onCENTER®

BlueLinx Engineered Products

Residential Floor & Roof Systems

SPECIFIER'S GUIDE

Advanced Framing Lumber (AFL)

When it's built right, it's onCENTER®!

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QUALITY • SERVICE • VALUE

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Visit www.buildoncenter.com for information on additional BlueLinx Engineered Products.

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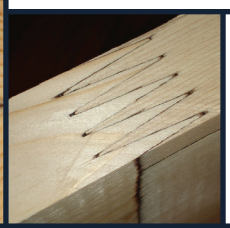
Advantages of onCENTER® Advanced Framing Lumber (AFL)

AFL vs. Dimension Lumber

- **100% Usability** - Wane free edges, significant defects removed
- **Dimensionally Stable** - Less shrinking, cracking, and warping
- **Straighter** - Easier installation and attachment of wall finishes and cabinets
- **Longer Lengths** - Up to 32', fewer members to handle
- **Longer Spans** - Offers greater design flexibility
- **Lifetime Limited Warranty** - Provides peace of mind

AFL vs. Composite Lumber

- **Easier to Cut & Nail** - Quicker installation, less tool wear, fewer bent nails
- **Lighter** - Easier to handle



onCENTER AFL *in depths of 9¼" and greater can be used in floor assemblies that would otherwise require a protective membrane or sprinkler system per the 2012 IRC (R501.3) and 2015/2018/2021 IRC (R302.13).*

onCENTER® AFL Design Properties [a]

	onCENTER 1.6E AFL	onCENTER 1.7E AFL	onCENTER 1.9E AFL	onCENTER 2.1E AFL
E (Modulus of Elasticity) [b, c]	1.6 x 10^6 psi	1.7 x 10^6 psi	1.9 x 10^6 psi	2.1 x 10^6 psi
E_{min} (For beam stability calcs) [c]	0.793 x 10^6 psi	0.862 x 10^6 psi	0.968 x 10^6 psi	1.039 x 10^6 psi
F_b (Flexural Stress) [d, e, f]	1200 psi	1800 psi	2300 psi	2300 psi
F_v (Horizontal Shear) [d]	135 psi	180 psi	205 psi	250 psi
$F_{c\perp}$ (Compression Perpendicular to Grain) [c]	425 psi	595 psi	675 psi	675 psi
$F_{c\parallel}$ (Compression Parallel to Grain)	1600 psi	1925 psi	2190 psi	2660 psi
F_t (Tension Parallel to Grain) [g]	900 psi	1350 psi	1540 psi	1880 psi
Vertical Load Capacity [h]	2560 plf	2560 plf	2560 plf	2560 plf
ESG (Equivalent Specific Gravity) [i]	0.42	0.42	0.46	0.50
Weight	30.1 pcf	30.1 pcf	33.0 pcf	35.9 pcf

a. Member width is 1.47".

b. Deflection (inches) = $\frac{270\,wL^4}{Ebd^3} + \frac{28.8\,wL^2}{Ebd}$

w = uniform load (plf)
L = span (feet)
E = modulus of elasticity (psi)
b = member width (inches)
d = member depth (inches)

c. No increase is allowed to E, E_{min} or $F_{c\perp}$ for duration of load.

d. Tabulated values for F_b and F_v are for loads applied to narrow face of member.

e. Tabulated bending values, F_b, must be multiplied by the following size factors:

	Member Depth							
Grade	5½"	7¼"	9¼"	9½"	11¼"	11⅞"	14"	16"
1.6E	1.30	1.19	1.09	1.08	1.02	1.00	0.95	0.91
1.7E	1.20	1.13	1.07	1.06	1.02	1.00	0.96	0.93
1.9E	1.06	1.06	1.06	1.06	1.02	1.00	0.96	0.93
2.1E	1.21	1.13	1.07	1.06	1.02	1.00	0.96	0.93

f. A factor of 1.04 may be applied for repetitive members as defined in the NDS.

g. F_t is appropriate for lengths up to 24 feet.

h. For fully supported rim board applications only.

i. For calculating lateral load capacity of bolts (in the wide face), screws, and nails.

isDesign®

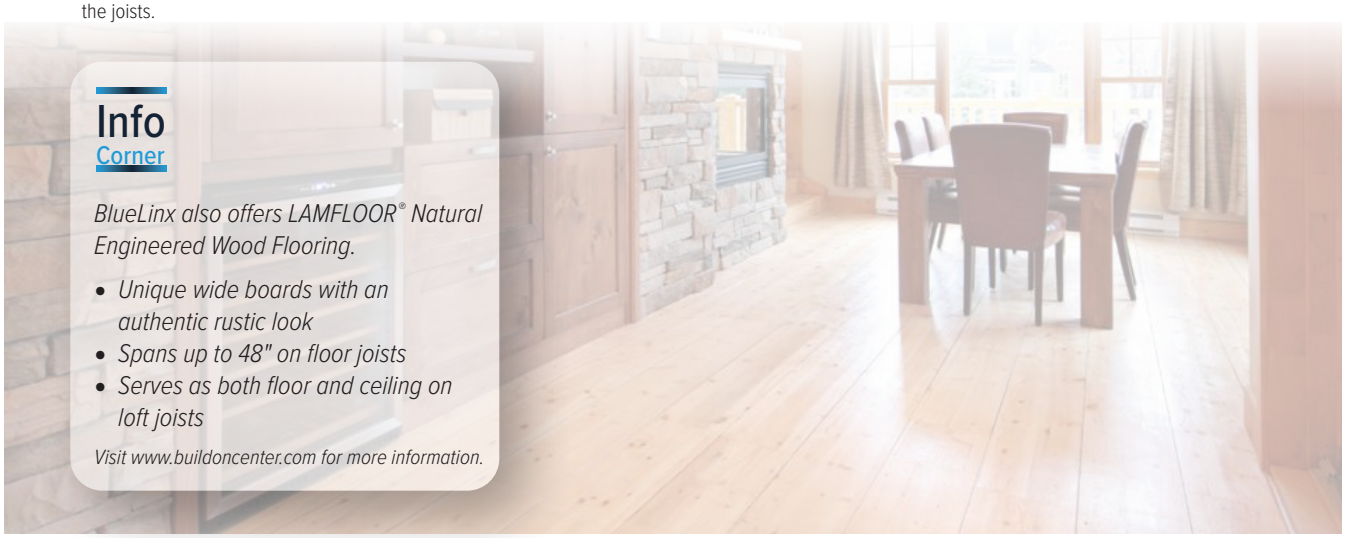
For load or span conditions other than those covered in this guide, onCENTER® AFL can be designed and specified using engineered wood software such as isDesign®, isPlan®, isWall®, MiTek Sapphire®, and Alpine IntelliVIEW. See page 21 for additional information.

Residential Living Areas - 40 PSF Live Load (L/360)

Depth	AFL Grade	10 psf Dead Load				20 psf Dead Load			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	13'-09"	12'-06"	11'-09"	10'-11"	13'-09"	12'-06"	11'-06"	9'-03"
	1.7E	14'-02"	12'-10"	12'-01"	11'-03"	14'-02"	12'-10"	12'-01"	11'-03"
	1.9E	14'-08"	13'-04"	12'-07"	11'-08"	14'-08"	13'-04"	12'-07"	11'-08"
	2.1E	15'-00"	13'-08"	12'-10"	11'-11"	15'-00"	13'-08"	12'-10"	11'-11"
9¼"	1.6E	17'-06"	15'-11"	15'-00"	13'-10"	17'-06"	15'-05"	14'-01"	11'-10"
	1.7E	18'-00"	16'-04"	15'-05"	14'-04"	18'-00"	16'-04"	15'-05"	14'-04"
	1.9E	18'-09"	17'-00"	16'-00"	14'-10"	18'-09"	17'-00"	16'-00"	14'-10"
	2.1E	19'-02"	17'-05"	16'-05"	15'-03"	19'-02"	17'-05"	16'-05"	15'-03"
9½"	1.6E	18'-00"	16'-04"	15'-05"	14'-01"	18'-00"	15'-09"	14'-05"	12'-01"
	1.7E	18'-06"	16'-10"	15'-10"	14'-08"	18'-06"	16'-10"	15'-10"	14'-08"
	1.9E	19'-03"	17'-06"	16'-05"	15'-03"	19'-03"	17'-06"	16'-05"	15'-03"
	2.1E	19'-08"	17'-11"	16'-10"	15'-08"	19'-08"	17'-11"	16'-10"	15'-08"
11¼"	1.6E	21'-04"	19'-04"	18'-02"	16'-03"	21'-00"	18'-02"	16'-07"	14'-04"
	1.7E	21'-11"	19'-11"	18'-09"	17'-05"	21'-11"	19'-11"	18'-09"	17'-05"
	1.9E	22'-09"	20'-08"	19'-06"	18'-01"	22'-09"	20'-08"	19'-06"	18'-01"
	2.1E	23'-04"	21'-02"	19'-11"	18'-06"	23'-04"	21'-02"	19'-11"	18'-06"
11⅞"	1.6E	22'-06"	20'-05"	19'-00"	17'-00"	21'-11"	19'-00"	17'-04"	15'-02"
	1.7E	23'-02"	21'-00"	19'-09"	18'-04"	23'-02"	21'-00"	19'-09"	18'-04"
	1.9E	24'-01"	21'-10"	20'-07"	19'-01"	24'-01"	21'-10"	20'-07"	19'-01"
	2.1E	24'-07"	22'-04"	21'-01"	19'-07"	24'-07"	22'-04"	21'-01"	19'-07"
14"	1.6E	26'-06"	23'-10"	21'-09"	***19'-06"***	25'-02"	21'-09"	***19'-10"***	***17'-09"***
	1.7E	27'-03"	24'-09"	23'-04"	21'-08"	27'-03"	24'-09"	23'-04"	***21'-08"***
	1.9E	28'-04"	25'-09"	24'-03"	22'-06"	28'-04"	25'-09"	24'-03"	***22'-06"***
	2.1E	29'-00"	26'-05"	24'-10"	23'-00"	29'-00"	26'-05"	***24'-10"***	***23'-00"***
16"	1.6E	30'-04"	26'-08"	***24'-04"***	***21'-09"***	28'-01"	***24'-04"***	***22'-02"***	***19'-10"***
	1.7E	31'-02"	28'-04"	26'-08"	***24'-09"***	31'-02"	28'-04"	***26'-08"***	***24'-08"***
	1.9E	31'-09"	29'-05"	27'-08"	***25'-09"***	31'-09"	***29'-05"***	***27'-08"***	***25'-09"***
	2.1E	31'-09"	30'-02"	28'-04"	***26'-04"***	31'-09"	***30'-02"***	***28'-04"***	***26'-04"***

NOTES:

1. Spans are maximum clear distances between supports, and are based on uniform loads.
2. Design methodology used to develop tabulated spans is similar to that used in Table R502.3.1(2) of the 2012, 2015, 2018, and 2021 International Residential Code.
3. Minimum end bearing length is 1½" (2" for spans in ***bold italics***). Assumes SPF bearing plate ($F_{c\perp}$ = 425 psi).
4. The top edge of the joist shall be held in line for its entire length to prevent lateral displacement, as by adequate sheathing or subflooring.
5. 14" and 16" joists shall be supported laterally at intervals not exceeding 8 feet by solid blocking, diagonal bridging, or a continuous 1x3 nailed across the bottom of the joists.



Info Corner

BlueLinx also offers LAMFLOOR® Natural Engineered Wood Flooring.

- *Unique wide boards with an authentic rustic look*
- *Spans up to 48" on floor joists*
- *Serves as both floor and ceiling on loft joists*

Visit www.buildoncenter.com for more information.

Residential Living Areas - 40 PSF Live Load (L/480)

Depth	AFL Grade	10 psf Dead Load				20 psf Dead Load			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	13'-04"	12'-03"	11'-08"	11'-00"	13'-04"	12'-03"	11'-05"	9'-02"
	1.7E	13'-07"	12'-07"	11'-11"	11'-05"	13'-07"	12'-07"	11'-11"	11'-05"
	1.9E	14'-01"	13'-00"	12'-04"	11'-09"	14'-01"	13'-00"	12'-04"	11'-09"
	2.1E	14'-04"	13'-03"	12'-07"	12'-00"	14'-04"	13'-03"	12'-07"	12'-00"
9¼"	1.6E	16'-09"	15'-05"	14'-08"	13'-08"	16'-09"	15'-04"	14'-00"	11'-08"
	1.7E	17'-02"	15'-10"	15'-00"	14'-03"	17'-02"	15'-10"	15'-00"	14'-03"
	1.9E	17'-09"	16'-04"	15'-06"	14'-09"	17'-09"	16'-04"	15'-06"	14'-09"
	2.1E	18'-02"	16'-08"	15'-10"	15'-00"	18'-02"	16'-08"	15'-10"	15'-00"
9½"	1.6E	17'-02"	15'-10"	15'-01"	14'-00"	17'-02"	15'-08"	14'-03"	12'-00"
	1.7E	17'-07"	16'-02"	15'-05"	14'-08"	17'-07"	16'-02"	15'-05"	14'-08"
	1.9E	18'-03"	16'-09"	15'-11"	15'-01"	18'-03"	16'-09"	15'-11"	15'-01"
	2.1E	18'-07"	17'-01"	16'-03"	15'-05"	18'-07"	17'-01"	16'-03"	15'-05"
11¼"	1.6E	20'-02"	18'-07"	17'-08"	16'-01"	20'-02"	18'-00"	16'-05"	14'-03"
	1.7E	20'-09"	19'-00"	18'-01"	17'-02"	20'-09"	19'-00"	18'-01"	17'-02"
	1.9E	21'-05"	19'-08"	18'-08"	17'-08"	21'-05"	19'-08"	18'-08"	17'-08"
	2.1E	21'-11"	20'-01"	19'-01"	18'-00"	21'-11"	20'-01"	19'-01"	18'-00"
11⅞"	1.6E	21'-03"	19'-07"	18'-07"	16'-10"	21'-03"	18'-10"	17'-03"	15'-00"
	1.7E	21'-10"	20'-01"	19'-00"	18'-00"	21'-10"	20'-01"	19'-00"	18'-00"
	1.9E	22'-07"	20'-09"	19'-08"	18'-07"	22'-07"	20'-09"	19'-08"	18'-07"
	2.1E	23'-01"	21'-02"	20'-01"	19'-00"	23'-01"	21'-02"	20'-01"	19'-00"
14"	1.6E	24'-11"	22'-11"	21'-08"	***19'-04"***	24'-11"	21'-08"	***19'-08"***	***17'-07"***
	1.7E	25'-07"	23'-06"	22'-03"	21'-00"	25'-07"	23'-06"	22'-03"	***21'-00"***
	1.9E	26'-06"	24'-04"	23'-00"	21'-09"	26'-06"	24'-04"	23'-00"	***21'-08"***
	2.1E	27'-01"	24'-10"	23'-06"	22'-02"	27'-01"	24'-10"	23'-06"	***22'-02"***
16"	1.6E	28'-05"	26'-01"	***24'-02"***	***21'-07"***	28'-00"	***24'-02"***	***22'-00"***	***19'-08"***
	1.7E	29'-02"	26'-08"	25'-04"	***23'-10"***	29'-02"	26'-08"	***25'-03"***	***23'-10"***
	1.9E	30'-02"	27'-08"	26'-02"	***24'-08"***	30'-02"	27'-08"	***26'-02"***	***24'-08"***
	2.1E	30'-10"	28'-03"	26'-09"	***25'-02"***	30'-10"	28'-03"	***26'-08"***	***25'-02"***

NOTES:

1. Spans are maximum clear distances between supports, and are based on uniform loads.
2. Live load deflection is limited to L/480, providing joists that are one-third stiffer than required by code. Experience has shown that floors designed to the code minimum live load deflection (L/360) may not meet the occupant's expectations for floor performance.
3. Spans are based on composite action with glued-nailed APA Rated Sheathing or Sturd-I-Floor panels of minimum thickness 19/32" (40/20 or 20 oc) for joist spacing of 19.2" or less, or 23/32" (48/24 or 24 oc) for a joist spacing of 24". Apply a ¼" diameter continuous bead of adhesive (meeting APA AFG-01 or ASTM D 3498) to top of joists. Surfaces must be clean and dry. If adhesive is not used, reduce spans by 12".
4. Minimum end bearing length is 1½" (2" for spans in ***bold italics***). Assumes SPF bearing plate ($F_{c\perp}$ = 425 psi).
5. 14" and 16" joists shall be supported laterally at intervals not exceeding 8 feet by solid blocking, diagonal bridging, or a continuous 1x3 nailed across the bottom of the joists.

Uninhabitable Attics (L/240)

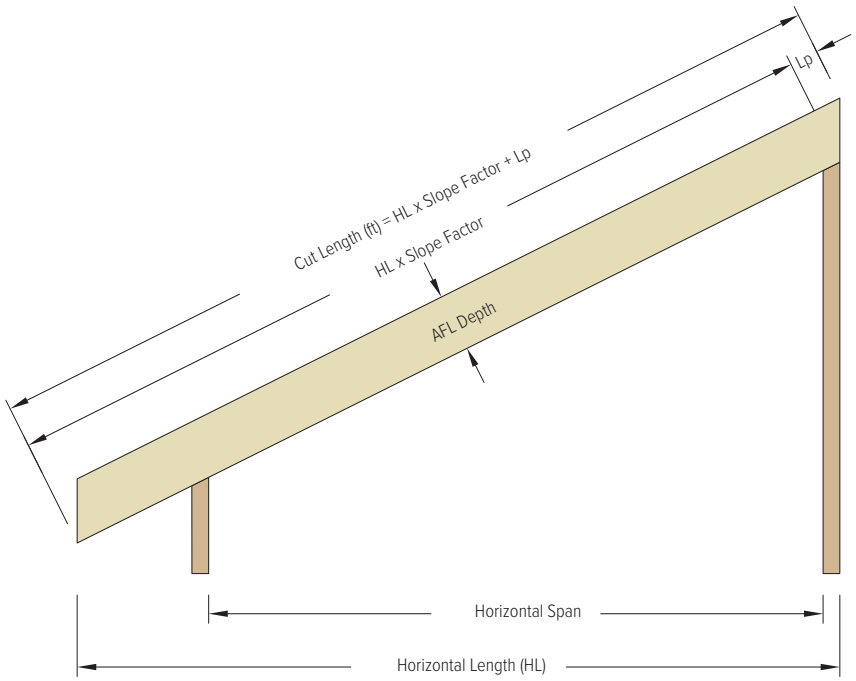
Depth	AFL Grade	Without Storage, 10 psf Live Load, 5 psf Dead Load				With Limited Storage, 20 psf Live Load, 10 psf Dead Load			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
5½"	1.6E	18'-11"	17'-02"	16'-02"	15'-00"	15'-00"	13'-08"	12'-10"	11'-07"
	1.7E	19'-06"	17'-08"	16'-08"	15'-05"	15'-05"	14'-01"	13'-03"	12'-03"
	1.9E	20'-03"	18'-05"	17'-04"	16'-01"	16'-01"	14'-07"	13'-09"	12'-09"
	2.1E	20'-09"	18'-10"	17'-09"	16'-05"	16'-05"	14'-11"	14'-01"	13'-01"
7¼"	1.6E	25'-00"	22'-08"	21'-04"	19'-10"	19'-10"	17'-10"	16'-03"	14'-07"
	1.7E	25'-08"	23'-04"	21'-11"	20'-04"	20'-04"	18'-06"	17'-05"	16'-02"
	1.9E	25'-11"	24'-03"	22'-10"	21'-02"	21'-02"	19'-03"	18'-01"	16'-10"
	2.1E	26'-03"	24'-10"	23'-04"	21'-08"	21'-08"	19'-08"	18'-06"	17'-03"
9¼"	1.6E	30'-08"	27'-10"	26'-02"	25'-02"	25'-02"	21'-10"	19'-11"	17'-10"
	1.7E	31'-06"	28'-07"	26'-11"	25'-10"	25'-10"	23'-07"	22'-03"	20'-08"
	1.9E	31'-09"	29'-09"	28'-00"	26'-00"	26'-00"	24'-07"	23'-01"	21'-05"
	2.1E	31'-09"	30'-05"	28'-08"	26'-07"	26'-07"	25'-02"	23'-08"	21'-11"
9½"	1.6E	31'-05"	28'-07"	26'-11"	25'-09"	25'-09"	22'-04"	20'-04"	18'-03"
	1.7E	31'-09"	29'-05"	27'-08"	25'-10"	25'-10"	24'-03"	22'-10"	21'-02"
	1.9E	31'-09"	30'-07"	28'-09"	26'-08"	26'-08"	25'-03"	23'-09"	22'-00"
	2.1E	31'-09"	31'-03"	29'-05"	27'-04"	27'-04"	25'-10"	24'-03"	22'-07"
11¼"	1.6E	31'-09"	31'-09"	31'-09"	29'-07"	29'-07"	25'-08"	23'-05"	21'-00"
	1.7E	31'-09"	31'-09"	31'-09"	30'-05"	30'-05"	27'-07"	26'-00"	25'-01"
	1.9E	31'-09"	31'-09"	31'-09"	31'-07"	31'-07"	28'-08"	27'-00"	25'-11"
	2.1E	31'-09"	31'-09"	31'-09"	31'-09"	31'-09"	29'-05"	27'-08"	26'-00"
11⅞"	1.6E	31'-09"	31'-09"	31'-09"	31'-00"	31'-00"	26'-10"	24'-06"	21'-11"
	1.7E	31'-09"	31'-09"	31'-09"	31'-09"	31'-09"	29'-02"	27'-05"	25'-10"
	1.9E	31'-09"	31'-09"	31'-09"	31'-09"	31'-09"	30'-04"	28'-06"	26'-06"
	2.1E	31'-09"	31'-09"	31'-09"	31'-09"	31'-09"	31'-00"	29'-02"	27'-01"

NOTES:

1. Design methodology used to develop tabulated spans is similar to that used in Table R802.4 of the 2012 and 2015 IRC (Table R802.5.1 of the 2018 and 2021 IRC).
2. Live load deflection is limited to L/240, and for spans exceeding 26 feet, total load deflection is limited to L/180.
3. The ends of each joist shall have not less than 1½" of bearing.
4. At least one edge of the joist shall be held in line for its entire length to prevent lateral displacement.

ROOF SLOPE FACTORS & PLUMB CUT INCREASES

	Slope (/12) & Slope Factor												
	2½	3	3½	4	4½	5	6	7	8	9	10	11	12
	1.021	1.031	1.042	1.054	1.068	1.083	1.118	1.158	1.202	1.250	1.302	1.357	1.414
Joist Depth	Amount to Increase Length for Plumb Cut (Lp in feet)												
7¼"	0.126	0.151	0.176	0.201	0.227	0.252	0.302	0.352	0.403	0.453	0.503	0.554	0.604
9¼"	0.161	0.193	0.225	0.257	0.289	0.321	0.385	0.450	0.514	0.578	0.642	0.707	0.771
9½"	0.165	0.198	0.231	0.264	0.297	0.330	0.396	0.462	0.528	0.594	0.660	0.726	0.792
11¼"	0.195	0.234	0.273	0.313	0.352	0.391	0.469	0.547	0.625	0.703	0.781	0.859	0.938
11⅞"	0.206	0.247	0.289	0.330	0.371	0.412	0.495	0.577	0.660	0.742	0.825	0.907	0.990
14"	0.243	0.292	0.340	0.389	0.438	0.486	0.583	0.681	0.778	0.875	0.972	1.069	1.167
16"	0.278	0.333	0.389	0.444	0.500	0.556	0.667	0.778	0.889	1.000	1.111	1.222	1.333



EXAMPLE:
11⅞" AFL, 6/12 slope, 15' 8½" Horizontal Span, 2' overhang (horizontal) and 3½" walls.

Cut-length
HL = 2' + 3½" + 15' 8½" + 3½" = 18' 3½"
3.5"/12 = .292' , 18' + .292' = 18.292'
18.292' x 1.118 (Slope Factor from chart) = 20.45'
20.45' + .495' (Lp from chart) = 20.945' (20')
0.945' x 12 = 11.34" (11")
0.34" x 16 = 5.44, round to 6 (sixteenths)
Cut Length = 20' 11⅜"

Roof - 20 PSF Live Load (L/240) + 10 PSF Dead Load

125% - NON-SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	19'-06"	17'-08"	16'-08"	15'-05"	18'-08"	16'-11"	15'-11"	14'-10"	17'-08"	16'-00"	15'-01"	14'-00"
	1.7E	20'-00"	18'-02"	17'-01"	15'-11"	19'-02"	17'-05"	16'-05"	15'-03"	18'-02"	16'-06"	15'-06"	14'-05"
	1.9E	20'-10"	18'-11"	17'-09"	16'-06"	19'-11"	18'-01"	17'-00"	15'-10"	18'-10"	17'-02"	16'-02"	15'-00"
	2.1E	21'-04"	19'-04"	18'-03"	16'-11"	20'-05"	18'-06"	17'-05"	16'-02"	19'-04"	17'-07"	16'-06"	15'-04"
9¼"	1.6E	24'-10"	22'-07"	21'-03"	19'-09"	23'-09"	21'-07"	20'-04"	18'-10"	22'-06"	20'-06"	19'-03"	17'-11"
	1.7E	25'-06"	23'-02"	21'-10"	20'-03"	24'-05"	22'-03"	20'-11"	19'-05"	23'-02"	21'-00"	19'-10"	18'-05"
	1.9E	26'-07"	24'-01"	22'-08"	21'-01"	25'-05"	23'-01"	21'-09"	20'-02"	24'-01"	21'-10"	20'-07"	19'-01"
	2.1E	27'-02"	24'-08"	23'-03"	21'-07"	26'-00"	23'-08"	22'-03"	20'-08"	24'-08"	22'-05"	21'-01"	19'-07"
9½"	1.6E	25'-06"	23'-02"	21'-10"	20'-03"	24'-05"	22'-02"	20'-11"	19'-05"	23'-02"	21'-00"	19'-09"	18'-04"
	1.7E	26'-03"	23'-10"	22'-05"	20'-10"	25'-01"	22'-10"	21'-06"	19'-11"	23'-09"	21'-07"	20'-04"	18'-11"
	1.9E	27'-03"	24'-09"	23'-04"	21'-08"	26'-01"	23'-09"	22'-04"	20'-09"	24'-09"	22'-06"	21'-02"	19'-07"
	2.1E	27'-11"	25'-04"	23'-10"	22'-02"	26'-09"	24'-03"	22'-10"	21'-03"	25'-04"	23'-00"	21'-08"	20'-01"
11¼"	1.6E	30'-03"	27'-05"	25'-10"	23'-05"	28'-11"	26'-03"	24'-09"	22'-11"	26'-04"	24'-11"	23'-05"	21'-09"
	1.7E	31'-01"	28'-03"	26'-07"	24'-08"	29'-09"	27'-00"	25'-05"	23'-07"	26'-04"	25'-07"	24'-01"	22'-04"
	1.9E	31'-08"	29'-04"	27'-07"	25'-08"	30'-00"	28'-01"	26'-05"	24'-06"	26'-04"	26'-04"	25'-00"	23'-03"
	2.1E	31'-08"	30'-00"	28'-03"	26'-03"	30'-00"	28'-09"	27'-01"	25'-01"	26'-04"	26'-04"	25'-08"	23'-09"
11⅞"	1.6E	31'-08"	29'-00"	27'-03"	24'-06"	30'-00"	27'-09"	26'-01"	24'-03"	26'-04"	26'-03"	24'-09"	22'-11"
	1.7E	31'-08"	29'-09"	28'-00"	26'-00"	30'-00"	28'-06"	26'-10"	24'-11"	26'-04"	26'-04"	25'-05"	23'-07"
	1.9E	31'-08"	31'-00"	29'-02"	27'-01"	30'-00"	29'-08"	27'-11"	25'-11"	26'-04"	26'-04"	26'-04"	24'-06"
	2.1E	31'-08"	31'-08"	29'-10"	27'-08"	30'-00"	30'-00"	28'-07"	26'-06"	26'-04"	26'-04"	26'-04"	25'-01"
14"	1.6E	31'-08"	31'-08"	31'-05"	28'-01"	30'-00"	30'-00"	30'-00"	28'-01"	26'-04"	26'-04"	26'-04"	26'-04"
	1.7E	31'-08"	31'-08"	31'-08"	30'-08"	30'-00"	30'-00"	30'-00"	29'-04"	26'-04"	26'-04"	26'-04"	26'-04"
	1.9E	31'-08"	31'-08"	31'-08"	31'-08"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"
	2.1E	31'-08"	31'-08"	31'-08"	31'-08"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"
16"	1.6E	31'-08"	31'-08"	31'-08"	31'-05"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"
	1.7E	31'-08"	31'-08"	31'-08"	31'-08"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"
	1.9E	31'-08"	31'-08"	31'-08"	31'-08"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"
	2.1E	31'-08"	31'-08"	31'-08"	31'-08"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"

NOTES:

1. Design methodology used to develop tabulated spans is similar to that used for dimension lumber in Table R802.5.1 of the 2012 and 2015 International Residential Code (Table R802.4.1 of the 2018 and 2021 IRC), including dead loads being applied to the horizontal projection of the span. However, to assure deflection criteria are met regardless of slope, deflection is checked on the up-the-slope spans.
2. Spans are clear distances between supports, measured along the horizontal projection of the rafter.
3. Depending on span, slope, and depth, required rafter lengths might exceed 32', the maximum available length of AFL. Please refer to page 7 to determine up-the-slope rafter lengths, including allowance for bearing and plumb cuts, prior to ordering materials.
4. Unless noted otherwise, the ends of each rafter shall have not less than 1¾" of bearing. Assumes SPF bearing plate ($F_{c\perp}$ = 425 psi).
5. The top edge of the rafter shall be held in line for its entire length to prevent lateral displacement, as by adequate sheathing.
6. For 11⅞", 14", and 16" rafters, provide lateral support at points of bearing to prevent rotation. When rafters are attached to ceiling joists at points of bearing, the lateral support is not required.
7. 14" and 16" rafters shall be supported laterally at intervals not exceeding 8 feet by solid blocking, diagonal bridging, or a continuous 1x3 nailed across the bottom of the rafters.
8. Rafters may be used with ridge beams or with ridge boards.
9. If used with ridge boards, the tabulated rafter spans assume that ceiling joists are located at the bottom of the attic space or that some other method of resisting the outward push of the rafters on the bearing walls, such as rafter ties, is provided at that location.
10. Longer spans may be possible for a specific slope. Shorter bearing lengths may be possible depending on slope, span, and bearing plate material. To check these, or to determine spans for other load conditions or deflection criteria, use isDesign® software.

Roof - 20 PSF Live Load (L/240) + 20 PSF Dead Load

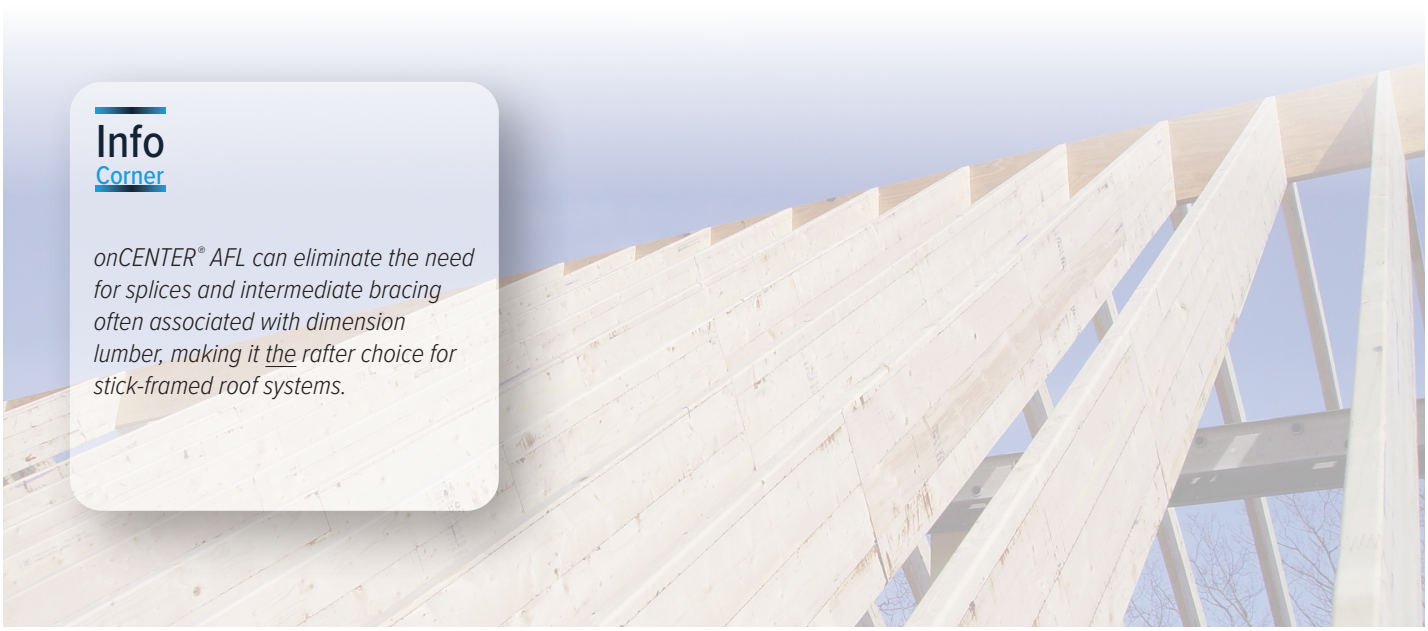
125% - NON-SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	17'-00"	15'-05"	14'-07"	13'-06"	16'-03"	14'-10"	13'-11"	12'-11"	15'-05"	14'-00"	13'-02"	12'-03"
	1.7E	17'-06"	15'-11"	14'-11"	13'-11"	16'-09"	15'-03"	14'-04"	13'-03"	15'-10"	14'-05"	13'-07"	12'-07"
	1.9E	18'-02"	16'-06"	15'-07"	14'-05"	17'-05"	15'-10"	14'-11"	13'-10"	16'-06"	15'-00"	14'-01"	13'-01"
	2.1E	18'-07"	16'-11"	15'-11"	14'-09"	17'-10"	16'-02"	15'-03"	14'-02"	16'-10"	15'-04"	14'-05"	13'-05"
9¼"	1.6E	21'-08"	19'-09"	18'-07"	17'-03"	20'-09"	18'-10"	17'-09"	16'-06"	19'-08"	17'-11"	16'-10"	15'-07"
	1.7E	22'-04"	20'-03"	19'-01"	17'-09"	21'-04"	19'-05"	18'-03"	16'-11"	20'-03"	18'-05"	17'-04"	16'-01"
	1.9E	23'-02"	21'-01"	19'-10"	18'-05"	22'-02"	20'-02"	19'-00"	17'-07"	21'-00"	19'-01"	18'-00"	16'-08"
	2.1E	23'-09"	21'-07"	20'-04"	18'-10"	22'-09"	20'-08"	19'-05"	18'-00"	21'-06"	19'-07"	18'-05"	17'-01"
9½"	1.6E	22'-03"	20'-03"	19'-01"	17'-08"	21'-04"	19'-05"	18'-03"	16'-11"	20'-02"	18'-04"	17'-03"	16'-00"
	1.7E	22'-11"	20'-10"	19'-07"	18'-02"	21'-11"	19'-11"	18'-09"	17'-05"	20'-09"	18'-11"	17'-09"	16'-06"
	1.9E	23'-10"	21'-08"	20'-04"	18'-11"	22'-10"	20'-09"	19'-06"	18'-01"	21'-07"	19'-07"	18'-06"	17'-02"
	2.1E	24'-05"	22'-02"	20'-10"	19'-04"	23'-04"	21'-03"	20'-00"	18'-06"	22'-01"	20'-01"	18'-11"	17'-07"
11¼"	1.6E	26'-05"	24'-00"	22'-07"	20'-04"	25'-03"	22'-11"	21'-07"	20'-01"	23'-11"	21'-09"	20'-06"	19'-00"
	1.7E	27'-02"	24'-08"	23'-02"	21'-06"	26'-00"	23'-07"	22'-02"	20'-07"	24'-07"	22'-04"	21'-00"	19'-06"
	1.9E	28'-02"	25'-08"	24'-01"	22'-05"	27'-00"	24'-06"	23'-01"	21'-05"	25'-07"	23'-03"	21'-10"	20'-04"
	2.1E	28'-11"	26'-03"	24'-08"	22'-11"	27'-08"	25'-01"	23'-08"	21'-11"	26'-02"	23'-09"	22'-05"	20'-09"
11⅞"	1.6E	27'-10"	25'-04"	23'-09"	21'-03"	26'-08"	24'-03"	22'-10"	21'-02"	25'-03"	22'-11"	21'-07"	20'-01"
	1.7E	28'-08"	26'-00"	24'-06"	22'-09"	27'-05"	24'-11"	23'-05"	21'-09"	26'-00"	23'-07"	22'-02"	20'-07"
	1.9E	29'-09"	27'-01"	25'-05"	23'-08"	28'-06"	25'-11"	24'-04"	22'-07"	26'-04"	24'-06"	23'-01"	21'-05"
	2.1E	30'-06"	27'-08"	26'-01"	24'-02"	29'-02"	26'-06"	24'-11"	23'-02"	26'-04"	25'-01"	23'-08"	21'-11"
14"	1.6E	31'-08"	29'-10"	27'-03"	24'-04"	30'-00"	28'-07"	26'-11"	24'-04"	26'-04"	26'-04"	25'-06"	23'-08"
	1.7E	31'-08"	30'-08"	28'-10"	26'-10"	30'-00"	29'-04"	27'-08"	25'-08"	26'-04"	26'-04"	26'-02"	24'-04"
	1.9E	31'-08"	31'-08"	30'-00"	27'-10"	30'-00"	30'-00"	28'-09"	26'-08"	26'-04"	26'-04"	26'-04"	25'-03"
	2.1E	31'-08"	31'-08"	30'-09"	28'-06"	30'-00"	30'-00"	29'-05"	27'-04"	26'-04"	26'-04"	26'-04"	25'-10"
16"	1.6E	31'-08"	31'-08"	30'-05"	27'-02"	30'-00"	30'-00"	30'-00"	27'-02"	26'-04"	26'-04"	26'-04"	26'-04"
	1.7E	31'-08"	31'-08"	31'-08"	30'-08"	30'-00"	30'-00"	30'-00"	29'-04"	26'-04"	26'-04"	26'-04"	26'-04"
	1.9E	31'-08"	31'-08"	31'-08"	31'-08"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"
	2.1E	31'-08"	31'-08"	31'-08"	31'-08"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"

1. In addition to the L/240 code requirement for live load deflection, spans in the above table have been limited so that dead load deflection does not exceed L/360 of the up-the-slope span.
2. See notes on page 8.

Roof - 30 PSF Live Load (L/240) + 10 PSF Dead Load

115% - SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	17'-00"	15'-05"	14'-07"	13'-06"	16'-03"	14'-10"	13'-11"	12'-11"	15'-05"	14'-00"	13'-02"	12'-03"
	1.7E	17'-06"	15'-11"	14'-11"	13'-11"	16'-09"	15'-03"	14'-04"	13'-03"	15'-10"	14'-05"	13'-07"	12'-07"
	1.9E	18'-02"	16'-06"	15'-07"	14'-05"	17'-05"	15'-10"	14'-11"	13'-10"	16'-06"	15'-00"	14'-01"	13'-01"
	2.1E	18'-07"	16'-11"	15'-11"	14'-09"	17'-10"	16'-02"	15'-03"	14'-02"	16'-10"	15'-04"	14'-05"	13'-05"
9¼"	1.6E	21'-08"	19'-09"	18'-06"	16'-07"	20'-09"	18'-10"	17'-09"	16'-06"	19'-08"	17'-11"	16'-10"	15'-07"
	1.7E	22'-04"	20'-03"	19'-01"	17'-09"	21'-04"	19'-05"	18'-03"	16'-11"	20'-03"	18'-05"	17'-04"	16'-01"
	1.9E	23'-02"	21'-01"	19'-10"	18'-05"	22'-02"	20'-02"	19'-00"	17'-07"	21'-00"	19'-01"	18'-00"	16'-08"
	2.1E	23'-09"	21'-07"	20'-04"	18'-10"	22'-09"	20'-08"	19'-05"	18'-00"	21'-06"	19'-07"	18'-05"	17'-01"
9½"	1.6E	22'-03"	20'-03"	18'-11"	16'-11"	21'-04"	19'-05"	18'-03"	16'-11"	20'-02"	18'-04"	17'-03"	16'-00"
	1.7E	22'-11"	20'-10"	19'-07"	18'-02"	21'-11"	19'-11"	18'-09"	17'-05"	20'-09"	18'-11"	17'-09"	16'-06"
	1.9E	23'-10"	21'-08"	20'-04"	18'-11"	22'-10"	20'-09"	19'-06"	18'-01"	21'-07"	19'-07"	18'-06"	17'-02"
	2.1E	24'-05"	22'-02"	20'-10"	19'-04"	23'-04"	21'-03"	20'-00"	18'-06"	22'-01"	20'-01"	18'-11"	17'-07"
11¼"	1.6E	26'-05"	23'-10"	21'-09"	19'-06"	25'-03"	22'-11"	21'-07"	19'-06"	23'-11"	21'-09"	20'-06"	19'-00"
	1.7E	27'-02"	24'-08"	23'-02"	21'-06"	26'-00"	23'-07"	22'-02"	20'-07"	24'-07"	22'-04"	21'-00"	19'-06"
	1.9E	28'-02"	25'-08"	24'-01"	22'-05"	27'-00"	24'-06"	23'-01"	21'-05"	25'-07"	23'-03"	21'-10"	20'-04"
	2.1E	28'-11"	26'-03"	24'-08"	22'-11"	27'-08"	25'-01"	23'-08"	21'-11"	26'-02"	23'-09"	22'-05"	20'-09"
11⅞"	1.6E	27'-10"	24'-11"	22'-09"	20'-04"	26'-08"	24'-03"	22'-09"	20'-04"	25'-03"	22'-11"	21'-07"	20'-01"
	1.7E	28'-08"	26'-00"	24'-06"	22'-09"	27'-05"	24'-11"	23'-05"	21'-09"	26'-00"	23'-07"	22'-02"	20'-07"
	1.9E	29'-09"	27'-01"	25'-05"	23'-08"	28'-06"	25'-11"	24'-04"	22'-07"	26'-04"	24'-06"	23'-01"	21'-05"
	2.1E	30'-06"	27'-08"	26'-01"	24'-02"	29'-02"	26'-06"	24'-11"	23'-02"	26'-04"	25'-01"	23'-08"	21'-11"
14"	1.6E	31'-08"	28'-07"	26'-01"	23'-04"	30'-00"	28'-07"	26'-01"	23'-04"	26'-04"	26'-04"	25'-06"	23'-04"
	1.7E	31'-08"	30'-08"	28'-10"	26'-10"	30'-00"	29'-04"	27'-08"	25'-08"	26'-04"	26'-04"	26'-02"	24'-04"
	1.9E	31'-08"	31'-08"	30'-00"	27'-10"	30'-00"	30'-00"	28'-09"	26'-08"	26'-04"	26'-04"	26'-04"	25'-03"
	2.1E	31'-08"	31'-08"	30'-09"	28'-06"	30'-00"	30'-00"	29'-05"	27'-04"	26'-04"	26'-04"	26'-04"	25'-10"
16"	1.6E	31'-08"	31'-08"	29'-02"	26'-01"	30'-00"	30'-00"	29'-02"	26'-01"	26'-04"	26'-04"	26'-04"	26'-01"
	1.7E	31'-08"	31'-08"	31'-08"	30'-08"	30'-00"	30'-00"	30'-00"	29'-04"	26'-04"	26'-04"	26'-04"	26'-04"
	1.9E	31'-08"	31'-08"	31'-08"	31'-08"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"
	2.1E	31'-08"	31'-08"	31'-08"	31'-08"	30'-00"	30'-00"	30'-00"	30'-00"	26'-04"	26'-04"	26'-04"	26'-04"

1. See notes on page 8.



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onCENTER® AFL can eliminate the need for splices and intermediate bracing often associated with dimension lumber, making it the rafter choice for stick-framed roof systems.

Roof - 30 PSF Live Load (L/240) + 20 PSF Dead Load

115% - SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	17'-00"	14'-10"	13'-06"	12'-01"	16'-03"	14'-10"	13'-06"	12'-01"	15'-05"	14'-00"	13'-02"	12'-01"
	1.7E	17'-06"	15'-11"	14'-11"	13'-11"	16'-09"	15'-03"	14'-04"	13'-03"	15'-10"	14'-05"	13'-07"	12'-07"
	1.9E	18'-02"	16'-06"	15'-07"	14'-05"	17'-05"	15'-10"	14'-11"	13'-10"	16'-06"	15'-00"	14'-01"	13'-01"
	2.1E	18'-07"	16'-11"	15'-11"	14'-09"	17'-10"	16'-02"	15'-03"	14'-02"	16'-10"	15'-04"	14'-05"	13'-05"
9¼"	1.6E	20'-11"	18'-02"	16'-07"	14'-10"	20'-09"	18'-02"	16'-07"	14'-10"	19'-08"	17'-11"	16'-07"	14'-10"
	1.7E	22'-04"	20'-03"	19'-01"	17'-09"	21'-04"	19'-05"	18'-03"	16'-11"	20'-03"	18'-05"	17'-04"	16'-01"
	1.9E	23'-02"	21'-01"	19'-10"	18'-05"	22'-02"	20'-02"	19'-00"	17'-07"	21'-00"	19'-01"	18'-00"	16'-08"
	2.1E	23'-09"	21'-07"	20'-04"	18'-10"	22'-09"	20'-08"	19'-05"	18'-00"	21'-06"	19'-07"	18'-05"	17'-01"
9½"	1.6E	21'-05"	18'-06"	16'-11"	15'-02"	21'-04"	18'-06"	16'-11"	15'-02"	20'-02"	18'-04"	16'-11"	15'-02"
	1.7E	22'-11"	20'-10"	19'-07"	18'-02"	21'-11"	19'-11"	18'-09"	17'-05"	20'-09"	18'-11"	17'-09"	16'-06"
	1.9E	23'-10"	21'-08"	20'-04"	18'-11"	22'-10"	20'-09"	19'-06"	18'-01"	21'-07"	19'-07"	18'-06"	17'-02"
	2.1E	24'-05"	22'-02"	20'-10"	19'-04"	23'-04"	21'-03"	20'-00"	18'-06"	22'-01"	20'-01"	18'-11"	17'-07"
11¼"	1.6E	24'-08"	21'-04"	19'-06"	17'-05"	24'-08"	21'-04"	19'-06"	17'-05"	23'-11"	21'-04"	19'-06"	17'-05"
	1.7E	27'-02"	24'-08"	23'-02"	21'-03"	26'-00"	23'-07"	22'-02"	20'-07"	24'-07"	22'-04"	21'-00"	19'-06"
	1.9E	28'-02"	25'-08"	24'-01"	22'-05"	27'-00"	24'-06"	23'-01"	21'-05"	25'-07"	23'-03"	21'-10"	20'-04"
	2.1E	28'-11"	26'-03"	24'-08"	22'-11"	27'-08"	25'-01"	23'-08"	21'-11"	26'-02"	23'-09"	22'-05"	20'-09"
11⅞"	1.6E	25'-09"	22'-04"	20'-04"	18'-03"	25'-09"	22'-04"	20'-04"	18'-03"	25'-03"	22'-04"	20'-04"	18'-03"
	1.7E	28'-08"	26'-00"	24'-06"	22'-04"	27'-05"	24'-11"	23'-05"	21'-09"	26'-00"	23'-07"	22'-02"	20'-07"
	1.9E	29'-09"	27'-01"	25'-05"	23'-08"	28'-06"	25'-11"	24'-04"	22'-07"	26'-04"	24'-06"	23'-01"	21'-05"
	2.1E	30'-06"	27'-08"	26'-01"	24'-02"	29'-02"	26'-06"	24'-11"	23'-02"	26'-04"	25'-01"	23'-08"	21'-11"
14"	1.6E	29'-06"	25'-07"	23'-04"	20'-11"	29'-06"	25'-07"	23'-04"	20'-11"	26'-04"	25'-07"	23'-04"	20'-11"
	1.7E	31'-08"	30'-08"	28'-09"	25'-09"	30'-00"	29'-04"	27'-08"	25'-08"	26'-04"	26'-04"	26'-02"	24'-04"
	1.9E	31'-08"	31'-08"	30'-00"	***27'-10"***	30'-00"	30'-00"	28'-09"	26'-08"	26'-04"	26'-04"	26'-04"	25'-03"
	2.1E	31'-08"	31'-08"	30'-09"	***28'-06"***	30'-00"	30'-00"	29'-05"	27'-04"	26'-04"	26'-04"	26'-04"	25'-10"
16"	1.6E	31'-08"	28'-07"	26'-01"	***23'-04"***	30'-00"	28'-07"	26'-01"	***23'-04"***	26'-04"	26'-04"	26'-01"	***23'-04"***
	1.7E	31'-08"	31'-08"	31'-08"	***28'-11"***	30'-00"	30'-00"	30'-00"	***28'-11"***	26'-04"	26'-04"	26'-04"	26'-04"
	1.9E	31'-08"	31'-08"	31'-08"	***31'-07"***	30'-00"	30'-00"	30'-00"	***30'-00"***	26'-04"	26'-04"	26'-04"	26'-04"
	2.1E	31'-08"	31'-08"	31'-08"	***31'-07"***	30'-00"	30'-00"	30'-00"	***30'-00"***	26'-04"	26'-04"	26'-04"	26'-04"

1. Minimum bearing is 1¾" (2⅛" for spans in ***bold italics***).
2. See notes on page 8.

Roof - 35 PSF Live Load (L/240) + 10 PSF Dead Load

115% - SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	16'-02"	14'-08"	13'-10"	12'-09"	15'-06"	14'-01"	13'-03"	12'-03"	14'-08"	13'-04"	12'-06"	11'-08"
	1.7E	16'-07"	15'-01"	14'-02"	13'-02"	15'-11"	14'-05"	13'-07"	12'-07"	15'-01"	13'-08"	12'-11"	11'-11"
	1.9E	17'-03"	15'-08"	14'-09"	13'-08"	16'-06"	15'-00"	14'-02"	13'-01"	15'-08"	14'-03"	13'-05"	12'-05"
	2.1E	17'-08"	16'-01"	15'-01"	14'-00"	16'-11"	15'-05"	14'-06"	13'-05"	16'-00"	14'-07"	13'-08"	12'-09"
9¼"	1.6E	20'-07"	18'-09"	17'-05"	15'-07"	19'-09"	17'-11"	16'-10"	15'-07"	18'-08"	17'-00"	16'-00"	14'-10"
	1.7E	21'-02"	19'-03"	18'-01"	16'-10"	20'-03"	18'-05"	17'-04"	16'-01"	19'-03"	17'-06"	16'-05"	15'-03"
	1.9E	22'-00"	20'-00"	18'-10"	17'-06"	21'-01"	19'-02"	18'-00"	16'-09"	20'-00"	18'-02"	17'-01"	15'-10"
	2.1E	22'-07"	20'-06"	19'-03"	17'-11"	21'-07"	19'-07"	18'-06"	17'-02"	20'-05"	18'-07"	17'-06"	16'-03"
9½"	1.6E	21'-02"	19'-03"	17'-10"	15'-11"	20'-03"	18'-05"	17'-04"	15'-11"	19'-02"	17'-05"	16'-05"	15'-03"
	1.7E	21'-09"	19'-09"	18'-07"	17'-03"	20'-10"	18'-11"	17'-10"	16'-06"	19'-09"	17'-11"	16'-10"	15'-08"
	1.9E	22'-08"	20'-07"	19'-04"	18'-00"	21'-08"	19'-08"	18'-06"	17'-02"	20'-06"	18'-08"	17'-06"	16'-03"
	2.1E	23'-02"	21'-01"	19'-10"	18'-05"	22'-02"	20'-02"	19'-00"	17'-07"	21'-00"	19'-01"	17'-11"	16'-08"
11¼"	1.6E	25'-01"	22'-06"	20'-06"	18'-04"	24'-00"	21'-10"	20'-06"	18'-04"	22'-09"	20'-08"	19'-05"	18'-01"
	1.7E	25'-09"	23'-05"	22'-00"	20'-06"	24'-08"	22'-05"	21'-01"	19'-07"	23'-04"	21'-03"	20'-00"	18'-07"
	1.9E	26'-10"	24'-04"	22'-11"	21'-03"	25'-08"	23'-04"	21'-11"	20'-04"	24'-04"	22'-01"	20'-09"	19'-03"
	2.1E	27'-05"	24'-11"	23'-05"	21'-09"	26'-03"	23'-10"	22'-05"	20'-10"	24'-10"	22'-07"	21'-03"	19'-09"
11⅞"	1.6E	26'-06"	23'-06"	21'-06"	19'-02"	25'-04"	23'-00"	21'-06"	19'-02"	24'-00"	21'-10"	20'-06"	19'-01"
	1.7E	27'-03"	24'-09"	23'-03"	21'-07"	26'-01"	23'-08"	22'-03"	20'-08"	24'-08"	22'-05"	21'-01"	19'-07"
	1.9E	28'-03"	25'-08"	24'-02"	22'-05"	27'-01"	24'-07"	23'-02"	21'-06"	25'-08"	23'-04"	21'-11"	20'-04"
	2.1E	28'-11"	26'-04"	24'-09"	23'-00"	27'-09"	25'-02"	23'-08"	22'-00"	26'-03"	23'-10"	22'-05"	20'-10"
14"	1.6E	31'-02"	26'-11"	24'-07"	22'-00"	29'-10"	26'-11"	24'-07"	22'-00"	26'-04"	25'-08"	24'-02"	22'-00"
	1.7E	31'-08"	29'-02"	27'-05"	25'-06"	30'-00"	27'-11"	26'-03"	24'-04"	26'-04"	26'-04"	24'-10"	23'-01"
	1.9E	31'-08"	30'-04"	28'-06"	26'-06"	30'-00"	29'-00"	27'-03"	25'-04"	26'-04"	26'-04"	25'-10"	24'-00"
	2.1E	31'-08"	31'-00"	29'-02"	27'-01"	30'-00"	29'-08"	27'-11"	25'-11"	26'-04"	26'-04"	26'-04"	24'-07"
16"	1.6E	31'-08"	30'-01"	27'-06"	***24'-07"***	30'-00"	30'-00"	27'-06"	***24'-07"***	26'-04"	26'-04"	26'-04"	***24'-07"***
	1.7E	31'-08"	31'-08"	31'-04"	29'-01"	30'-00"	30'-00"	30'-00"	27'-10"	26'-04"	26'-04"	26'-04"	26'-04"
	1.9E	31'-08"	31'-08"	31'-08"	30'-03"	30'-00"	30'-00"	30'-00"	28'-11"	26'-04"	26'-04"	26'-04"	26'-04"
	2.1E	31'-08"	31'-08"	31'-08"	***31'-00"***	30'-00"	30'-00"	30'-00"	29'-08"	26'-04"	26'-04"	26'-04"	26'-04"

1. Minimum bearing is 1¾" (1⅞" for spans in ***bold italics***).
2. See notes on page 8.

Roof - 35 PSF Live Load (L/240) + 20 PSF Dead Load

115% - SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	16'-02"	14'-01"	12'-11"	11'-06"	15'-06"	14'-01"	12'-11"	11'-06"	14'-08"	13'-04"	12'-06"	11'-06"
	1.7E	16'-07"	15'-01"	14'-02"	13'-02"	15'-11"	14'-05"	13'-07"	12'-07"	15'-01"	13'-08"	12'-11"	11'-11"
	1.9E	17'-03"	15'-08"	14'-09"	13'-08"	16'-06"	15'-00"	14'-02"	13'-01"	15'-08"	14'-03"	13'-05"	12'-05"
	2.1E	17'-08"	16'-01"	15'-01"	14'-00"	16'-11"	15'-05"	14'-06"	13'-05"	16'-00"	14'-07"	13'-08"	12'-09"
9¼"	1.6E	20'-00"	17'-03"	15'-09"	14'-01"	19'-09"	17'-03"	15'-09"	14'-01"	18'-08"	17'-00"	15'-09"	14'-01"
	1.7E	21'-02"	19'-03"	18'-01"	16'-10"	20'-03"	18'-05"	17'-04"	16'-01"	19'-03"	17'-06"	16'-05"	15'-03"
	1.9E	22'-00"	20'-00"	18'-10"	17'-06"	21'-01"	19'-02"	18'-00"	16'-09"	20'-00"	18'-02"	17'-01"	15'-10"
	2.1E	22'-07"	20'-06"	19'-03"	17'-11"	21'-07"	19'-07"	18'-06"	17'-02"	20'-05"	18'-07"	17'-06"	16'-03"
9½"	1.6E	20'-05"	17'-08"	16'-02"	14'-05"	20'-03"	17'-08"	16'-02"	14'-05"	19'-02"	17'-05"	16'-02"	14'-05"
	1.7E	21'-09"	19'-09"	18'-07"	17'-03"	20'-10"	18'-11"	17'-10"	16'-06"	19'-09"	17'-11"	16'-10"	15'-08"
	1.9E	22'-08"	20'-07"	19'-04"	18'-00"	21'-08"	19'-08"	18'-06"	17'-02"	20'-06"	18'-08"	17'-06"	16'-03"
	2.1E	23'-02"	21'-01"	19'-10"	18'-05"	22'-02"	20'-02"	19'-00"	17'-07"	21'-00"	19'-01"	17'-11"	16'-08"
11¼"	1.6E	23'-06"	20'-04"	18'-07"	16'-07"	23'-06"	20'-04"	18'-07"	16'-07"	22'-09"	20'-04"	18'-07"	16'-07"
	1.7E	25'-09"	23'-05"	22'-00"	20'-03"	24'-08"	22'-05"	21'-01"	19'-07"	23'-04"	21'-03"	20'-00"	18'-07"
	1.9E	26'-10"	24'-04"	22'-11"	21'-03"	25'-08"	23'-04"	21'-11"	20'-04"	24'-04"	22'-01"	20'-09"	19'-03"
	2.1E	27'-05"	24'-11"	23'-05"	21'-09"	26'-03"	23'-10"	22'-05"	20'-10"	24'-10"	22'-07"	21'-03"	19'-09"
11⅞"	1.6E	24'-07"	21'-03"	19'-05"	17'-04"	24'-07"	21'-03"	19'-05"	17'-04"	24'-00"	21'-03"	19'-05"	17'-04"
	1.7E	27'-03"	24'-09"	23'-03"	21'-03"	26'-01"	23'-08"	22'-03"	20'-08"	24'-08"	22'-05"	21'-01"	19'-07"
	1.9E	28'-03"	25'-08"	24'-02"	22'-05"	27'-01"	24'-07"	23'-02"	21'-06"	25'-08"	23'-04"	21'-11"	20'-04"
	2.1E	28'-11"	26'-04"	24'-09"	23'-00"	27'-09"	25'-02"	23'-08"	22'-00"	26'-03"	23'-10"	22'-05"	20'-10"
14"	1.6E	28'-02"	24'-05"	22'-03"	19'-11"	28'-02"	24'-05"	22'-03"	19'-11"	26'-04"	24'-05"	22'-03"	19'-11"
	1.7E	31'-08"	29'-02"	27'-05"	24'-07"	30'-00"	27'-11"	26'-03"	24'-04"	26'-04"	26'-04"	24'-10"	23'-01"
	1.9E	31'-08"	30'-04"	28'-06"	***26'-06"***	30'-00"	29'-00"	27'-03"	***25'-04"***	26'-04"	26'-04"	25'-10"	24'-00"
	2.1E	31'-08"	31'-00"	29'-02"	***27'-01"***	30'-00"	29'-08"	27'-11"	***25'-11"***	26'-04"	26'-04"	26'-04"	24'-07"
16"	1.6E	31'-05"	27'-03"	24'-10"	***22'-03"***	30'-00"	27'-03"	24'-10"	***22'-03"***	26'-04"	26'-04"	24'-10"	***22'-03"***
	1.7E	31'-08"	31'-08"	30'-10"	***27'-07"***	30'-00"	30'-00"	30'-00"	***27'-07"***	26'-04"	26'-04"	26'-04"	***26'-03"***
	1.9E	31'-08"	31'-08"	***31'-07"***	***30'-03"***	30'-00"	30'-00"	30'-00"	***28'-11"***	26'-04"	26'-04"	26'-04"	***26'-03"***
	2.1E	31'-08"	31'-08"	***31'-07"***	***31'-00"***	30'-00"	30'-00"	30'-00"	***29'-08"***	26'-04"	26'-04"	26'-04"	***26'-03"***

1. Minimum bearing is 1¾" (2¼" for spans in ***bold italics***).
2. See notes on page 8.

Roof - 40 PSF Live Load (L/240) + 10 PSF Dead Load

115% - SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	15'-05"	14'-00"	13'-03"	12'-01"	14'-10"	13'-05"	12'-08"	11'-09"	14'-00"	12'-09"	12'-00"	11'-01"
	1.7E	15'-11"	14'-05"	13'-07"	12'-07"	15'-03"	13'-10"	13'-00"	12'-01"	14'-05"	13'-01"	12'-04"	11'-05"
	1.9E	16'-06"	15'-00"	14'-01"	13'-01"	15'-10"	14'-04"	13'-06"	12'-07"	15'-00"	13'-07"	12'-10"	11'-11"
	2.1E	16'-11"	15'-04"	14'-05"	13'-05"	16'-02"	14'-08"	13'-10"	12'-10"	15'-04"	13'-11"	13'-01"	12'-02"
9¼"	1.6E	19'-09"	17'-11"	16'-07"	14'-10"	18'-10"	17'-02"	16'-02"	14'-10"	17'-11"	16'-03"	15'-03"	14'-02"
	1.7E	20'-03"	18'-05"	17'-04"	16'-01"	19'-05"	17'-08"	16'-07"	15'-05"	18'-05"	16'-08"	15'-09"	14'-07"
	1.9E	21'-01"	19'-02"	18'-00"	16'-09"	20'-02"	18'-04"	17'-03"	16'-00"	19'-01"	17'-04"	16'-04"	15'-02"
	2.1E	21'-07"	19'-07"	18'-05"	17'-01"	20'-08"	18'-09"	17'-08"	16'-05"	19'-07"	17'-09"	16'-09"	15'-06"
9½"	1.6E	20'-03"	18'-05"	16'-11"	15'-02"	19'-05"	17'-07"	16'-07"	15'-02"	18'-04"	16'-08"	15'-08"	14'-07"
	1.7E	20'-10"	18'-11"	17'-10"	16'-06"	19'-11"	18'-01"	17'-00"	15'-10"	18'-11"	17'-02"	16'-02"	15'-00"
	1.9E	21'-08"	19'-08"	18'-06"	17'-02"	20'-09"	18'-10"	17'-09"	16'-05"	19'-07"	17'-10"	16'-09"	15'-07"
	2.1E	22'-02"	20'-02"	18'-11"	17'-07"	21'-03"	19'-03"	18'-02"	16'-10"	20'-01"	18'-03"	17'-02"	15'-11"
11¼"	1.6E	24'-00"	21'-04"	19'-06"	17'-05"	22'-11"	20'-10"	19'-06"	17'-05"	21'-09"	19'-09"	18'-07"	17'-03"
	1.7E	24'-08"	22'-05"	21'-01"	19'-07"	23'-07"	21'-05"	20'-02"	18'-09"	22'-04"	20'-04"	19'-01"	17'-09"
	1.9E	25'-08"	23'-03"	21'-11"	20'-04"	24'-06"	22'-03"	21'-00"	19'-06"	23'-03"	21'-01"	19'-10"	18'-05"
	2.1E	26'-03"	23'-10"	22'-05"	20'-10"	25'-01"	22'-10"	21'-06"	19'-11"	23'-09"	21'-07"	20'-04"	18'-11"
11⅞"	1.6E	25'-04"	22'-04"	20'-04"	18'-03"	24'-03"	22'-00"	20'-04"	18'-03"	22'-11"	20'-10"	19'-07"	18'-03"
	1.7E	26'-00"	23'-08"	22'-03"	20'-08"	24'-11"	22'-08"	21'-04"	19'-09"	23'-07"	21'-05"	20'-02"	18'-09"
	1.9E	27'-01"	24'-07"	23'-02"	21'-06"	25'-11"	23'-06"	22'-02"	20'-07"	24'-06"	22'-03"	21'-00"	19'-06"
	2.1E	27'-08"	25'-02"	23'-08"	22'-00"	26'-06"	24'-01"	22'-08"	21'-01"	25'-01"	22'-10"	21'-06"	19'-11"
14"	1.6E	29'-06"	25'-07"	23'-04"	20'-11"	28'-07"	25'-07"	23'-04"	20'-11"	26'-04"	24'-07"	23'-02"	20'-11"
	1.7E	30'-08"	27'-11"	26'-03"	24'-04"	29'-04"	26'-08"	25'-01"	23'-04"	26'-04"	25'-03"	23'-09"	22'-01"
	1.9E	31'-08"	29'-00"	27'-03"	25'-04"	30'-00"	27'-09"	26'-01"	24'-03"	26'-04"	26'-03"	24'-09"	22'-11"
	2.1E	31'-08"	29'-08"	27'-11"	25'-11"	30'-00"	28'-05"	26'-09"	24'-10"	26'-04"	26'-04"	25'-04"	23'-06"
16"	1.6E	31'-08"	28'-07"	26'-01"	***23'-04"***	30'-00"	28'-07"	26'-01"	***23'-04"***	26'-04"	26'-04"	26'-01"	***23'-04"***
	1.7E	31'-08"	31'-08"	30'-00"	***27'-10"***	30'-00"	30'-00"	28'-08"	26'-08"	26'-04"	26'-04"	26'-04"	25'-03"
	1.9E	31'-08"	31'-08"	31'-02"	***28'-11"***	30'-00"	30'-00"	29'-10"	***27'-08"***	26'-04"	26'-04"	26'-04"	26'-03"
	2.1E	31'-08"	31'-08"	31'-08"	***29'-07"***	30'-00"	30'-00"	30'-00"	***28'-04"***	26'-04"	26'-04"	26'-04"	26'-04"

1. Minimum bearing is 1¾" (2" for spans in ***bold italics***).
2. See notes on page 8.

Roof - 40 PSF Live Load (L/240) + 20 PSF Dead Load

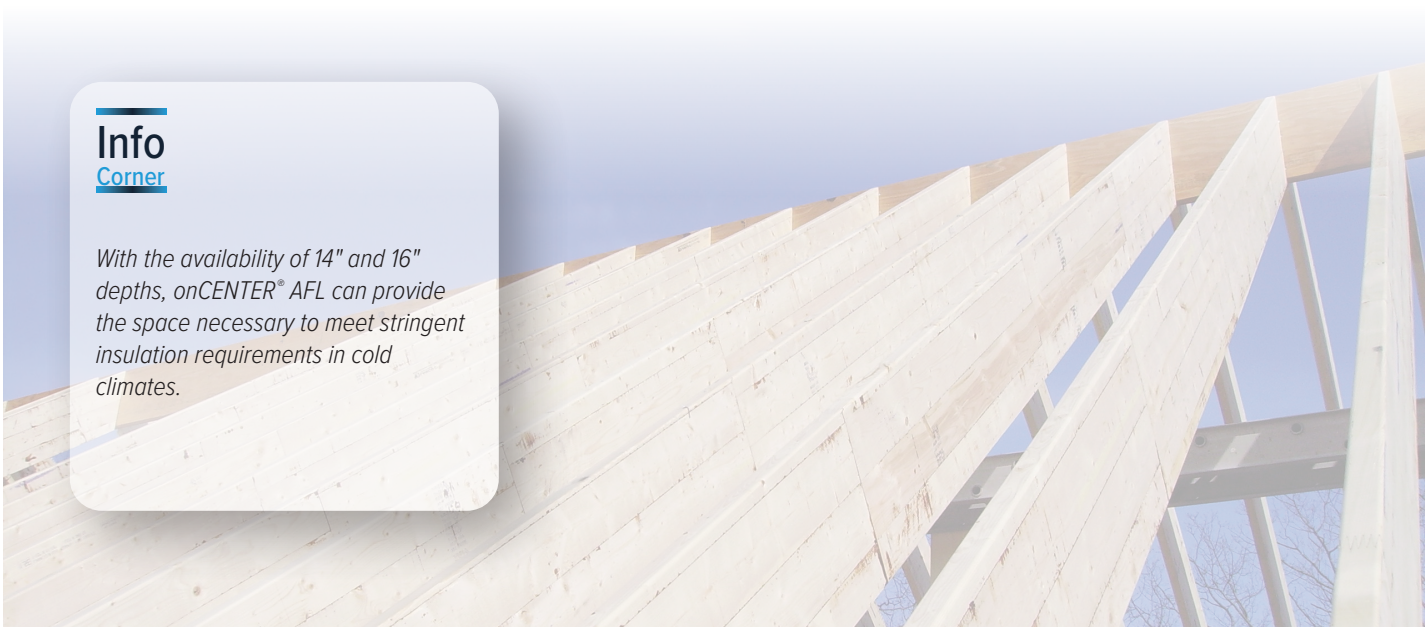
115% - SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	15'-05"	13'-06"	12'-04"	10'-08"	14'-10"	13'-05"	12'-04"	11'-00"	14'-00"	12'-09"	12'-00"	11'-00"
	1.7E	15'-11"	14'-05"	13'-07"	12'-07"	15'-03"	13'-10"	13'-00"	12'-01"	14'-05"	13'-01"	12'-04"	11'-05"
	1.9E	16'-06"	15'-00"	14'-01"	13'-01"	15'-10"	14'-04"	13'-06"	12'-07"	15'-00"	13'-07"	12'-10"	11'-11"
	2.1E	16'-11"	15'-04"	14'-05"	13'-05"	16'-02"	14'-08"	13'-10"	12'-10"	15'-04"	13'-11"	13'-01"	12'-02"
9¼"	1.6E	19'-01"	16'-07"	15'-01"	13'-06"	18'-10"	16'-07"	15'-01"	13'-06"	17'-11"	16'-03"	15'-01"	13'-06"
	1.7E	20'-03"	18'-05"	17'-04"	16'-01"	19'-05"	17'-08"	16'-07"	15'-05"	18'-05"	16'-08"	15'-09"	14'-07"
	1.9E	21'-01"	19'-02"	18'-00"	16'-09"	20'-02"	18'-04"	17'-03"	16'-00"	19'-01"	17'-04"	16'-04"	15'-02"
	2.1E	21'-07"	19'-07"	18'-05"	17'-01"	20'-08"	18'-09"	17'-08"	16'-05"	19'-07"	17'-09"	16'-09"	15'-06"
9½"	1.6E	19'-06"	16'-11"	15'-05"	13'-10"	19'-05"	16'-11"	15'-05"	13'-10"	18'-04"	16'-08"	15'-05"	13'-10"
	1.7E	20'-10"	18'-11"	17'-10"	16'-06"	19'-11"	18'-01"	17'-00"	15'-10"	18'-11"	17'-02"	16'-02"	15'-00"
	1.9E	21'-08"	19'-08"	18'-06"	17'-02"	20'-09"	18'-10"	17'-09"	16'-05"	19'-07"	17'-10"	16'-09"	15'-07"
	2.1E	22'-02"	20'-02"	18'-11"	17'-07"	21'-03"	19'-03"	18'-02"	16'-10"	20'-01"	18'-03"	17'-02"	15'-11"
11¼"	1.6E	22'-06"	19'-06"	17'-09"	15'-11"	22'-06"	19'-06"	17'-09"	15'-11"	21'-09"	19'-06"	17'-09"	15'-11"
	1.7E	24'-08"	22'-05"	21'-01"	19'-05"	23'-07"	21'-05"	20'-02"	18'-09"	22'-04"	20'-04"	19'-01"	17'-09"
	1.9E	25'-08"	23'-03"	21'-11"	20'-04"	24'-06"	22'-03"	21'-00"	19'-06"	23'-03"	21'-01"	19'-10"	18'-05"
	2.1E	26'-03"	23'-10"	22'-05"	20'-10"	25'-01"	22'-10"	21'-06"	19'-11"	23'-09"	21'-07"	20'-04"	18'-11"
11⅞"	1.6E	23'-06"	20'-04"	18'-07"	16'-08"	23'-06"	20'-04"	18'-07"	16'-08"	22'-11"	20'-04"	18'-07"	16'-08"
	1.7E	26'-00"	23'-08"	22'-03"	20'-04"	24'-11"	22'-08"	21'-04"	19'-09"	23'-07"	21'-05"	20'-02"	18'-09"
	1.9E	27'-01"	24'-07"	23'-02"	21'-06"	25'-11"	23'-06"	22'-02"	20'-07"	24'-06"	22'-03"	21'-00"	19'-06"
	2.1E	27'-08"	25'-02"	23'-08"	22'-00"	26'-06"	24'-01"	22'-08"	21'-01"	25'-01"	22'-10"	21'-06"	19'-11"
14"	1.6E	26'-11"	23'-04"	21'-04"	***19'-01"***	26'-11"	23'-04"	21'-04"	***19'-01"***	26'-04"	23'-04"	21'-04"	***19'-01"***
	1.7E	30'-08"	27'-11"	26'-03"	***23'-06"***	29'-04"	26'-08"	25'-01"	***23'-04"***	26'-04"	25'-03"	23'-09"	22'-01"
	1.9E	31'-08"	29'-00"	27'-03"	***25'-04"***	30'-00"	27'-09"	26'-01"	***24'-03"***	26'-04"	26'-03"	24'-09"	***22'-11"***
	2.1E	31'-08"	29'-08"	27'-11"	***25'-11"***	30'-00"	28'-05"	26'-09"	***24'-10"***	26'-04"	26'-04"	25'-04"	***23'-06"***
16"	1.6E	30'-01"	26'-01"	***23'-10"***	***21'-04"***	30'-00"	26'-01"	***23'-10"***	***21'-04"***	26'-04"	26'-01"	***23'-10"***	***21'-04"***
	1.7E	31'-08"	31'-08"	***29'-06"***	***26'-05"***	30'-00"	30'-00"	***28'-08"***	***26'-05"***	26'-04"	26'-04"	26'-04"	***25'-03"***
	1.9E	31'-08"	31'-08"	***31'-02"***	***28'-11"***	30'-00"	30'-00"	***29'-10"***	***27'-08"***	26'-04"	26'-04"	26'-04"	***26'-02"***
	2.1E	31'-08"	31'-08"	***31'-07"***	***29'-07"***	30'-00"	30'-00"	***29'-11"***	***28'-04"***	26'-04"	26'-04"	26'-04"	***26'-02"***

1. Minimum bearing is 1¾" (2⅜" for spans in ***bold italics***).
2. See notes on page 8.

Roof - 50 PSF Live Load (L/240) + 10 PSF Dead Load

115% - SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	14'-04"	13'-00"	12'-03"	10'-08"	13'-09"	12'-06"	11'-09"	10'-11"	13'-00"	11'-10"	11'-01"	10'-04"
	1.7E	14'-09"	13'-05"	12'-07"	11'-08"	14'-01"	12'-10"	12'-01"	11'-02"	13'-04"	12'-02"	11'-05"	10'-07"
	1.9E	15'-04"	13'-11"	13'-01"	12'-02"	14'-08"	13'-04"	12'-07"	11'-08"	13'-11"	12'-08"	11'-11"	11'-00"
	2.1E	15'-08"	14'-03"	13'-05"	12'-06"	15'-00"	13'-08"	12'-10"	11'-11"	14'-03"	12'-11"	12'-02"	11'-04"
9¼"	1.6E	18'-04"	16'-07"	15'-01"	13'-06"	17'-06"	15'-11"	15'-00"	13'-06"	16'-07"	15'-01"	14'-02"	13'-02"
	1.7E	18'-10"	17'-01"	16'-01"	14'-11"	18'-00"	16'-04"	15'-05"	14'-04"	17'-01"	15'-06"	14'-07"	13'-07"
	1.9E	19'-07"	17'-09"	16'-09"	15'-06"	18'-09"	17'-00"	16'-00"	14'-10"	17'-09"	16'-01"	15'-02"	14'-01"
	2.1E	20'-00"	18'-02"	17'-01"	15'-11"	19'-02"	17'-05"	16'-05"	15'-03"	18'-02"	16'-06"	15'-06"	14'-05"
9½"	1.6E	18'-10"	16'-11"	15'-05"	13'-10"	18'-00"	16'-04"	15'-05"	13'-10"	17'-01"	15'-06"	14'-07"	13'-06"
	1.7E	19'-04"	17'-07"	16'-06"	15'-04"	18'-06"	16'-10"	15'-10"	14'-08"	17'-06"	15'-11"	15'-00"	13'-11"
	1.9E	20'-01"	18'-03"	17'-02"	15'-11"	19'-03"	17'-06"	16'-05"	15'-03"	18'-03"	16'-07"	15'-07"	14'-05"
	2.1E	20'-07"	18'-08"	17'-07"	16'-04"	19'-08"	17'-11"	16'-10"	15'-08"	18'-08"	16'-11"	15'-11"	14'-10"
11¼"	1.6E	22'-03"	19'-06"	17'-09"	15'-11"	21'-04"	19'-04"	17'-09"	15'-11"	20'-02"	18'-04"	17'-03"	15'-11"
	1.7E	22'-11"	20'-10"	19'-07"	18'-02"	21'-11"	19'-11"	18'-09"	17'-05"	20'-09"	18'-10"	17'-09"	16'-06"
	1.9E	23'-09"	21'-07"	20'-04"	18'-11"	22'-09"	20'-08"	19'-06"	18'-01"	21'-07"	19'-07"	18'-05"	17'-01"
	2.1E	24'-04"	22'-02"	20'-10"	19'-04"	23'-04"	21'-02"	19'-11"	18'-06"	22'-01"	20'-01"	18'-11"	17'-06"
11⅞"	1.6E	23'-06"	20'-04"	18'-07"	16'-08"	22'-06"	20'-04"	18'-07"	16'-08"	21'-04"	19'-04"	18'-03"	16'-08"
	1.7E	24'-02"	21'-11"	20'-08"	19'-02"	23'-01"	21'-00"	19'-09"	18'-04"	21'-11"	19'-11"	18'-09"	17'-05"
	1.9E	25'-01"	22'-10"	21'-06"	19'-11"	24'-00"	21'-10"	20'-07"	19'-01"	22'-09"	20'-08"	19'-06"	18'-01"
	2.1E	25'-09"	23'-04"	22'-00"	20'-05"	24'-07"	22'-04"	21'-01"	19'-06"	23'-04"	21'-02"	19'-11"	18'-06"
14"	1.6E	26'-11"	23'-04"	21'-04"	***19'-01"***	26'-06"	23'-04"	21'-04"	***19'-01"***	25'-01"	22'-10"	21'-04"	***19'-01"***
	1.7E	28'-06"	25'-11"	24'-04"	22'-07"	27'-03"	24'-09"	23'-04"	21'-08"	25'-10"	23'-06"	22'-01"	20'-06"
	1.9E	29'-07"	26'-11"	25'-04"	***23'-06"***	28'-04"	25'-09"	24'-03"	22'-06"	26'-04"	24'-05"	22'-11"	21'-04"
	2.1E	30'-04"	27'-06"	25'-11"	***24'-01"***	29'-00"	26'-04"	24'-10"	***23'-00"***	26'-04"	25'-00"	23'-06"	21'-10"
16"	1.6E	30'-01"	26'-01"	***23'-10"***	***21'-04"***	30'-00"	26'-01"	***23'-10"***	***21'-04"***	26'-04"	26'-01"	***23'-10"***	***21'-04"***
	1.7E	31'-08"	29'-07"	27'-10"	***25'-10"***	30'-00"	28'-04"	26'-08"	***24'-09"***	26'-04"	26'-04"	25'-03"	***23'-05"***
	1.9E	31'-08"	30'-09"	***28'-11"***	***26'-10"***	30'-00"	29'-05"	27'-08"	***25'-08"***	26'-04"	26'-04"	26'-03"	***24'-04"***
	2.1E	31'-08"	31'-06"	***29'-07"***	***27'-06"***	30'-00"	30'-00"	28'-04"	***26'-04"***	26'-04"	26'-04"	26'-04"	***24'-11"***

1. Minimum bearing is 1¾" (2⅛" for spans in ***bold italics***).
2. See notes on page 8.



Info
Corner

With the availability of 14" and 16" depths, onCENTER® AFL can provide the space necessary to meet stringent insulation requirements in cold climates.

Roof - 50 PSF Live Load (L/240) + 20 PSF Dead Load

115% - SNOW		Slope ≤ 4/12				4/12 < Slope ≤ 8/12				8/12 < Slope ≤ 12/12			
Depth	AFL Grade	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
7¼"	1.6E	14'-04"	12'-06"	11'-05"	9'-01"	13'-09"	12'-06"	11'-05"	9'-07"	13'-00"	11'-10"	11'-01"	10'-03"
	1.7E	14'-09"	13'-05"	12'-07"	11'-08"	14'-01"	12'-10"	12'-01"	11'-02"	13'-04"	12'-02"	11'-05"	10'-07"
	1.9E	15'-04"	13'-11"	13'-01"	12'-02"	14'-08"	13'-04"	12'-07"	11'-08"	13'-11"	12'-08"	11'-11"	11'-00"
	2.1E	15'-08"	14'-03"	13'-05"	12'-06"	15'-00"	13'-08"	12'-10"	11'-11"	14'-03"	12'-11"	12'-02"	11'-04"
9¼"	1.6E	17'-08"	15'-04"	14'-00"	11'-08"	17'-06"	15'-04"	14'-00"	12'-03"	16'-07"	15'-01"	14'-00"	12'-06"
	1.7E	18'-10"	17'-01"	16'-01"	14'-11"	18'-00"	16'-04"	15'-05"	14'-04"	17'-01"	15'-06"	14'-07"	13'-07"
	1.9E	19'-07"	17'-09"	16'-09"	15'-06"	18'-09"	17'-00"	16'-00"	14'-10"	17'-09"	16'-01"	15'-02"	14'-01"
	2.1E	20'-00"	18'-02"	17'-01"	15'-11"	19'-02"	17'-05"	16'-05"	15'-03"	18'-02"	16'-06"	15'-06"	14'-05"
9½"	1.6E	18'-01"	15'-08"	14'-04"	11'-11"	18'-00"	15'-08"	14'-04"	12'-07"	17'-01"	15'-06"	14'-04"	12'-09"
	1.7E	19'-04"	17'-07"	16'-06"	15'-04"	18'-06"	16'-10"	15'-10"	14'-08"	17'-06"	15'-11"	15'-00"	13'-11"
	1.9E	20'-01"	18'-03"	17'-02"	15'-11"	19'-03"	17'-06"	16'-05"	15'-03"	18'-03"	16'-07"	15'-07"	14'-05"
	2.1E	20'-07"	18'-08"	17'-07"	16'-04"	19'-08"	17'-11"	16'-10"	15'-08"	18'-08"	16'-11"	15'-11"	14'-10"
11¼"	1.6E	20'-10"	18'-00"	16'-05"	14'-02"	20'-10"	18'-00"	16'-05"	14'-09"	20'-02"	18'-00"	16'-05"	14'-09"
	1.7E	22'-11"	20'-10"	19'-07"	18'-00"	21'-11"	19'-11"	18'-09"	17'-05"	20'-09"	18'-10"	17'-09"	16'-06"
	1.9E	23'-09"	21'-07"	20'-04"	18'-11"	22'-09"	20'-08"	19'-06"	18'-01"	21'-07"	19'-07"	18'-05"	17'-01"
	2.1E	24'-04"	22'-02"	20'-10"	19'-04"	23'-04"	21'-02"	19'-11"	18'-06"	22'-01"	20'-01"	18'-11"	17'-06"
11⅞"	1.6E	21'-09"	18'-10"	17'-03"	14'-11"	21'-09"	18'-10"	17'-03"	15'-05"	21'-04"	18'-10"	17'-03"	15'-05"
	1.7E	24'-02"	21'-11"	20'-08"	18'-10"	23'-01"	21'-00"	19'-09"	18'-04"	21'-11"	19'-11"	18'-09"	17'-05"
	1.9E	25'-01"	22'-10"	21'-06"	***19'-11"***	24'-00"	21'-10"	20'-07"	19'-01"	22'-09"	20'-08"	19'-06"	18'-01"
	2.1E	25'-09"	23'-04"	22'-00"	***20'-05"***	24'-07"	22'-04"	21'-01"	19'-06"	23'-04"	21'-02"	19'-11"	18'-06"
14"	1.6E	24'-11"	21'-07"	***19'-09"***	***17'-07"***	24'-11"	21'-07"	***19'-09"***	***17'-08"***	24'-11"	21'-07"	***19'-09"***	***17'-08"***
	1.7E	28'-06"	25'-11"	24'-04"	***21'-09"***	27'-03"	24'-09"	23'-04"	***21'-08"***	25'-10"	23'-06"	22'-01"	***20'-06"***
	1.9E	29'-07"	26'-11"	***25'-04"***	***23'-06"***	28'-04"	25'-09"	24'-03"	***22'-06"***	26'-04"	24'-05"	22'-11"	***21'-04"***
	2.1E	30'-04"	27'-06"	***25'-11"***	***24'-01"***	29'-00"	26'-04"	***24'-10"***	***23'-00"***	26'-04"	25'-00"	23'-06"	***21'-10"***
16"	1.6E	27'-11"	***24'-02"***	***22'-01"***	***19'-09"***	27'-11"	***24'-02"***	***22'-01"***	***19'-09"***	26'-04"	***24'-02"***	***22'-01"***	***19'-09"***
	1.7E	31'-08"	***29'-07"***	***27'-04"***	***24'-06"***	30'-00"	28'-04"	***26'-08"***	***24'-06"***	26'-04"	26'-04"	***25'-03"***	***23'-05"***
	1.9E	31'-08"	***30'-09"***	***28'-11"***	***26'-10"***	30'-00"	***29'-05"***	***27'-08"***	***25'-08"***	26'-04"	26'-04"	***26'-02"***	***24'-04"***
	2.1E	31'-08"	***31'-06"***	***29'-07"***	***27'-06"***	30'-00"	***29'-11"***	***28'-04"***	***26'-04"***	26'-04"	26'-04"	***26'-02"***	***24'-11"***

1. Minimum bearing is 1¾" (2½" for spans in ***bold italics***).
2. See notes on page 8.

Simpson Strong-Tie® Connectors

AFL Depth	Single Face Mount				Double Face Mount			
	Model	Floor 100% (lbs)	Fasteners		Model	Floor 100% (lbs)	Fasteners	
			Header	Joist			Header	Joist
7¼"	LUS28	940	6-10d	4-10d	LUS28-2	1125	6-16d	4-16d
9¼" - 9½"	LUS210	1145	8-10d	4-10d	LUS210-2	1565	8-16d	6-16d
11¼" - 11⅞"	LUS210	1145	8-10d	4-10d	LUS210-2	1565	8-16d	6-16d
14"	U214	1255	12-10d	8-10d x 1½	LUS214-2	1805	10-16d	6-16d
16"	U214	1255	12-10d	8-10d x 1½	HUS212-2	2275	10-16d	10-16d

USP Structural Connectors®

AFL Depth	Single Face Mount				Double Face Mount			
	Model	Floor 100% (lbs)	Fasteners		Model	Floor 100% (lbs)	Fasteners	
			Header	Joist			Header	Joist
7¼"	JL28	980	10-10d	6-10d x 1½	JUS28-2	1109	6-16d	4-16d
9¼" - 9½"	JL210	1371	14-10d	8-10d x 1½	JUS210-2	1548	8-16d	6-16d
11¼" - 11⅞"	JL210	1371	14-10d	8-10d x 1½	JUS210-2	1548	8-16d	6-16d
14"	SUH214	1423	12-16d	8-10d x 1½	JUS214-2	2017	12-16d	6-16d
16"	SUH214	1423	12-16d	8-10d x 1½	JUS214-2	2017	12-16d	6-16d

NOTES:

1. Tabulated hanger capacities are based on attachment to a 2-ply AFL header. Allowable reaction of the carried joist, based on bearing length provided by the hanger, must also be determined and compared to actual reaction.
2. Consult hanger manufacturer's product information for capacities when parameters differ from design assumptions listed above.
3. Follow hanger manufacturer's guidelines for installation and nailing. Avoid the practice of toe-nailing joists to beams and adding hangers later. Install hanger first, then the supported member.
4. Nail sizes are 0.148" x 1½" for 10d x 1½, 0.148" x 3" for 10d, and 0.162" x 3½" for 16d.

CONVENTIONAL CONSTRUCTION

Prescriptive Design

AFL has been evaluated (TER No. 1211-01) for compliance with Chapters 5 (floor framing) and 8 (roof framing) of the 2012, 2015, 2018, and 2021 IRC for conventional light-frame construction, subject to limitations shown on pages 4-17 and 19-20 of this guide. This is known as prescriptive design, since the codes prescribe the parameters and permissible design elements without requiring an engineered design.

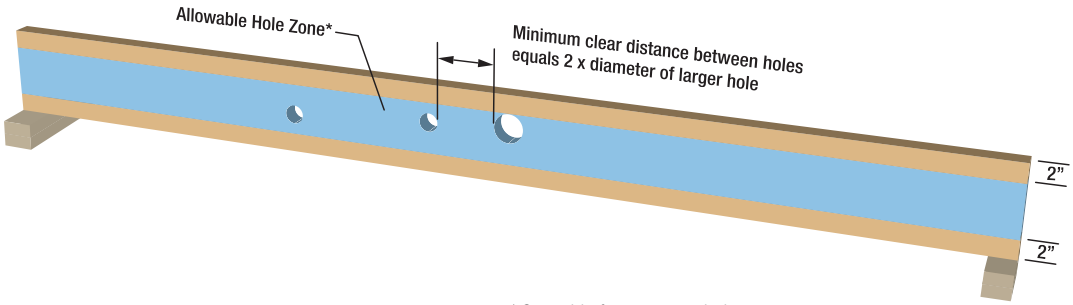
Some of the parameters for conventional light-frame construction are:

- Residential use with a maximum of 3 stories
- Maximum design floor live load of 40 psf
- Maximum ground snow load of 70 psf
- Maximum floor span of 26'
- Maximum rafter span (measured horizontally) and ceiling joist span of 26'
- Maximum roof span of 40'
- Maximum joist, stud, and rafter spacing of 24" o.c.
- Basic wind speeds less than 100 mph in hurricane-prone regions or 110 mph elsewhere

See the IRC for more information. The code official has final authority to determine if code prescriptive design is applicable.

Method 1

Conventional Light-Frame Construction



* See table for maximum hole sizes

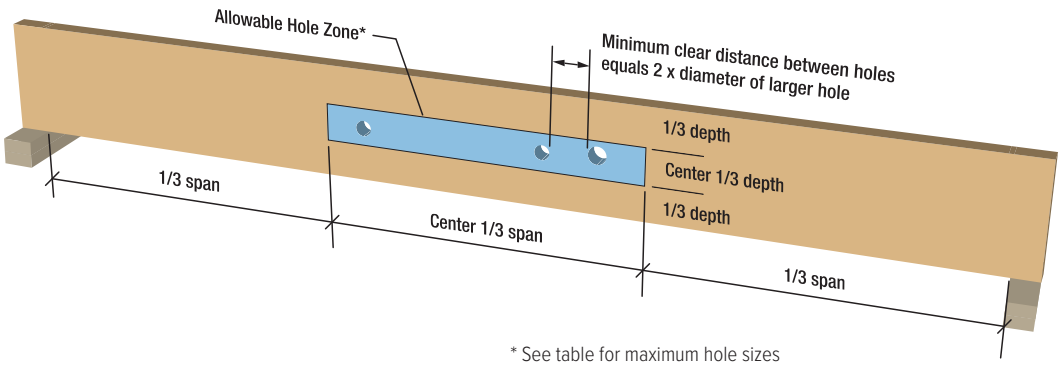
NOTES:

1. Valid only for AFL joists and rafters with the loads and spans shown on pages 4-17, limited to a maximum of 26' as well as all other requirements for Conventional Construction (page 18). If these parameters are not met, or for AFL depths exceeding 11¼", use the more restrictive Method 2 below.
2. Holes(s) must be located entirely in the Allowable Hole Zone.
3. Rectangular holes not allowed.
4. To avoid problems with rigid pipes, consider hole location, clearance, and effects of deflection.
5. Larger holes may be possible. Use isDesign® software to check a specific span, spacing, and loading condition.

AFL Depth	Maximum Round Hole Diameter
5½"	1½"
7¼"	2⅜"
9¼"	3"
9½"	3⅛"
11¼"	3¾"

Method 2

Conventional Light-Frame Construction parameters not met



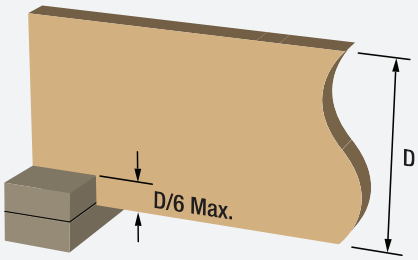
* See table for maximum hole sizes

NOTES:

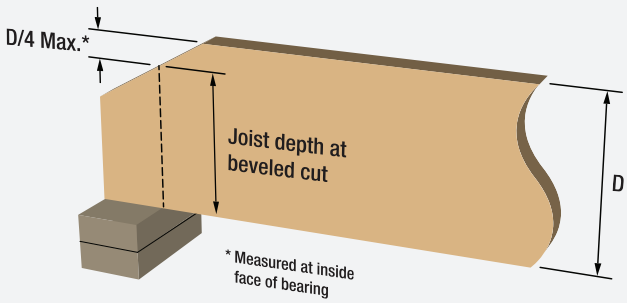
1. Hole sizes, locations, and spacing apply to AFL joists and rafters with loading conditions and spans shown on pages 4-17.
2. Hole(s) must be located entirely in the Allowable Hole Zone.
3. Rectangular holes not allowed.
4. No more than 3 holes allowed per span.
5. To avoid problems with rigid pipes, consider hole location, clearance, and effects of deflection.
6. Larger holes and/or locations outside of the Allowable Hole Zone may be possible. Use isDesign® software to check a specific span, spacing, and loading condition.

AFL Depth	Maximum Round Hole Diameter
5½"	1⅛"
7¼"	1½"
9¼"	2"
9½"	2"
11¼"	2⅜"
11⅞"	2½"
14"	3"
16"	3¼"

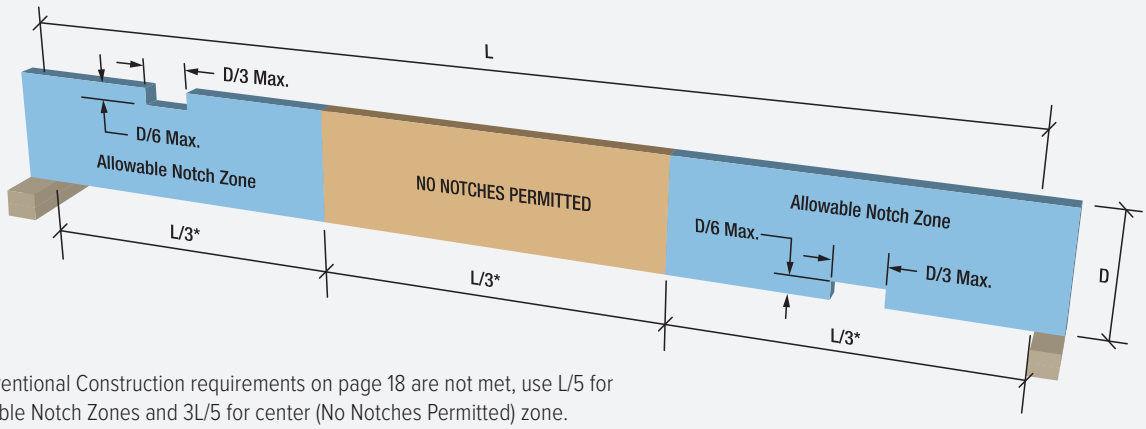
End Notches



Beveled Cuts

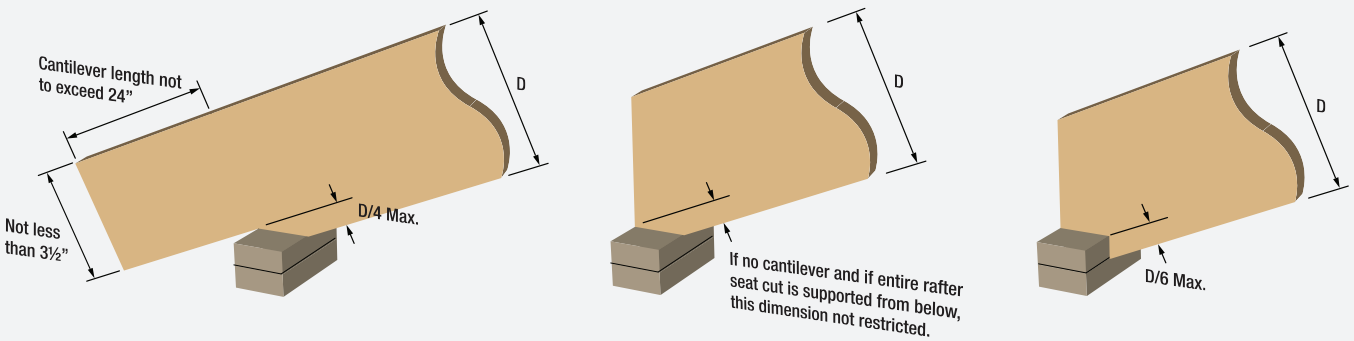


Interior Notches



* If Conventional Construction requirements on page 18 are not met, use L/5 for Allowable Notch Zones and 3L/5 for center (No Notches Permitted) zone.

Rafter Notches



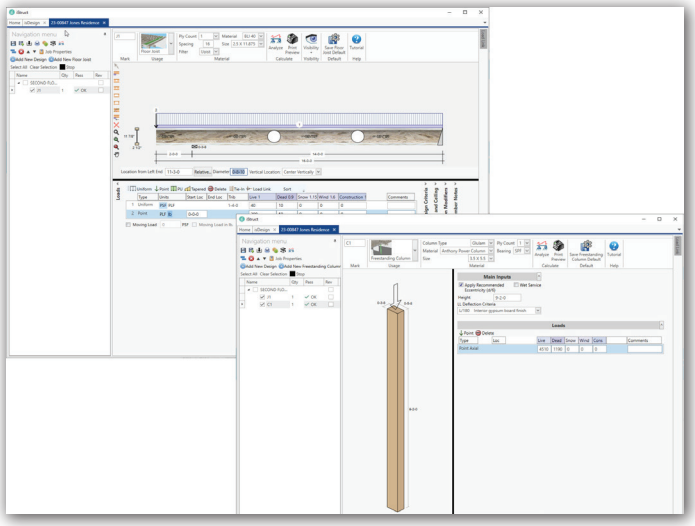
Notes

1. End notches, beveled cuts, and interior notches shown apply to AFL joists with loading conditions and spans shown on pages 4-6.
2. Rafter notches and interior notches shown apply to AFL rafters with loading conditions and spans shown on pages 8-17.
3. No member may have notches on the top and bottom (or a notch at the bottom and a bevel at the top) at the same location as measured along the length of the member.
4. A minimum clear distance of 12" must be maintained between interior notches and end notches or beveled cuts.
5. Except where noted, these cut and notch parameters apply either with or without the Conventional Construction requirements on page 18 being met.

BlueLinx offers a wide and powerful selection of software to help you perform engineering analysis, draw and design in 3D, and optimize product usage. Perform structural analysis on floor joists, beams, columns, and roof rafters beyond the scope of the onCENTER® Specifier's Guides. Confidently draw and design with easy-to-use interfaces.

isDesign®

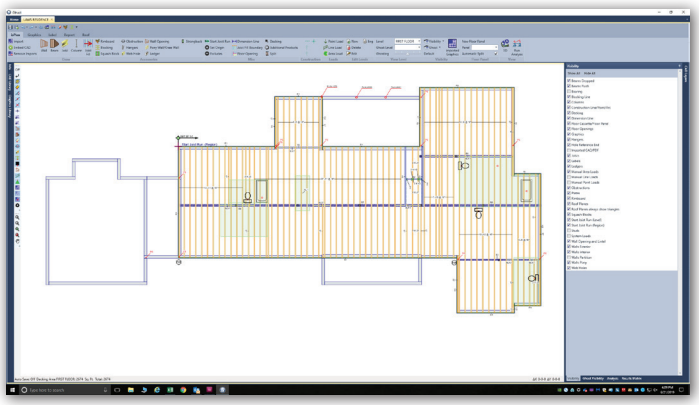
This user-friendly software allows designers to quickly and easily size floor and roof joists, beams, and columns.



- With the graphical interface, the mouse can be used to change depth, length, add or change supports, and even add holes
- Manually add uniform, concentrated, and moving loads; link reactions from other beams
- Fasteners can be designed for multi-ply AFL & LVL, including concentrated side loads
- Design for different hole shapes in joists and beams. Check notches and sloped end-cuts in beams.
- Print a concise calc sheet, entire shear and moment diagrams, or results from all load cases. Applied loads are graphically depicted.
- Generate material quotes with pricing right from the projecT

isPlan® (available to qualified stocking dealers)

Allows users to quickly model an entire structure with 2D and 3D views. Develops and transfers gravity loads through the structure and designs the structural members, generating layouts, material quotes, and pricing.



- A robust importing tool makes it easy to trace walls from PDF's
- Includes full library of onCENTER framing details and commonly used symbols and notes
- Choose what materials you want included in lists and even add non-designed items like sheathing and sub-floor adhesive
- Layout templates, customized to specific customer needs, can be saved for reuse, saving time on future projects
- Drawings can be combined into a single project to create combined material lists, project pricing and submittal packages
- Revisions are quick and easy. Edits to the model, such as label adjustments, notes, and dimensions, don't need to be moved again when revisions are done.

isWall® (available to qualified stocking dealers)

Allows users to model a tall wall and run gravity and wind analysis for all the components of the wall. Generates design results, material lists, layout drawings and cutting sheets.

isOptimize® (available to qualified stocking dealers)

Allows users to create optimized cutting lists. Users can optimize against manual or imported inventories to get the best material utilization and least amount of waste. Cutting can be sent to reports for manual cut yards or exported to saw files for automated processing.

Info Corner

Contact the BlueLinx Engineered Lumber Software Fulfillment Center for more information.

phone | 770-953-7000

email | el_sftwr@bluelinxco.com

GREEN BUILDING SOLUTION

onCENTER® AFL is one of the

Greenest Building Solutions

available

- Raw material used to produce onCENTER® AFL is sourced only from forests harvested on a sustainable yield basis and managed under accreditations from the following organizations: ISO 14001, CSA Z 809, SFI or FSC (FSC credits are available on request)
- Small dimension, low-graded coniferous species are transformed into a stronger, higher quality end product
- All mill waste is either re-used in the water-free production process or recycled into wood pellets
- Lumber is dried with innovative, low energy dryers powered by electricity generated from renewable bio-fuels

onCENTER® ENGINEERED LUMBER

onCENTER® AFL can be used in more applications than simply floors and roofs. Smaller 3½", 5½", and 7¼" depths are the preferred choice for straight studs and columns in tall wall systems and truss chords. In addition to AFL, the onCENTER Engineered Lumber product line of BLI joists, LVL, Glulam 3000, and rim board is also available from BlueLinx. We have just the right product for your building needs. Visit www.buildonCENTER.com for more information on the complete line of quality onCENTER Engineered Products.

onCENTER® Advanced Framing Lumber (AFL)

onCENTER® BLI Joists

onCENTER® Laminated Veneer Lumber (LVL)

onCENTER® Rim Board

onCENTER® Glulam 3000

onCENTER®
BlueLinx Engineered Products

Lifetime Limited

PRODUCT WARRANTY

BlueLinx Corporation provides a limited warranty for onCENTER® AFL for the expected life of the structure. Product design information, installation instructions and the full text of the limited warranty (including terms, conditions, limitations and exclusions) are available at www.buildonCENTER.com, from your BlueLinx representative, or by calling 1-877-914-7770.

BLUELINX
DELIVERING WHAT MATTERS

General:
The sale of BlueLinx' Advanced Framing Lumber shall be subject to BlueLinx' standard terms of sale located at www.bluelinxco.com/terms/salestermsandconditions.doc. BlueLinx reserves the right to revise the information located in BlueLinx' standard terms of sale or in this document without notice.

Installation:
Purchaser is responsible for proper installation of BlueLinx' Advanced Framing Lumber. BlueLinx' Advanced Framing Lumber must be installed in comformance with published specifications in this guide and in compliance with all applicable laws, ordinances, building code requirements, and regulations. BlueLinx does not warrant and is not responsible for the design or construction of any finished structure into which BlueLinx' Advanced Framing Lumber is incorporated. Finally, BlueLinx is not responsible for any other building components used with BlueLinx' Advanced Framing Lumber.

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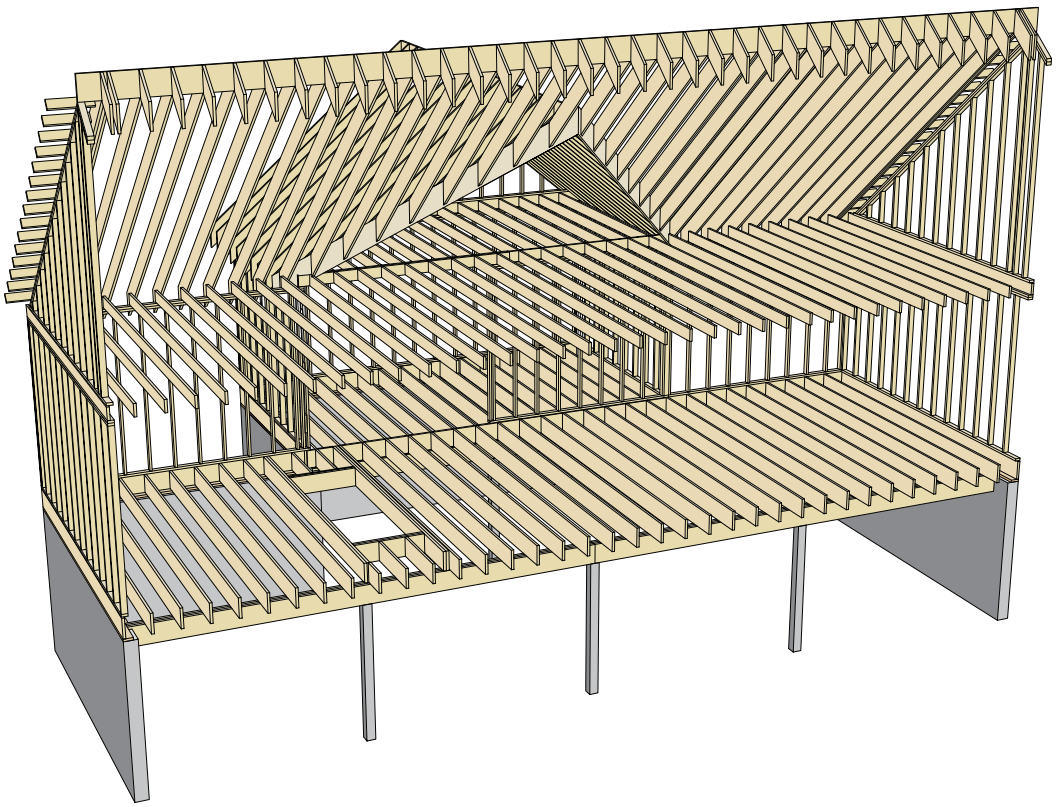
onCENTER®

BlueLinx Engineered Products

ADVANCED FRAMING LUMBER



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Dealer information: