

2009 IBC[®] CHECKLIST[™]

STRUCTURAL PROVISIONS



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2009 IBC CheckList: Structural Provisions

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Foreword

The *Structural CheckList* made its debut in 1996. The checklist was initially designed to assist users of the 1994 *Uniform Building Code* (UBC), a code that had undergone a major change. To help facilitate a smooth and successful transition for code users, it was recognized that a variety of code resources were needed. Ms. Susan Dowty, S.E., Senior Staff Engineer at the International Conference of Building Officials (ICBO), one of the International Code Council's® (ICC®) legacy organizations, was quick to identify specific needs of code users, and thus, the first *Structural CheckList* was born.

With the publication of the 2000 *International Building Code*® (IBC®), and its vast array of changes to the structural provisions, ICBO called upon the special talents of Ms. Dowty again to act as the project head in updating the *Structural CheckList* to the 2000 IBC. This effort resulted in the popular publication—*2000 IBC CheckList*™: *Structural Provisions*.

Because of the extensive reliance on referenced structural standards in the 2006 IBC compared to the 2003 and 2000 IBC, updating the *IBC CheckList*™: *Structural Provisions* from the 2000 IBC to the 2006 IBC would be a formidable and tedious task. The ICC project manager assigned to update the *CheckList*, John R. Henry, turned to a colleague, Y. Henry Huang, P.E., who agreed to take on the project. Mr. Huang subsequently updated the *Structural CheckList* to the 2009 IBC and related structural standards.

In addition to being the Building Official for the City of Tustin, California, Mr. Huang has years of experience in the development of structural code provisions through ASCE, SEAOC, ICBO and ICC structural committees. Mr. Huang's experience, which includes structural design, code development, design review and plan check while at the County of Los Angeles and the Cities of Simi Valley and Tustin, made him uniquely qualified to handle the project. Having served as a design engineer in private practice, plan check engineer and building official, he has firsthand experience with the challenges faced by both the plan checker and structural designer alike. Mr. Huang's work was also helped by engineers who are knowledgeable and experienced with the IBC and its referenced standards to make this latest edition all inclusive, accurate and usable.

Hamid Naderi
Vice President
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Preface

The purpose of the *2009 IBC CheckList™: Structural Provisions* is to provide a comprehensive resource tool for those involved in structural plan review and design under the provisions of the *International Building Code®* (IBC®). This publication is designed to save plan reviewers countless hours in generating project-specific checklists. It provides a comprehensive list of structural comments for code requirements found in Chapters 16 through 23 of the IBC. Because the 2006 and 2009 IBC rely on referenced structural standards even more than the previous editions, the requirements outlined in this checklist are, in many cases, based on the referenced standard rather than the IBC itself.

The *2009 IBC CheckList™: Structural Provisions* is also available in rtf and pdf formats on an optional CD-ROM, which gives reviewers the added opportunity to adapt the checklist to a specific project or process. Structural design professionals will also find the checklist invaluable as a resource to assist with code compliance during the structural design process. It affords designers the opportunity to make necessary revisions and effectively reduce the time it takes to complete the structural plan check process.

As the trend of adopting national design standards in the building code continues, the checklist is especially valuable because it also includes specific comments pertaining to the following referenced structural standards:

- ASCE/SEI 7-05 (Loads)
- ACI 318-08 (Concrete)
- TMS 402-08/ACI 530-08/ASCE 5-08 (Masonry)
- AISC 360-05 (Steel)
- AISC 341-05 (Steel Seismic)
- AF&PA NDS-05 (Wood)

This product has been designed so that the plan reviewer can quickly go through the document and easily identify those comments that are required to generate a complete structural checklist for a specific project. A section number from the code or standard is referenced within each comment so that the user may easily refer to the provision for further clarification. Also, each comment has been further classified with a subject title to allow the user to quickly identify which comments are pertinent to the project being reviewed.

When completing a typical structural plan review, it can be very frustrating to search through the code to find the applicable referenced standards and pinpoint the applicable sections. Oftentimes plan reviewers need to refamiliarize themselves with a design method or standard before even beginning a plan review. These painstaking tasks have already been completed for the plan checker and consolidated into this product. In addition, there are many helpful illustrations, definitions, tables and charts that organize the code requirements in a logical manner for direct application to structural drawings and details. Blank spaces have been provided for the plan reviewer to insert needed information for a specific project where appropriate.

The comments included in this publication are based exclusively on the 2009 IBC Structural Provisions found in Chapters 16–23 and the major associated structural standards referenced in Chapter 35. Code requirements to be checked at the time of field inspection are not included.

Note that although the *2009 IBC CheckList™: Structural Provisions* is comprehensive, it does not include all possible structural requirements in the building code and the referenced standards. There is no substitute for careful study and comprehension of each code provision. The checklist items and illustrations published herein reflect the understanding of the author and ICC staff, and are not binding on the building official. As indicated in Section 104.1 of the IBC, the building official has the ultimate responsibility for rendering interpretations of the code.

Users of this checklist are encouraged to send comments, questions or suggestions for future updates by email to: checklist@iccsafe.org.

Acknowledgments

Developing a product of this magnitude required the special talents of many individuals. Special thanks go to Y. Henry Huang, P.E., for taking on the project of updating the *2000 IBC CheckList™: Structural Provisions* to the *2009 IBC CheckList™: Structural Provisions*. His extensive knowledge, expertise and experience made the product and the update possible. Because of the extensive reliance on referenced standards in the 2009 IBC, updating the *Structural CheckList* from the 2000 to the 2006 IBC and subsequently to the 2009 IBC proved to be a formidable task.

Mr. Huang would like to like to express his appreciation to the following individuals who graciously gave of their time to review and share their expertise during the update to the 2006 and 2009 IBC:

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The associations listed below have generously allowed ICC to extract and use portions of their texts:

American Concrete Institute (ACI)
 ACI 318-08/318R-08 Building Code Requirements for Structural Concrete and Commentary (ACI 318-08)

The Masonry Standards Joint Committee (MSJC)
 2008 Building Code for Masonry Structures (TMS 402/ACI 530/ASCE 5), Specification for Masonry Structures (TMS 602/ACI 530.1/ASCE 6) and Commentaries

American Forest & Paper Association (AF&PA)
 National Design Specification for Wood Construction, 2005 Edition (NDS-05)

American Institute of Steel Construction, Inc. (AISC)
 Specification for Structural Steel Buildings (ANSI/AISC-360-05)
 Seismic Provisions for Structural Steel Buildings (ANSI/AISC 341-05)

American Society of Civil Engineers (ASCE)
 Minimum Design Loads for Buildings and Other Structures (ASCE/SEI 7-05) with Supplement No.1 and No. 2

Portland Cement Association (PCA)
Notes on ACI 318-08

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