

Residential Structural Design Information

This information applies **only to structures conforming to the prescriptive criteria** set forth in the 2012 International Residential Code. If the structure does not meet all of the IRC requirements, an engineered design conforming to the 2012 International Building Code must be prepared by a Washington State Professional Engineer.

Wind

Prescriptive Design:

105 mph, 3 second gust, exposure B
(IRC basic wind speed values)

Engineered Design (IRC & IBC Chapter 16):

Any structural elements designed outside of IRC prescriptive requirements are required to be designed using:

IBC ultimate design criteria for wind loading.

($V_{ult} = 135$ MPH, 3 second gust for Risk Category II or Risk Category as applicable)

See commercial structural design information for additional IBC requirements.

Basic Wind to Ultimate Wind conversion

$$V_{asd} = V_{ult} \sqrt{0.6}$$

Soil

1500 psf bearing

Frost depth

12"

Minimum roof snow load

25 psf – minimum roof load – non reducible

Ground snow: 30 psf – drift calculations as required

All other loading is per the 2012 International Residential Code and as adopted by Washington State and Clark County Code.

Seismic zone

D1

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For an alternate format,
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