

# Review

 This densely packed manual will be an attractive source book for all designers and clients interested in urban timber construction, believes **Richard Harris**.

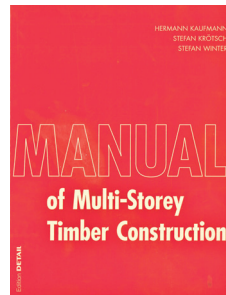
## Manual of multi-storey timber construction

**Authors:** Hermann Kaufmann, Stefan Krötsch, Stefan Winter

**Publisher:** DETAIL

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Forty-one years ago, in 1978, Julius Natterer founded his own office and was appointed to the École Polytechnique Fédérale de Lausanne to head IBOIS, the laboratory for timber construction. In that same year, Natterer, with three co-authors, published the first version of the Holzbau Atlas.

He continued to develop the Atlas and, by 1991, now with co-authors Thomas Herzog and Michael Volz, had created a book that fed the needs of a timber construction industry that was on the cusp of change.

The Detail publishing house produced the next edition of the book in 2001, and in 2004 it was translated into English as the *Timber construction manual*.

Wood construction has changed considerably over the past 20 years. The present book is a direct descendent of the *Timber construction manual*. As previously, it is produced by co-authors from both engineering and architecture: Hermann Kauffmann and Stefan Krötsch are architects and Stefan Winter an engineer. A further 14 authors are credited with writing specialist chapters.

The *Manual* does not set out to provide design for either engineering or architecture; however, it is a book from which to derive inspiration for design and provides source material for precedents to underpin and communicate concept proposals.

As previously, the book contains many photographs and drawings and the

arrangement of the content is logical and clear. The Holzbau Atlas had focused on structural engineering – at that time there were few modern engineered timber structures, but now the situation is different. The use of timber in single detached houses or long-span roofs has become widespread and there is a steady increase in the use of timber in larger-scale buildings in cities.

This has been driven not only by the advantages of timber in providing a sound environmental solution, but also because wood is lightweight and capable of efficient prefabrication and fast construction.

The book is divided into five parts. Part A makes the case for using wood – it includes the development of multistorey construction, the sourcing of wood and wood products, life-cycle assessment and a study of air quality.

Part B is a relatively short section on the structural support, which focuses on timber used as plates rather than as linear elements. This has clearly been influenced by the success of cross-laminated timber (CLT) in urban timber construction; however, the book addresses plates made from linear elements as well.

The longest part is Part C. This is titled 'Construction', a term that is used to show how the whole building comes together in integrated design. Here, Winter contributes the longest chapter of the book on 'Protective functions'. This detailed and authoritative chapter addresses protection from fire and moisture, as well as the

issues of acoustic separation, timber preservation and thermal insulation.

Further chapters in this part draw out the topics addressed by Winter with considerable detail on the make-up of component layers for insulation, acoustic attenuation, jointing and prefabrication. For many, particularly engineers of all disciplines, this part is the key content.

In the UK context, the construction shown is more substantial and of higher performance (and cost) than might be expected. However, for high-quality buildings in the urban context, perhaps this is the level to which clients and industry should aspire.

Understanding the constraints that wood production and prefabrication bring is essential in making the most of timber. Part D at first seems to be a miscellany of topics, but the logic of the grouping is in informing designers and clients of the special nature of designing with timber, requiring and enabling decisions to be made early in the design and planning process.

The final part provides a collection of case studies. These are presented in detail with numerous photographs and drawings. The UK has been a leader in the use of timber for multistorey urban construction and it is perhaps surprising that there is no reference to these buildings.

This is a well-produced publication, densely packed with information from authoritative authors. It should be an attractive source book for all designers and clients whether they are already experienced in urban timber construction or starting to develop an interest.



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Before joining the University of Bath in 2009, Richard Harris was a Technical Director with BuroHappold, specialising in timber construction. In 2016, he retired from his role as Professor of Timber Engineering. However, he continues providing consulting, teaching and research in his role as Honorary Professor, through Time for Timber Ltd.