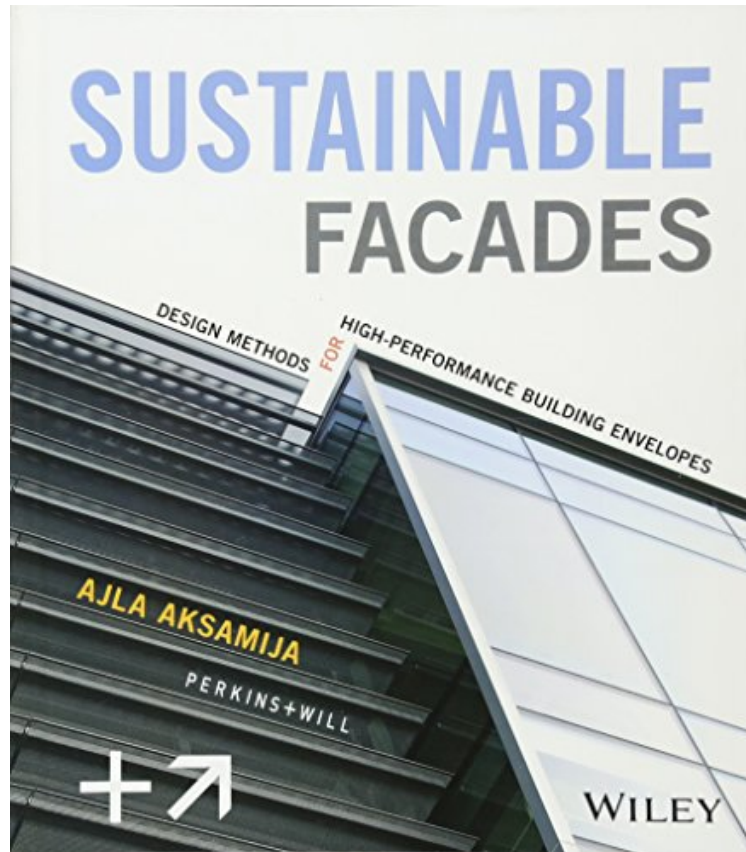


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# Sustainable Facades: Design Methods for High-Performance Building Envelopes

Ajla Aksamija

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**Ajla Aksamija : Sustainable Facades: Design Methods for High-Performance Building Envelopes** before purchasing it in order to gauge whether or not it would be worth my time, and all praised Sustainable Facades: Design Methods for High-Performance Building Envelopes:

2 of 2 people found the following review helpful. Fantastic Book By Mario Borghino This is the very first book I've found on the subject that treats Facade design with an integrated approach, covering most relevant aspects and offering very helpful guidelines and insights into good facade design. Most books cover only the structural aspects of Facades, others focus only on the Esthetics and a few others focus on describing case studies, but offering few significant insights into the design process and the reasons why certain decisions were made in the material selection for the facades to function as a whole-building system. The writing style is very readable without sacrificing the quality of the content, and the case studies at the end really tied the whole book together, showcasing the application of the concepts previously elaborated. My only gripe is that I would have wished for deeper information on a couple of the case studies, and the structural aspects of facades were barely touched upon, but overall a great buy. Highly Recommended. 0 of 0 people found the following review helpful. Very readable book on sustainable envelopes-

missing some aspects

By G. Knoop This is a nice book and covers sustainable envelopes (really walls) and provides calculation methods for engineering. The book did not cover roofs nor envelope issues below the ground. Also the e-book didn't make all the illustrations available... So perhaps this is a reason to buy the paper copy. All in all it was readable.

0 of 0 people found the following review helpful. Great Reference!

By Andrew This book quickly summarizes the effects of sustainable thinking and implementation. Good read and reference. I would totally buy this book.

Practical information on designing sustainable, energy-efficient building facades As energy and other natural resources are being depleted, it has become clear that technologies and strategies that allow us to maintain our satisfaction with interior environments while consuming less of these resources are major objectives of contemporary facade design. Sustainable Facades focuses on the strategies and approaches for designing sustainable, high-performance building facades, and provides technical guidance for architects and designers. This timely and useful guide presents strategies and technical guidelines for designing environmentally sensitive, energy-efficient facades based on scientific principles. It provides climate-specific approaches for minimizing energy consumption, analyzes the thermal behavior of different facade systems and materials, and illustrates with case studies how these approaches have been implemented on architectural projects. It also discusses emerging facade technologies, materials, and systems. Topics covered in this unique and indispensable guide include: Climate-based design approaches for high-performance facades Characteristics of sustainable facades: energy efficiency, thermal behavior, and moisture resistance Designing for thermal comfort, lighting and glare control, and acoustic quality Emerging technologies in facade design, including smart materials, double-skin facades, and facades as energy generators Case studies on building orientation and facade design, tectonic sun exposure control, external shading elements, and more

.com From the Author: Inspirations for the Book The inspirations for this book came from several different sources. First and foremost, the architectural and design community is currently faced with a difficult challenge to design environmentally sensitive, high-performance buildings that significantly reduce our energy consumption and improve occupants satisfaction. Since facades are one of the most significant contributors to the energy budget and the comfort parameters of any building, their designs and performance are an essential factor. I see similar types of questions being asked over and over again regarding the best design methods for improving facade performance on different architectural projects, such as: What are the appropriate design strategies for different climate types? How to choose facade types and materials to improve their performance? How to treat different building orientations? What are the best passive design methods for improving the performance? What are the best methods for daylighting? How to balance opaque and glazed areas of the facade? What are the emerging technologies and materials for facades? The main reason why I decided to write this book is that comprehensive guidelines which address these and other questions are currently not available. The inspiration came partially from a number of different design projects located across the world that considered these aspects, and partially from my extensive research work focusing on advanced building technologies and facade designs. I realized that a systematic set of design and technical guidelines, differentiated by climate type, location and type of building envelope would be valuable to the architectural/engineering/construction community. And therefore, the writing and preparation of this book began. What did I consider and include? The book starts with the introduction to different climate classification systems, climate-based design strategies for facades, and review of energy code recommendations for building envelopes. Then the characteristics of sustainable, high-performance facades are discussed, and the guidelines for minimizing energy consumption associated with facade designs. A part of the book focuses on methods for improving occupants comfort (thermal, visual and acoustic). Emerging facade technologies and advanced materials are also discussed, since innovative design approaches can be used to improve facade performance. The distinctive feature of this book is that scientific and technical principles are discussed and presented, while also specific case studies are used to demonstrate and illustrate how these principles have been applied to actual buildings. The case studies include different building types (educational facilities, laboratory buildings, mixed commercial and residential buildings) located in different climates, and cover both mid-rise and high-rise buildings. What I hope is that this book will provide guidance to readers and help them in decision-making when considering appropriate methods for the design of high-performance facades.