



Significant Changes In 2013 California Codes For Structural Changes to CBC

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The 2013 California Buildings Standards went into effect on January 1, 2014.

Load Combinations using Strength Design or Load & Resistance Factor Design

Design Wind Speeds

The wind load maps in ASCE 7 and the IBC are now based on ultimate design speeds, V_{ult} , which produce a strength level wind load similar to seismic load effects.

The former term “basic wind speed” has been changed to “ultimate design wind speed”. The wind speed that is equivalent to the former basic wind speed is now called the “nominal design wind speed.” V_{asd} .

In cases where the code has used wind speed to trigger a specific requirement, the ultimate wind speed, V_{ult} , must be converted to a nominal design wind speed that corresponds to the former basic wind speed. Thus, a new table in the 2012 IBC converts V_{ult} to V_{asd} so that the mapped wind speeds thresholds in various parts of the code can still be used.

V_{ult}	100	110	120	130	140	150	160	170	180	190	200
V_{asd}	78	85	93	101	108	116	124	132	139	147	155

Table 1609.3.1, Wind Speed Conversions.

Determination of Wind Loads

- Wind loads on every building or structure shall be determined in accordance with Chapter 6 of ASCE7.
- Wind loads on every building structure shall be determined in accordance with Chapter 26 to 30 of ASCE 7.
- For Category I buildings (Ag Facilities) use 100mph, and for Category III (Assembly, schools, etc) & IV (police stations, emergency shelters, etc) use 115mph. See Table 1604.5 for further examples.
- Wind speed for risk category II buildings has changed from 85mph to 110mph.

Live Load Tables

Minimum Live Loads –

Many live loads in Chapter 4 of ASCE 7 were updated in the 2010 edition of the ASCE 7 standard. The live loads prescribed in IBC Section 1607 and Table 1607. One has been updated to coordinate them with the live loads of Chapter 4 and table of 4-1 in ASCE 7-10.

Additional Changes

Ponding Instability –

A new definition of “susceptible bay” has been added to clarify where ponding must be considered in the design of roof structures to avoid progressive deflection.

A susceptible bay is defined as a roof, or portion thereof, with:

- 1) A slope less than 1/4 inch per foot
- 2) On which water is impounded upon and the primary drainage system is blocked.

Only those portions of the roof considered susceptible bays must be designed for ponding. Areas of the roof with a slope of 1/4 inch per foot or greater towards points of free drainage are not considered susceptible and need not be designed for ponding.