

2009 INTERNATIONAL BUILDING CODE
Chapter 16 - Summary of changes from the 2006 IBC

Section 1602 – Definitions and Notations

- Definition for DECK and BALCONY has been removed.
- The live load for DECK and BALCONY has been changed to the same live load as the occupancy served.

Section 1603 – Construction Documents

- Design load-bearing values of soils required to be indicated in the construction documents including buildings constructed in accordance with the conventional light-frame construction provisions of Section 2308 has been moved from Chapter 18. (Section 1603.1 & 1603.1.5)
- Section 1603.2 Restrictions on Loading has been removed
- Section 1603.3 Live Loads Posted has been removed
- Section 1603.4 Occupancy Permits for Changed Loads has been removed.

Section 1604 – General Design Requirements

- In Section 1604.8.2, the sub-section title has been changed from “Concrete and Masonry Walls” to “Walls”.
- The wall anchorage requirements in Section 1604.8.2 has been changed by eliminating the minimum horizontal force of 280 plf and the new minimum anchorage force is based on ASCE 7 Section 11.7.3 which only requires a minimum of 5% of the wall portion’s weight.
- New language added to Section 1604.8.3 to clarify connection of decks with cantilever framing members to exterior walls or other framing members to be designed for the most critical loading condition.

Section 1605 – Load Combinations

- The Special Seismic Load Combinations of Section 1605.4 of the 06 IBC has been deleted. The special seismic load combinations with overstrength factor are elaborated in more details in Section 1605.1 of the 09 IBC.
- New section 1605.1.1 dealing with Stability has been added. It allows using either strength design or allowable stress load combinations to check against overturning, sliding, or buoyancy.
- In Exception 2 under Section 1605.3.1 and 1605.3.2, roof live loads of 30 psf or less need not be combined with seismic loads is added.

Section 1607– Live Loads

- Live loads for balconies has been changed to the same as occupancy served and there is no more distinction between balconies and decks.
- For Vehicle barrier systems in Section 1607.7.3, a second load condition is added. The 2nd load condition is to analyze the protection system by applying the load at 2 feet, 3 inches from the floor or ramp surface. (The 1st load condition requires the load be applied at 1 foot, 6 inches from the floor or ramp surface.
- Live load reduction dealing with One-way slabs has been added to reconcile with ASCE 7.

Section 1609– Wind Loads

- The Alternate All-heights method has been added under Section 1609.6. This is a simplifications of the ASCE 7 Method 2 – Analytical Procedure.
- The reference to SBCCI SSTD 10 has been changed to ICC 600 for group R-2 and R-3 buildings.
- Exception 3 under Section 1609.1.1 has been added to allow the use of AISI S230 for residential structures.
- Exception 6 under Section 1609.1.1 has been added to allow wind tunnel tests in accordance with Section 6.6 of ASCE 7, subject to the limitations in Section 1609.1.1.2.
- New Section 1609.1.1.2 has been added to impose a lower limit on wind loads obtained from wind tunnel tests. The base overturning moments and wind pressure for components and cladding on walls and roofs are typically limited to 80% of the force level determined based on Section 6.5 of ASCE 7.
- Some changes were made to the protection of openings in wind-borne debris regions in Section 1609.1.2.

Section 1610– Soil Lateral Loads

- The word “basement” has been removed from Section 1610.1. This section now deals with foundation and retaining walls.
- If the soil lateral load from Table 1610.1 is not used, the minimum design lateral soil loads shall be determined by a geotechnical investigation in accordance with Section 1803 instead of a soil investigation report.
- New language added to require foundation walls be designed to support the weight of the full hydrostatic pressure of undrained backfill unless a drainage system is installed in accordance with Section 1805.4.2 and 1805.4.3.

Section 1611– Rain Loads

- The design rain load based on 100-year hourly rainfall rate and Figure 1611.1 which shows the 1-hour rainfall rate has been added to determine the rain load.

Section 1612– Flood Loads

- New **Section 1612.3.1 Design Flood Elevation**. Where design flood elevations are not included in the flood hazard areas established in Section 1612.3 or where floodways are not designated, the Building Official is authorized to require the applicant to:
 - Obtain and reasonably utilize any design flood elevation and floodway data available from a federal, state, or other source; or
 - Hire a Registered Design Professional to determine the design flood elevation and or floodway in accordance with accepted hydrologic and hydraulic engineering practices.
- New **Section 1612.3.2 Determination of Impacts**. In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the applicant need to demonstrate that the proposed work will not increase the design flood elevation more than 1 foot.

Section 1613– Earthquake Loads

- In Section **1613.3 Existing Buildings**, the word “modifications” has been changed to “repairs”.
- In Section **1613.6 Alternatives to ASCE 7**, condition number 4 under subsection 1613.6.1, the portions of wood structural panel diaphragms that cantilever beyond the vertical elements of the lateral-force-resisting system are to be designed in accordance with Section 4.2.5.2 of AF&PA SDPWS instead of Section 2305.2.5 of the IBC. Section 2305.2.5 of the 2006 IBC has been removed.
- New Section **1613.6.3 Automatic Sprinkler System** has been added.
- New Section **1613.6.4 Autoclaved Aerated Concrete (ACC) Masonry Shear Wall Design Coefficients and System Limitations** has been added.
- New **Section 1613.6.5 Seismic Controls for Elevators** has been added.
- Section **1613.6.6 Steel Plate Shear Wall Height Limits** has been added. This section was added to modify Section 12.2.5.4 of ASCE 7 to allow the increase of the height limits of Table 12.2-1 for Special Steel Plate Shear Walls from 160 feet to 240 feet for SDC D or E, and from 100 feet to 160 feet for SDC F.
- New **Section 1613.6.7 Minimum Distance for Building Separation** has been added. This section was added to restore the minimum building separation distance calculations from the 97 UBC.
- New **Section 1613.6.8 HVAC Ductwork with $I_p=1.5$** has been added.
- New **Section 1613.7 ASCE 7, Section 11.7.5** has been added. Section 1613.7 was added to modify Section 11.7.5 of ASCE 7 to eliminate the minimum 280 plf horizontal force for connections between the wall and diaphragm.

Section 1614– Structural Integrity

- This is a brand new section added to the 2009 IBC. It requires high-rise buildings in Occupancy Category III or IV to be tied together in the transverse, longitudinal and vertical direction with elements of certain minimum strength. It's modeled after ACI 318 for concrete structures.