

Solid Timber Construction for a Variety of Building Types

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Cross-laminated timber construction has established itself in the United Kingdom, Scandinavia and Europe as a practical alternative for a wide variety of building forms. Plants for the production of the material are being set up in Canada and Australia and design approaches are being consolidated and codified.

The perceived novelty of the system has prompted a wide range of experiments in its use. This discussion will concentrate on three examples; a 'high-rise' apartment blocks in London, a low-energy school building and a large private house. A comparison of the different ways the material has been deployed will highlight some of its characteristics and limitations. Ways of achieving adequate fire resistance and structural robustness will be reviewed.

The advantages of low-embodied energy and positive carbon footprint are supplemented by high speeds of construction, excellent health and safety provisions, negligible waste production, precision and good environmental performance. Most recently we have been combining solid timber construction with other methods to overcome limitations in flexibility of layout and form. As a conclusion future directions for the development of cross-laminated timber structures will be touched on.

BIO



Matthew Wells qualified as an architect and chartered structural engineer in the late 1970's.

Since starting out with the integrated design practice of Arup Associates he has worked on a very wide range of buildings using all kinds of structural materials. His particular interest is in the interface between structural designers and other members of the building team.

He has taught at several schools of architecture and engineering, including the Architectural Association and Bartlett School of Architecture, London and has been visiting Professor of Civil and Structural Engineering at Leeds University.

More recently he has worked on bridge and infrastructure projects and joined the Institute of Civil Engineers as a fellow. His books include 'Engineers - A History of Engineering and Structural Design', 'Skyscrapers' and '30 Bridges'.