Chapter 26 Plastic. Materials and installation of light-transmitting plastics, as well as the appropriate installation methods for foam plastic insulation.

Chapters 27-29 Electrical, mechanical and plumbing installations. Limited provisions addressing the fundamental support systems of a building.

Chapter 30 Elevators. Elevator hoistway provisions, including enclosure of hoistways, emergency operations and hoistway venting.

Chapter 31 Special construction. A variety of special conditions are addressed, including membrane structures, temporary structures, pedestrian walkways and tunnels, awnings and canopies, marquees, signs and swimming pool enclosures.

Chapter 32 Encroachment into the public right-of way. Limitations on construction adjacent to public property.

Chapter 33 Safeguards during construction. Methods of protecting pedestrians and adjacent property during construction activities.

Structural Provisions

General Requirements

1. Structural Materials.

The structural design begins with the selection of the type of structural materials to be used to support the building. Structural framing systems are constructed of concrete, masonry, steel or wood. Some miscellaneous or specialty structures and components, such as awnings and canopies, are constructed of aluminum.

The design of various structural materials is covered in specific material chapters in the code, which in turn reference design standards for the type of material involved. The referenced standards in the 2007 CBC for the structural materials are shown in the following table:

STRUCTURAL DESIGN STANDARDS FOR STRUCTURAL MATERIALS[1]

MATERIAL	IBC/CBC CHAPTER	REFERENCED STANDARD
Concrete	19	ACI 318 Building Code Requirements for Structural Concrete
Aluminum	20	ADM 1 Aluminum Design Manual
Masonry	21	ACI 530/ASCE 5/TMS 402 Building Code Requirements for Masonry Structures
Steel	22	AISC 360 Specification for Structural Steel Buildings AISC 341 Seismic Provisions for Structural Steel Buildings NAS North American Specification for the Design of Cold-formed Steel Structural Members
Wood	23	NDS National Design Specification (NDS) for Wood Construction

1. The above table shows the main structural design standards for these structural materials. For a complete list of referenced standards, see IBC/CBC Chapter 35.

2. Design Loads.

Determine the applicable design loads that the building structure is expected to be subjected to. Code-prescribed loads are given in Chapter 16 and the referenced standard, *Minimum Design Loads for Buildings and Other Structures*, ASCE 7. The code-prescribed minimum live loads are given in CBC Table 1607.1.

Environmental loads, such as flood, rain, snow, seismic and wind vary based on the location of the building site. The various code-prescribed loads are probabilistic in nature. The following table gives the CBC section and ASCE 7 chapter for various types of load.