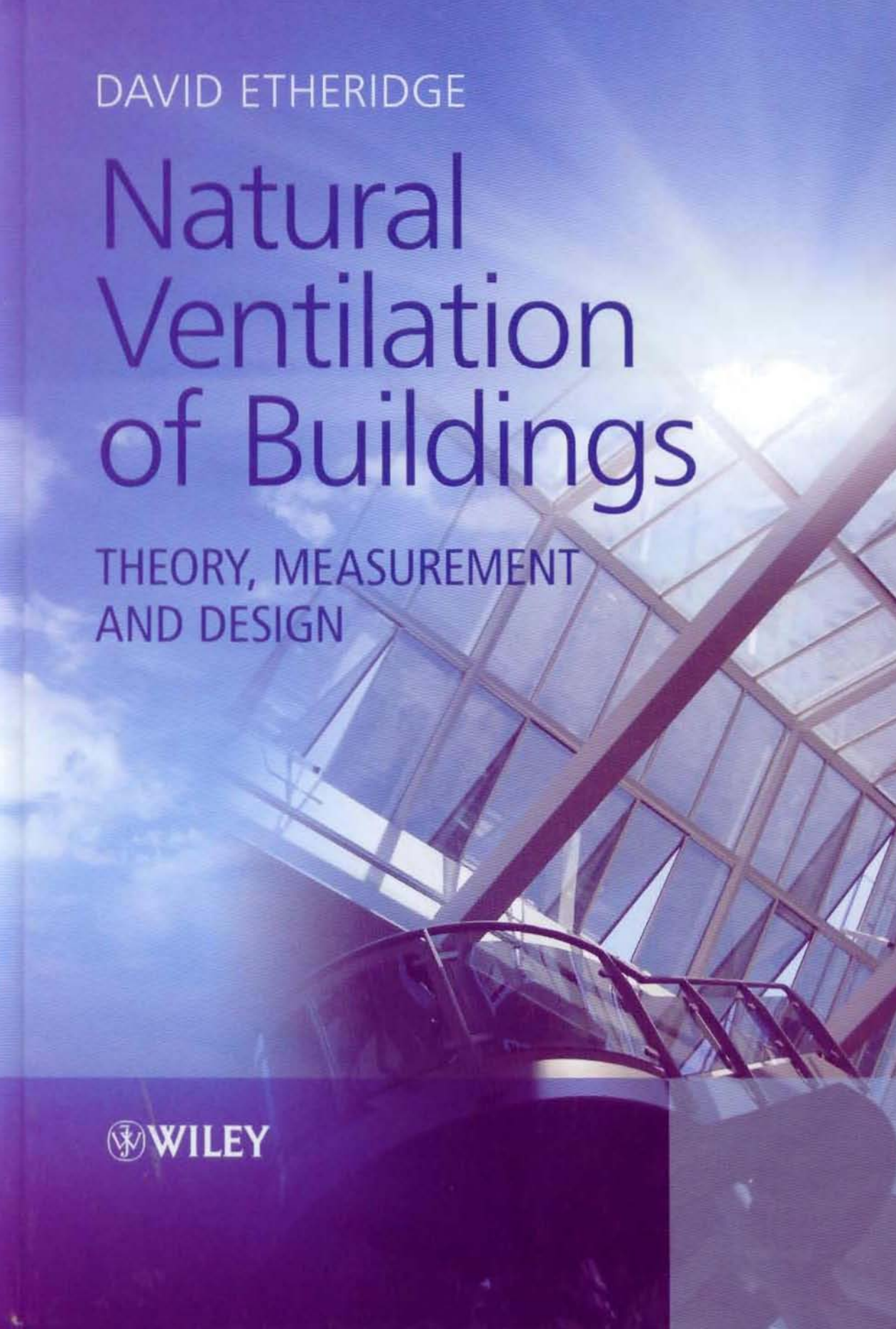
DAVID ETHERIDGE
Natural Ventilation of Buildings
THEORY, MEASUREMENT AND DESIGN
WILEY

Natural Ventilation of Buildings

THEORY, MEASUREMENT AND DESIGN

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Natural ventilation is increasingly considered a prerequisite for sustainable buildings and is therefore in line with current trends in architecture and the construction industry. The design of naturally ventilated buildings is more difficult and carries greater technical risk than the design of mechanically ventilated buildings. A successful result relies on a good understanding of the abilities and limitations of the theoretical and experimental techniques that form the basis of design.

The underlying difficulties with design arise from the driving forces: wind and buoyancy. Equal prominence is given to these and to their combination. Their importance in relation to achieving the required ventilation strategies is one of the important issues that is covered in some detail.

Natural Ventilation of Buildings: Theory, Measurement and Design comprehensively explains the fundamentals of the theory and measurement of natural ventilation, as well as the current state of knowledge and how this can be applied to design. The book also relates theoretical and experimental techniques to problems faced by designers. Particular attention is given to the limitations of the various techniques and the associated uncertainties.

Key features:

- Comprehensive coverage of the theory and measurement of natural ventilation
- Detailed coverage of the relevance and application of theoretical and experimental techniques to design
- Highlights the strengths and weaknesses of techniques and their errors and uncertainties
- Comprehensive coverage of mathematical models, including CFD
- Two chapters dedicated to design procedures and another devoted to the basic principles of fluid mechanics that are relevant to ventilation

This comprehensive account of the fundamentals for natural ventilation design will be invaluable to undergraduates and postgraduates who wish to gain an understanding of the topic for the purpose of research or design. The book should also provide a useful source of reference for more experienced practitioners in industry and architecture.

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ISBN 978-0-470-66035-5

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