Stafford

Significant Changes to the Wind Load Provisions of ASCE 7-10

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An Illustrated Guide



ASCE PRESS

T. Eric Stafford

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Other Titles of Interest

Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-10. (ASCE Standard, 2010). Provides requirements for general structural design and includes means for determining dead, live, soil, flood, wind, snow, rain, atmospheric ice, and earthquake loads and their combinations that are suitable for inclusion in building codes and other documents. A detailed commentary of explanatory and supplementary information is included. (ISBN 978-0-7844-1085-1)

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PREFACE

Significant Changes to the Wind Load Provisions of ASCE 7-10: An Illustrated Guide is intended to familiarize structural engineers, architects, code officials, and others in the building construction and design industry with the changes to the wind load requirements of the newest edition of *Minimum Design Loads for Buildings and Other Structures*, Standard ASCE/SEI 7-10. This reference book is organized into seven parts that generally follow the organization of the new wind chapters in ASCE 7-10. While not all changes to the wind provisions are shown in this reference, the ones that would be of most interest to or have significant impact on the industry are discussed in detail. Most of the changes addressed include the reason for the change in addition to diagrams, examples, and color photographs and illustrations to enrich the reader's understanding. This reference is best used as a companion to ASCE 7-10 and not a replacement as only a small portion of the complete text of ASCE 7-10 is shown. The commentary and opinions provided are those of the authors and do not necessarily represent the official position of ASCE.

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Part 1
Reorganization

All Sections

All Chapter Titles - 2

All Sections Modification

All Titles

At a Glance

The wind load provisions of Chapter 6 have been reorganized into 6 new chapters for clarity and to improve the usability and comprehension of the specific methods for determining wind loads on buildings and structures.

2010 Standard

Delete Chapter 6 Wind Loads and Replace with the follow reorganization:

(Only Main Section Titles Shown)

CHAPTER 26. WIND LOADS – GENERAL REQUIREMENTS

26.1 PROCEDURES
- 26.1.1 Scope.
- 26.1.2 Permitted Procedures.
  - 26.1.2.1 Main Wind Force Resisting System (MWFRS).
  - 26.1.2.2 Components and Cladding.

26.2 DEFINITIONS

26.3 SYMBOLS AND NOTATION

26.4 GENERAL
- 26.4.1 Sign Convention.
- 26.4.2 Critical Load Condition.
- 26.4.3 Wind Pressures Acting on Opposite Faces of Each Building Surface.

26.5 WIND HAZARD MAP
- 26.5.1 Basic Wind Speed.
- 26.5.2 Special Wind Regions.
- 26.5.3 Estimation of Basic Wind Speeds from Regional Climatic Data.
- 26.5.4 Limitation.

26.6 WIND DIRECTIONALITY

26.7 EXPOSURE
- 26.7.1 Wind Directions and Sectors.
- 26.7.2 Surface Roughness Categories.
- 26.7.3 Exposure Categories.
- 26.7.4 Exposure Requirements.
  - 26.7.4.1 Direction Procedure (Chapter 27)