on this aspect of the subject if this is the type of information you are looking for.

There are further chapters on acoustics, cladding, roofing, balconies, services interfaces, and factory production, but these are specific to steel volumetric construction rather than covering broader aspects of all materials, and there is a lack of clarity in some of the details as to what is built off site, and what needs to be completed on site.

There are also chapters on construction issues, economics and sustainability, which are better, covering a greater range of materials and providing useful background information for the structural engineer.

Throughout the book there are good case studies with supporting photographs and illustrations, although these tend to have a steel bias and it is a little disappointing that all the images (other than the front cover) are in black and white.

In summary, the book provides a useful introduction to design in modular construction, but there is much more breadth to the subject than suggested by this book and there are better publications which cover in depth the detailed aspects of the subject for each material.

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Richard Haigh is currently Engineering Associate at IKM Consulting,

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