

## 1. References

- International Building Code, 2018
- ASCE 7-16, Minimum Design Loads for Buildings and Other Structures
- AWC NDS 2018, National Design Specification for Wood Construction
- ANSI/AWC SDPWS 2015, Special Design Provisions for Wind and Seismic

## 2. Design Loads

### 2.1 Gravity Design Loads

Dead Loads	15 psf (gravity loads)
	8 psf (uplift cases)
Roof Live Load:	20 psf
Snow:	
Ground Snow Load	60 psf
Exposure	B
Importance Factor	1.0
Floor Live:	
Residential/Floor Load	40 psf

### 2.2 Lateral Design Loads

Wind:	
Basic Wind Speed (Ultimate/Strength Level)	115 mph
Exposure	B
Importance Factor	1.0
Seismic:	
Soil Site Class	D
Occupancy Category	II
Importance Factor	1.0
$S_{DS}$	< 2.0
Seismic Design Category	D/E
R:	
Light-Frame (wood) Bearing Walls	
Sheathed w/ Wood Str. Panels	6.5

### 2.3 Foundation Design Loads

The foundation design loads are based on the above criteria.

### 3. Design Basis

#### 3.1 Material Specifications

Wood:

Studs, Roof Joists & Headers	Spruce-Pine-Fir #2 or Hem-Fir #2
Pressure Treated Floor Framing	Southern Pine #2
LVLs	fb = 2600 psi 2.0E
LSLs	fb = 1700 psi 1.3E
Floor Sheathing (Plywood)	3/4" Treated T&G Sturd-I-Floor Shtg.
Wall Sheathing (OSB ForceField)	7/16" OSB Shtg.
Roof Sheathing (OSB)	15/32" OSB Shtg.

Note: Plywood is assumed to conform to US PS1 and OSB is assumed to conform to US PS2.

#### 3.2 Building Code Requirement – Deflection

Roof Members	
Live or Wind	L/360
Dead + Live	L/240
Floor Members	
Live	L/360
Dead + Live	L/240