U.S. (ASD) TECHNICAL GUIDE

TECH GUIDE

- 1.6E 2250F_b
- 2.0E 2900F_b
- 2.1E 3100F_b

PWT LVL

WALL FRAMING

PWT FOCUSED ON EWP

PWT™ LVL

1.6E 2250Fb PWT LVL

1-1/2" and 1-3/4" Thickness

3-1/2", 5-1/2", 7-1/4", 9-1/4" Depth (other depths are available)

2.0E 2900Fb PWT LVL

1-1/2" and 1-3/4" Thickness

3-1/2", 5-1/2", 7-1/4", 9-1/4" Depth (other depths are available)

2.1E 3100Fb PWT LVL

3-1/2", 5-1/4" and 7" Thickness

3-1/2", 5-1/2", 7-1/4", 9-1/4" Depth (other depths are available)

Lengths up to 60 feet

Specific sizes may not be available in all locations, contact your local distributor for availability. A water-resistant coating is applied to PWT LVL for extra weather protection during construction.

Code Evaluation Reports:
ICC *ESR 2909* & *ESR 2403*, APA® *PR-L233* & *PR-L280*, or visit pwtewp.com

A Word About Wall Framing

Architects are raising the roof and stretching walls beyond the reach of conventional lumber. PWT™ LVL used as studs redefine the standard for wall framing by providing structural walls that can be straighter, taller and stronger for both conventional and challenging engineered applications. Because PWT manufactures its LVL to high standards, builders know that they'll get fewer callbacks and save themselves time and money compared to dimension lumber products.

Where traditional lumber studs warp, bow and twist as they dry, PWT LVL won't because they start dry from the mill. Having straight walls gives home-owners the peace of mind that their cabinets will stay flush to the wall, their tile and drywall is less likely to crack and their windows and doors will function properly. That's performance you can count on.

Using this technical guide, PWT LVL can be specified for use in conventional (prescriptive) and engineered wood-frame wall construction.

Conventional Construction

Conventional construction provisions for wood-frame walls are included in the International Building Code (IBC) and the International Residential Code (IRC). In conventional construction, wall members and their connections are selected from tables in the Code rather than being calculated, as in engineered design.

PWT's compliance with the ICC Evaluation Service's Acceptance Criteria for Wood-Based Studs (AC202) permits PWT LVL to be a direct substitution to traditional lumber studs defined in the IBC and the IRC.

Compliance with AC202 also demonstrates equivalence to the notching provisions prescribed in the Code for traditional lumber studs in conventional construction.

Fire-Resistive Wall Construction

PWT LVL (1.5E and higher) are permitted to be used in the 1-hour fire-resistance-rated wall assemblies listed in the IBC, with some additional design and construction considerations as specified in PWT's evaluation and product reports. When used in prescriptive wall framing, PWT LVL can be directly substituted for the equivalent size of dimensional lumber. When used in engineered wall construction, some additional limitations are imposed on the load capacity of the studs. Please refer to ICC-ES evaluation report *ESR-2909* or *ESR-2403* and APA product report *PR-L233* or *PR-L280* for complete information on the use of PWT LVL in fire-resistance-rated walls, or use the Exacte by PWT software.

Engineered Design Construction

In engineered design, calculations based on the expected in-service loads are performed to ensure that the allowable capacities of the wall members are not exceeded.

Notches and holes in PWT LVL wall framing are permitted when designed in accordance with the provisions of the National Design Specification for Wood Construction (NDS), with additional adjustments as prescribed herein. The wall stud and exterior wall column tables in this guide include the effects of notches and holes on their capacity. Refer to Drilling & Notching on page 4 for the limitations of notch and hole size and location.

Deflection Limits

Like floor and roof systems, walls are subject to code-prescribed deflection limits as well as industry recommendations. The IBC prescribes a deflection ratio limit of L/240 for walls with brittle finishes and L/120 for walls with flexible finishes. The IRC prescribes the additional ratio of L/360 for walls with stucco or plaster. Additional deflection limits are recommended for certain windows and wall finishes like brick. Always verify the requirements, but the following table summarizes common deflection limits.

Condition	Deflection
Flexible Finish (IBC)	L/120
Windows & Doors	L/175
Brittle Finish (IBC)	L/240
Plaster & Stucco (IRC)	L/360
Brick	L/600

Lifetime Limited Warranty

PWT products are backed by a lifetime limited warranty. Visit pwtewp.com or call 1.888.707.2285 for a copy of the warranty.

PWT LVL Product Specifications & Design Values

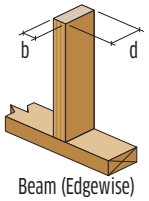
PWT LVL REFERENCE DESIGN VALUES (PSI)[a,b]

Grade	Beam (Edgewise) Orientation[c]				Plank (Flatwise) Orientation[d]				Axial	
	Stiffness, MOE[e,f] (x10⁶)	Bending, Fb[g]	Shear, Fv	Compression perp-to-grain, $F_{c\perp}$	Stiffness, MOE[e,f] (x10⁶)	Bending, Fb	Shear, Fv	Compression perp-to-grain, $F_{c\perp}{}^{L}$	Tension, Ft	Compression Fc
1.6E 2250Fb	1.6	2250[i]	255	750	1.6	2250[k]	150	650	1500[n]	2350
2.0E 2900Fb	2.0	2900[h]	285	750	2.0	2950[j]	140	550	1800[m]	3200
2.1E 3100Fb	2.1	3100[i]	285	850	2.1	3100[k]	150	650	2100[n]	3200

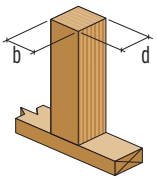
Reference Design Value Notes:

a. PWT LVL shall be designed for dry-use conditions only. Dry-use applies to products installed in dry, covered and well ventilated interior conditions in which the equivalent moisture content in lumber will not exceed 16%. Adjustments for high temperature are beyond the scope of this guide.
b. The allowable strengths and stiffness are for normal load duration (10 year). Bending, Shear and Axial Tension and Compression shall be adjusted according to code. Modulus of Elasticity and Compression perpendicular-to-grain shall not be adjusted for load duration.
c. Beam values apply to members loaded and supported on faces showing the narrow edge of all veneers, typically the narrow faces of the member.
d. Plank values apply to members loaded and supported on faces showing the face of one veneer, typically the wide faces of the member.
e. The tabulated E values are the shear-free modulus of elasticity. When calculating deflection, both bending and shear deflections must be included.
f. Coefficient of variation of modulus of elasticity, COVE = 0.10
g. The tabulated flexural stress, F_b, may be increased by 4% when the member qualifies as repetitive as defined in the NDS. The allowable Bending, F_b, for PWT LVL in the Beam orientation is tabulated for a standard 12" depth. Multiply F_b by the following:
h. For depths greater than 12", multiply F_b by $(12/depth)^{0.200}$. For depths less than 12", multiply F_b by $(12/depth)^{0.111}$. For depths less than 3-1/2", multiply F_b by 1.147.
i. For other depths greater than 1-3/4", multiply F_b by a size factor of $(12/d)^{0.200}$. For depths less than 1-3/4 inches, multiply F_b by 1.47. The allowable Bending, F_b, for PWT LVL in the Plank orientation is tabulated for a standard 1-3/4" depth. Multiply F_b by the following:
j. For other depths greater than 1-3/4", multiply F_b by a size factor of $(1.75/d)^{0.333}$. For depths less than 1-3/4 inches, multiply F_b by 1.00.
k. For other depths greater than 1-3/4", multiply F_b by a size factor of $(1.75/d)^{0.250}$. For depths less than 1-3/4 inches, multiply F_b by 1.00.
l. When designing with the tabulated compressive stress perpendicular to grain ($F_{c\perp}$), the Bearing Area Factor (C_b) stipulated in Section 3.10.4 of the NDS shall be permitted to be applied.
m. Tension parallel to grain, F_t, is based on a reference gage length of 3 feet. For lengths longer than 3 feet, multiply F_t by $(3/Length)^{0.111}$, where the Length is in feet. For lengths less than 4 feet, use the design tension stresses in the table above, unadjusted.
n. Tension parallel to grain, F_t, is based on a reference gage length of 4 feet. For lengths longer than 4 feet, multiply F_t by $(4/Length)^{0.100}$, where the Length is in feet. For lengths less than 3 feet, use the design tension stresses in the table above, unadjusted.

PRODUCT ORIENTATION



Beam (Edgewise)



Plank (Flatwise)

BEARING CAPACITY

Stud or Column Size	Column Bearing (lbs.)					Stud Bearing (plf)							
	Hem-Fir (405 psi)	SPF (425 psi)	LVL (550 psi)	LVL (650 psi)	Concrete (2500 psi)	Hem-Fir (405 psi)		SPF (425 psi)		LVL (550 psi)		LVL (650 psi)	
						12" oc	16" oc	12" oc	16" oc	12" oc	16" oc	12" oc	16" oc
1-1/2" x 3-1/2"	2,126	2,231	2,887	3,412	4,462	2,126	1,594	2,231	1,673	2,887	2,165	3,412	2,559
1-1/2" x 5-1/2"	3,341	3,506	4,537	5,362	7,012	3,341	2,505	3,506	2,629	4,537	3,403	5,362	4,021
1-1/2" x 7-1/4"	4,404	4,621	5,981	7,068	9,243	4,404	3,303	4,621	3,466	5,981	4,485	7,068	5,301
1-1/2" x 9-1/4"	5,619	5,896	7,631	9,018	11,793	5,619	4,214	5,896	4,422	7,631	5,723	9,018	6,764
3-1/2" x 3-1/2"	4,961	5,206	6,737	7,962	10,412								
3-1/2" x 5-1/2"	7,796	8,181	10,587	12,512	16,362								
3-1/2" x 7-1/4"	10,276	10,784	13,956	16,493	21,568								
3-1/2" x 9-1/4"	13,111	13,759	17,806	21,043	27,518								
5-1/4" x 5-1/2"	11,694	12,271	15,881	18,768	24,543								
5-1/4" x 7-1/4"	15,415	16,176	20,934	24,740	32,353								
5-1/4" x 9-1/4"	19,667	20,639	26,709	31,565	41,278								

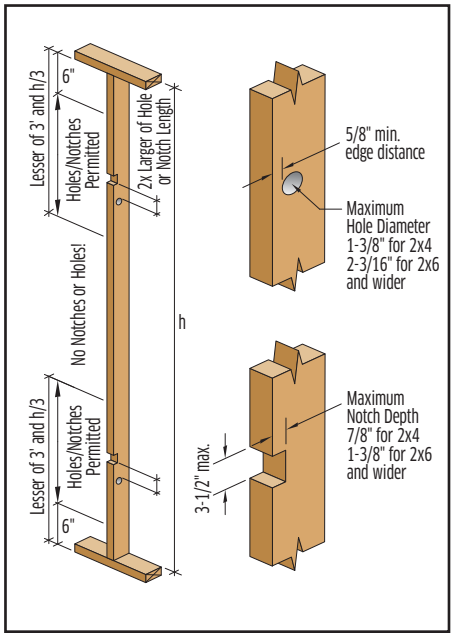
Bearing Capacity Notes:

1. The capacity for Wood Bearing is based on the compression strength, perpendicular-to- grain, of the bearing plate and shall not be adjusted for load duration.
2. The Bearing Capacity for concrete is based on a conversion to allowable stress design for comparison to the column capacities in this guide.
3. To determine the Bearing Capacity of a multiple-ply member (such as a double 2 x 4 stud), multiply the Bearing Capacity from the table by the number of plies. The capacity is additive and may be increased for bearing on wood plates per note 4.
4. When a stud or column is located at least 3" from the end of a wall plate, the Bearing Capacities above are permitted to be increased by the bearing area factor, $C_b = (Lb + 0.375)/L_b$, where L_b is the bearing length measured parallel to the grain of the wall plate and is less than 6". For bearing lengths 6" or more, $C_b = 1.00$.

Drilling and Notching

Drilling and Notching Notes:

1. Free-standing columns shall not be drilled or notched except as required for proper installation of column caps, bases or other hold-downs without further analysis by a professional engineer. Bolts, lag screws and self-tapping screws shall only be inserted through the face of the column, perpendicular to the face of the veneer in the LVL.
2. Cutting, notching and boring of nominal 2x4 (1-1/2" x 3-1/2") and 2x6 (1-1/2" x 5-1/2") wall studs used in prescriptive wall framing is permitted in accordance with sections 2308.9.10 and 2308.9.11 of the IBC and section R602.6 of the International Residential Code (IRC).
3. For wall applications designed with the tables in this guide, notching and drilling shall be limited to the restrictions of notes 4 through 6 (see details to left).
4. One hole up to 40% of the stud depth, maximum of 2-3/16," is allowed only in the upper or lower 3 feet or 1/3 of the stud height, h (see Drilling and Notching detail for maximum hole sizes), except do not place a hole within 6" of either end of the stud. Two small holes up to 1" diameter and vertically spaced no closer than 12" oc are permitted in studs with a depth of at least 5-1/2."
5. One notch up to 25% of the stud depth, maximum of 1-3/8," is allowed only in the upper or lower 3 feet or 1/3 of the stud height, h (see Drilling and Notching detail for maximum notch sizes), except do not place a notch within 6" of either end of the stud. The notch length shall not exceed 3-1/2."
6. Do NOT cut a hole and a notch at the same cross-section. Maintain a clear vertical separation of at least twice the length of the notch or twice the diameter of the hole, whichever is greater.
7. Do Not cut a notch in any stud or in-wall column that is installed in the Plank (Flatwise) orientation.
8. For engineered wall applications beyond the scope of this guide, design for notching and drilling shall be based on a net section analysis in accordance with the provisions of the NDS including the restrictions listed in APA product report PR-L280 and ICC-ES evaluation report ESR-2403. When designing with holes or notches the allowable design stresses for bending, axial compression and axial tension shall be reduced by the Strength Reduction Factors (tabulated below) to account for stress concentrations.



STRENGTH REDUCTION FACTORS FOR NOTCHES AND HOLES

Notches			Holes		
Bending	Compression	Tension	Bending	Compression	Tension
0.80	0.90	0.60	0.95	0.95	0.95

1. Design of PWT LVL used as studs with notches and holes used in engineered wall framing must be based on a net-section analysis in accordance with the NDS.
2. The reference design stresses for bending, compression, and tension from the PWT LVL Reference Design Values table must be multiplied by the strength reduction factors in the above table.

PWT LVL Wall Stud Tables

Table Usage:

1. Select the table for wind speed and exposure category.
2. Determine the height of the wall stud. If not listed, select the next tallest Height in the table.
3. Select the row for the desired Spacing.
4. Select the PWT™ LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
5. Verify the plate bearing capacity for the selected stud. See Additional Note 9 below.

115 MPH IBC/IRC 2021, EXPOSURE B*

Height	Stud Spacing	1.6E 2250Fb							
		1-1/2" x 3-1/2"	1-1/2" x 5-1/2"	1-1/2" x 7-1/4"	1-1/2" x 9-1/4"	1-3/4" x 3-1/2"	1-3/4" x 5-1/2"	1-3/4" x 7-1/4"	1-3/4" x 9-1/4"
8'	12"	3160 L/502	5345 L/641	7046 L/740	8989 L/885	3686 L/530	6236 L/650	8220 L/745	10488 L/889
	16"	2370 L/449	4009 L/621	5284 L/727	6742 L/875	2764 L/478	4677 L/632	6165 L/734	7866 L/881
9'	12"	2708 L/447	5343 L/616	7043 L/693	8986 L/811	3161 L/479	6233 L/628	8217 L/699	10484 L/817
	16"	1917 L/387	4007 L/588	5282 L/677	6739 L/800	2351 L/419	4675 L/604	6162 L/686	7863 L/807
10'	12"	2257 L/386	5341 L/589	7040 L/658	8982 L/755	2725 L/420	6231 L/606	8213 L/667	10479 L/761
	16"	1525 L/325	4005 L/554	5280 L/639	6737 L/742	1891 L/357	4673 L/574	6160 L/649	7859 L/750
12'	12"	1526 L/259	5173 L/529	7034 L/610	8975 L/681	1886 L/302	6035 L/554	8207 L/624	10471 L/688
	16"	991 L/194	3879 L/478	5276 L/580	6731 L/662	1258 L/226	4526 L/506	6155 L/597	7853 L/672
14'	12"	1064 L/166	4255 L/456	7029 L/568	8968 L/634	1336 L/194	4966 L/487	8200 L/588	10463 L/646
	16"	659 L/124	3191 L/396	5271 L/526	6726 L/608	861 L/145	3724 L/428	6150 L/549	7847 L/623
16'	12"	-	3532 L/381	6658 L/521	8961 L/600	975 L/133	4121 L/415	7768 L/547	10454 L/616
	16"	-	2570 L/319	4993 L/469	6720 L/566	-	3091 L/352	5826 L/497	7840 L/585
18'	12"	-	2934 L/311	5747 L/467	8953 L/566	-	3461 L/344	6704 L/498	10446 L/587
	16"	-	2018 L/234	4310 L/408	6715 L/523	-	2476 L/274	5028 L/440	7834 L/547
20'	12"	-	2371 L/231	4984 L/411	8625 L/529	-	2883 L/270	5813 L/445	10065 L/555
	16"	-	1609 L/173	3738 L/349	6469 L/478	-	1989 L/202	4359 L/382	7549 L/506
22'	12"	-	1942 L/176	4346 L/357	7685 L/489	-	2373 L/206	5071 L/391	8969 L/519
	16"	-	1299 L/132	3260 L/296	5764 L/432	-	1620 L/154	3803 L/328	6726 L/463
24'	12"	-	-	3817 L/307	6863 L/447	-	-	4453 L/340	8007 L/479
	16"	-	-	2862 L/236	5147 L/386	-	-	3340 L/275	6005 L/418

*Applies to: 115 mph IBC/IRC 2018/2015 and IBC 2012; 90 mph IBC 2009 and IRC 2009/2012

130 MPH IBC/IRC 2021, EXPOSURE C*

Height	Stud Spacing	1.6E 2250Fb							
		1-1/2" x 3-1/2"	1-1/2" x 5-1/2"	1-1/2" x 7-1/4"	1-1/2" x 9-1/4"	1-3/4" x 3-1/2"	1-3/4" x 5-1/2"	1-3/4" x 7-1/4"	1-3/4" x 9-1/4"
8'	12"	3001 L/394	5345 L/597	7046 L/711	8989 L/863	3686 L/424	6236 L/610	8220 L/720	10488 L/870
	16"	1967 L/338	4009 L/566	5284 L/691	6742 L/847	2485 L/368	4677 L/583	6165 L/702	7866 L/856
9'	12"	2261 L/329	5343 L/557	7043 L/658	8986 L/787	2837 L/360	6233 L/575	8217 L/669	10484 L/795
	16"	1400 L/249	4007 L/519	5282 L/634	6739 L/768	1830 L/290	4675 L/540	6162 L/647	7863 L/779
10'	12"	1747 L/245	5341 L/514	7040 L/615	8982 L/726	2231 L/286	6231 L/536	8213 L/628	10479 L/735
	16"	1022 L/184	4005 L/468	5280 L/585	6737 L/706	1385 L/215	4673 L/493	6160 L/602	7859 L/717
12'	12"	1061 L/146	5173 L/425	7034 L/546	8975 L/640	1415 L/171	6035 L/455	8207 L/565	10471 L/652
	16"	-	3721 L/369	5276 L/504	6731 L/612	750 L/128	4526 L/399	6155 L/527	7853 L/627
14'	12"	-	4075 L/338	7029 L/480	8968 L/578	-	4966 L/370	8200 L/506	10463 L/596
	16"	-	2708 L/271	5271 L/429	6726 L/542	-	3391 L/311	6150 L/457	7847 L/562
16'	12"	-	3099 L/248	6658 L/414	8961 L/527	-	3837 L/289	7768 L/444	10454 L/549
	16"	-	1998 L/186	4993 L/358	6720 L/481	-	2548 L/217	5826 L/388	7840 L/506
18'	12"	-	2389 L/177	5747 L/350	8953 L/476	-	2993 L/207	6704 L/382	10446 L/502
	16"	-	1487 L/133	4310 L/294	6715 L/423	-	1938 L/155	5028 L/323	7834 L/452
20'	12"	-	1866 L/131	4984 L/292	8625 L/425	-	2368 L/153	5813 L/323	10065 L/455
	16"	-	-	3525 L/224	6469 L/369	-	-	4318 L/262	7549 L/399
22'	12"	-	-	4260 L/228	7685 L/375	-	-	5071 L/266	8969 L/406
	16"	-	-	2903 L/171	5764 L/318	-	-	3580 L/200	6726 L/348
24'	12"	-	-	3586 L/178	6863 L/328	-	-	4370 L/208	8007 L/359
	16"	-	-	2341 L/134	5147 L/272	-	-	2966 L/156	6005 L/301

*Applies to: 130 mph IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00, and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. A repetitive member increase of 4% has been applied as allowed for 3 or more wall studs spaced no more than 24" oc, properly connected by a suitable exterior sheathing. No increase in stiffness has been assumed for the wall sheathing.
8. A gypsum wall board is assumed attached to the interior side of the studs.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.

Exterior Wall Column Capacity (lbs):
115 mph IBC/IRC 2021[5], Exposure B
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X4 WALLS

Height	Tributary Width	1.6E 2250F_b									2.0E 2900F_b								
		1-1/2" x 3-1/2"						1-3/4" x 3-1/2"			1-1/2" x 3-1/2"						1-3/4" x 3-1/2"		
		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)	
8'	16"	3167	L/880	8248	L/698	13055	L/645	4733	L/810	10803	L/646	15233	L/659	3936	L/983	8626	L/741	11501	L/677	5876	L/882	10064	L/679	13418	L/689
	24"	3167	L/707	8248	L/625	13055	L/599	4733	L/680	10803	L/594	15233	L/618	3936	L/808	8626	L/674	11501	L/637	5876	L/758	10064	L/633	13418	L/653
	36"	2997	L/549	8248	L/541	13055	L/543	4733	L/551	10803	L/530	15233	L/566	3843	L/641	8626	L/596	11501	L/586	5876	L/628	10064	L/575	13418	L/607
	48"	2735	L/420	8248	L/480	13055	L/498	4639	L/467	10803	L/481	15233	L/524	3560	L/525	8626	L/537	11501	L/544	5876	L/540	10064	L/529	13418	L/568
9'	16"	3131	L/705	7809	L/613	11121	L/634	4631	L/669	9731	L/615	12975	L/654	3888	L/798	8621	L/658	11495	L/673	5742	L/738	10058	L/656	13411	L/691
	24"	3056	L/555	7809	L/536	11121	L/572	4631	L/549	9731	L/548	12975	L/597	3888	L/642	8621	L/587	11495	L/617	5742	L/620	10058	L/595	13411	L/639
	36"	2699	L/391	7809	L/451	11121	L/498	4512	L/433	9731	L/471	12975	L/527	3509	L/489	8621	L/504	11495	L/548	5742	L/500	10058	L/522	13411	L/575
	48"	2351	L/298	7620	L/392	11121	L/444	4138	L/348	9731	L/416	12975	L/475	3135	L/373	8621	L/446	11495	L/495	5404	L/423	10058	L/468	13411	L/525
10'	16"	3086	L/571	7164	L/554	9553	L/609	4500	L/558	8360	L/584	11145	L/635	3827	L/654	8617	L/604	11489	L/655	5570	L/623	10053	L/632	13404	L/679
	24"	2855	L/435	7164	L/470	9553	L/530	4500	L/448	8360	L/502	11145	L/561	3666	L/515	8617	L/523	11489	L/582	5570	L/512	10053	L/555	13404	L/611
	36"	2426	L/290	7008	L/382	9553	L/444	4112	L/338	8360	L/415	11145	L/477	3201	L/362	8617	L/435	11489	L/498	5344	L/404	10053	L/469	13404	L/531
	48"	2002	L/220	6400	L/323	9374	L/384	3667	L/256	7880	L/356	11145	L/418	2745	L/275	8327	L/375	11489	L/438	4859	L/321	10053	L/408	13404	L/472
12'	16"	2765	L/388	5420	L/460	7226	L/530	4120	L/401	6326	L/497	8437	L/566	3537	L/455	6677	L/519	8903	L/588	5086	L/460	7793	L/556	10389	L/624
	24"	2397	L/259	5363	L/363	7226	L/431	3833	L/302	6326	L/399	8437	L/469	3134	L/323	6677	L/419	8903	L/490	4952	L/361	7793	L/457	10389	L/528
	36"	1851	L/172	4754	L/259	6943	L/336	3256	L/201	5849	L/302	8410	L/371	2538	L/215	6195	L/323	8903	L/391	4324	L/251	7549	L/360	10389	L/428
	48"	736	L/129	4170	L/194	6340	L/259	2701	L/151	5252	L/226	7796	L/302	1860	L/161	5556	L/242	8253	L/323	3720	L/188	6900	L/283	10065	L/360
14'	16"	2328	L/249	4226	L/361	5635	L/434	3148	L/291	4930	L/399	6575	L/474	3014	L/311	5217	L/420	6958	L/496	4037	L/356	6086	L/460	8117	L/539
	24"	1909	L/166	3880	L/249	5566	L/332	2771	L/194	4720	L/291	6575	L/370	2548	L/207	5010	L/311	6958	L/389	3625	L/242	6055	L/356	8117	L/429
	36"	-		3330	L/166	4985	L/221	2241	L/129	4156	L/194	6100	L/258	1878	L/138	4408	L/207	6479	L/277	3045	L/161	5438	L/242	7864	L/323
	48"	-		2805	L/124	4440	L/166	-		3623	L/145	5542	L/194	-		3834	L/155	5877	L/207	2487	L/121	4852	L/181	7249	L/242

2X4 WALLS

Height	Tributary Width	2.1E 3100F_b							
		3-1/2" x 3-1/2"		3-1/2" x 5-1/2" (plank)		3-1/2" x 7-1/4" (plank)		3-1/2" x 9-1/4" (plank)	
8'	16"	7787	L/754	12472	L/739	16441	L/763	20976	L/781
	24"	7787	L/677	12472	L/693	16441	L/726	20976	L/749
	36"	7787	L/588	12472	L/635	16441	L/676	20976	L/708
	48"	7441	L/523	12472	L/588	16441	L/635	20976	L/673
9'	16"	7300	L/666	11803	L/724	15558	L/758	19845	L/784
	24"	7300	L/584	11803	L/660	15558	L/705	19845	L/739
	36"	6957	L/492	11803	L/584	15558	L/637	19845	L/680
	48"	6154	L/428	11803	L/526	15558	L/584	19845	L/632
10'	16"	6529	L/604	10263	L/695	13530	L/742	17265	L/777
	24"	6529	L/511	10263	L/614	13530	L/670	17265	L/715
	36"	5743	L/415	10263	L/522	13530	L/586	17265	L/638
	48"	4909	L/337	9697	L/457	13530	L/522	17265	L/578
12'	16"	5036	L/491	7916	L/609	10436	L/677	13311	L/733
	24"	4586	L/387	7916	L/503	10436	L/576	13311	L/638
	36"	3757	L/264	7327	L/399	10436	L/470	13311	L/533
	48"	2938	L/198	6496	L/311	9625	L/396	13221	L/458
14'	16"	3786	L/380	6261	L/504	8253	L/584	10529	L/653
	24"	3257	L/254	6029	L/392	8253	L/467	10529	L/537
	36"	2495	L/169	5229	L/266	7651	L/351	10435	L/423
	48"	1110	L/127	4461	L/200	6860	L/263	9620	L/336

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 115 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00, and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):
130 mph IBC/IRC 2021[5], Exposure C
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X4 WALLS

Height	Tributary Width	1.6E 2250F_b						2.0E 2900F_b					
		1-1/2" x 3-1/2"			1-3/4" x 3-1/2"			1-1/2" x 3-1/2"			1-3/4" x 3-1/2"		
		Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)
8'	16"	3167 L/640	8248 L/591	13055 L/577	4733 L/627	10803 L/569	15233 L/598	3936 L/738	8626 L/643	11501 L/617	5876 L/705	10064 L/610	13418 L/636
	24"	2840 L/464	8248 L/503	13055 L/515	4733 L/497	10803 L/499	15233 L/540	3675 L/573	8626 L/559	11501 L/560	5876 L/572	10064 L/546	13418 L/583
	36"	2331 L/311	8064 L/411	13055 L/444	4210 L/363	10803 L/423	15233 L/472	3129 L/389	8626 L/468	11501 L/492	5509 L/448	10064 L/473	13418 L/520
	48"	1519 L/237	7260 L/351	12680 L/392	3685 L/277	10279 L/370	15233 L/422	2575 L/297	8626 L/406	11501 L/442	4954 L/346	10064 L/420	13418 L/471
9'	16"	2928 L/498	7809 L/502	11121 L/543	4631 L/501	9731 L/518	12975 L/570	3760 L/581	8621 L/555	11495 L/590	5742 L/571	10058 L/567	13411 L/615
	24"	2500 L/332	7809 L/415	11121 L/465	4298 L/387	9731 L/438	12975 L/496	3297 L/415	8621 L/469	11495 L/516	5575 L/453	10058 L/490	13411 L/546
	36"	1686 L/221	6799 L/329	10657 L/383	3579 L/258	8895 L/356	12975 L/414	2557 L/277	8621 L/380	11495 L/435	4807 L/323	10058 L/407	13411 L/466
	48"	-	5821 L/254	9595 L/328	2890 L/197	7841 L/296	11950 L/359	-	7890 L/317	11495 L/378	4080 L/246	10058 L/351	13411 L/410
10'	16"	2701 L/368	7164 L/434	9553 L/496	4419 L/405	8360 L/467	11145 L/528	3500 L/461	8617 L/488	11489 L/549	5570 L/467	10053 L/521	13404 L/580
	24"	2188 L/245	6659 L/346	9553 L/408	3861 L/286	8147 L/379	11145 L/442	2944 L/307	8607 L/399	11489 L/462	5070 L/358	10053 L/433	13404 L/496
	36"	-	5551 L/245	8502 L/322	3024 L/191	7022 L/286	10487 L/354	1786 L/204	7409 L/307	11076 L/373	4174 L/239	9239 L/344	13404 L/407
	48"	-	4516 L/187	7460 L/249	1594 L/145	5990 L/218	9427 L/290	-	6308 L/233	9942 L/311	3315 L/181	8122 L/272	12394 L/347
12'	16"	2202 L/219	5141 L/326	7226 L/392	3625 L/256	6246 L/361	8437 L/429	2920 L/274	6616 L/380	8903 L/449	4725 L/320	7793 L/417	10389 L/487
	24"	1491 L/146	4438 L/219	6620 L/293	2958 L/171	5526 L/256	8076 L/334	2218 L/183	5848 L/274	8557 L/353	3998 L/213	7198 L/320	10378 L/388
	36"	-	3430 L/146	5578 L/195	-	4501 L/171	7020 L/228	-	4756 L/183	7425 L/244	2949 L/142	6088 L/213	9222 L/285
	48"	-	-	4576 L/146	-	3505 L/128	6001 L/171	-	3685 L/137	6343 L/183	-	5012 L/160	8115 L/213
14'	16"	1692 L/141	3684 L/212	5358 L/282	2582 L/165	4516 L/247	6486 L/330	2312 L/176	4792 L/265	6881 L/349	3418 L/206	5837 L/309	8117 L/387
	24"	-	3051 L/141	4694 L/188	-	3870 L/165	5804 L/220	-	4102 L/176	6161 L/235	2750 L/137	5125 L/206	7538 L/275
	36"	-	-	3763 L/125	-	-	4849 L/146	-	-	5136 L/157	-	4125 L/137	6497 L/183
	48"	-	-	-	-	-	-	-	-	-	-	-	5501 L/137

2X4 WALLS

Height	Tributary Width	2.1E 3100F_b			
		3-1/2" x 3-1/2"	3-1/2" x 5-1/2" (plank)	3-1/2" x 7-1/4" (plank)	3-1/2" x 9-1/4" (plank)
8'	16"	7787 L/642	12472 L/670	16441 L/707	20976 L/734
	24"	7709 L/547	12472 L/606	16441 L/651	20976 L/686
	36"	6471 L/450	12472 L/530	16441 L/583	20976 L/626
	48"	5280 L/364	12472 L/474	16441 L/531	20976 L/578
9'	16"	7300 L/547	11803 L/631	15558 L/679	19845 L/717
	24"	6494 L/453	11803 L/549	15558 L/606	19845 L/652
	36"	4979 L/339	10741 L/459	15558 L/521	19845 L/573
	48"	2300 L/259	9277 L/399	14207 L/461	19839 L/515
10'	16"	6313 L/472	10263 L/577	13530 L/637	17265 L/685
	24"	5269 L/376	10067 L/483	13530 L/548	17265 L/603
	36"	3640 L/251	8501 L/388	12702 L/452	17265 L/510
	48"	-	7038 L/300	11226 L/388	16015 L/445
12'	16"	4287 L/336	7880 L/460	10436 L/533	13311 L/596
	24"	3319 L/224	6880 L/352	10024 L/427	13311 L/490
	36"	262 L/149	5422 L/235	8535 L/309	12116 L/387
	48"	-	3351 L/176	7083 L/232	10633 L/296
14'	16"	2986 L/216	5743 L/340	8179 L/423	10529 L/490
	24"	2056 L/144	4821 L/226	7227 L/299	10000 L/380
	36"	-	3488 L/151	5868 L/199	8603 L/254
	48"	-	-	4535 L/149	7261 L/190

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 130 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00, and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):
115 mph IBC/IRC 2021[5], Exposure B
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X6 WALLS

Height	Tributary Width	1.6E 2250Fb						2.0E 2900Fb					
		1-1/2" x 5-1/2"			1-3/4" x 5-1/2"			1-1/2" x 5-1/2"			1-3/4" x 5-1/2"		
		Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)
8'	16"	4971 L/999	13393 L/999	21381 L/877	7540 L/999	18682 L/999	24945 L/789	6197 L/999	13555 L/999	18074 L/885	9413 L/999	15815 L/999	21086 L/790
	24"	4971 L/999	13393 L/999	21381 L/854	7540 L/999	18682 L/999	24945 L/774	6197 L/999	13555 L/999	18074 L/866	9413 L/999	15815 L/999	21086 L/778
	36"	4971 L/999	13393 L/999	21381 L/823	7540 L/999	18682 L/976	24945 L/753	6197 L/999	13555 L/999	18074 L/841	9413 L/999	15815 L/999	21086 L/762
	48"	4971 L/999	13393 L/999	21381 L/795	7540 L/999	18682 L/932	24945 L/734	6197 L/999	13555 L/999	18074 L/818	9413 L/999	15815 L/978	21086 L/746
9'	16"	4952 L/999	13173 L/999	21372 L/796	7491 L/999	18239 L/953	24935 L/728	6171 L/999	13548 L/999	18065 L/806	9347 L/999	15806 L/980	21075 L/733
	24"	4952 L/999	13173 L/999	21372 L/770	7491 L/999	18239 L/912	24935 L/710	6171 L/999	13548 L/999	18065 L/785	9347 L/999	15806 L/946	21075 L/719
	36"	4952 L/999	13173 L/995	21372 L/735	7491 L/999	18239 L/857	24935 L/686	6171 L/999	13548 L/999	18065 L/756	9347 L/999	15806 L/898	21075 L/699
	48"	4711 L/999	13173 L/924	21372 L/704	7491 L/964	18239 L/811	24935 L/664	6064 L/999	13548 L/997	18065 L/730	9347 L/999	15806 L/859	21075 L/681
10'	16"	4928 L/999	12909 L/999	21364 L/733	7432 L/999	17731 L/865	24925 L/683	6139 L/999	13541 L/999	18055 L/747	9274 L/999	15798 L/894	21064 L/692
	24"	4928 L/999	12909 L/955	21364 L/704	7432 L/999	17731 L/819	24925 L/662	6139 L/999	13541 L/999	18055 L/723	9274 L/999	15798 L/856	21064 L/675
	36"	4804 L/951	12909 L/862	21364 L/664	7432 L/903	17731 L/759	24925 L/633	6139 L/999	13541 L/928	18055 L/689	9274 L/999	15798 L/804	21064 L/650
	48"	4466 L/806	12909 L/788	21364 L/630	7432 L/788	17731 L/710	24925 L/608	5801 L/930	13541 L/861	18055 L/660	9274 L/887	15798 L/760	21064 L/629
12'	16"	4869 L/999	12259 L/841	20596 L/662	7279 L/922	16486 L/737	24704 L/674	6063 L/999	13527 L/892	18036 L/685	9074 L/998	15782 L/771	21042 L/695
	24"	4863 L/827	12259 L/758	20596 L/621	7279 L/785	16486 L/682	24704 L/638	6063 L/938	13527 L/818	18036 L/650	9074 L/867	15782 L/723	21042 L/664
	36"	4402 L/648	12210 L/661	20596 L/568	7279 L/641	16486 L/612	24704 L/590	5718 L/750	13527 L/727	18036 L/603	9074 L/725	15782 L/660	21042 L/622
	48"	3921 L/496	11280 L/585	20596 L/523	6864 L/542	16486 L/556	24704 L/548	5219 L/620	13527 L/654	18036 L/563	8903 L/623	15782 L/608	21042 L/585
14'	16"	4790 L/760	11433 L/704	17305 L/646	7072 L/718	14723 L/668	20183 L/666	5959 L/857	13513 L/759	18017 L/679	8806 L/791	15765 L/712	21020 L/697
	24"	4528 L/600	11433 L/614	17305 L/584	7072 L/592	14723 L/596	20183 L/609	5825 L/692	13513 L/675	18017 L/624	8806 L/666	15765 L/646	21020 L/647
	36"	3946 L/426	10583 L/515	17305 L/510	6717 L/468	14723 L/513	20183 L/539	5214 L/532	13513 L/579	18017 L/556	8689 L/539	15765 L/567	21020 L/583
	48"	3330 L/319	9494 L/444	17305 L/452	6089 L/372	14226 L/449	20183 L/484	4581 L/399	12483 L/506	18017 L/500	8031 L/453	15765 L/505	21020 L/531
16'	16"	4612 L/584	10179 L/612	14306 L/613	6791 L/573	12219 L/618	16695 L/642	5821 L/669	12554 L/673	17756 L/657	8443 L/641	15116 L/671	20702 L/683
	24"	4153 L/439	9790 L/513	14306 L/532	6736 L/458	12219 L/527	16695 L/564	5400 L/525	12471 L/576	17756 L/581	8443 L/524	15116 L/584	20702 L/612
	36"	3456 L/292	8664 L/412	14306 L/443	5997 L/341	12006 L/432	16695 L/477	4668 L/365	11282 L/473	17756 L/495	7852 L/412	15116 L/489	20702 L/529
	48"	2723 L/219	7558 L/329	14306 L/379	5266 L/256	11057 L/365	16695 L/413	3910 L/274	10111 L/401	17756 L/431	7084 L/320	14368 L/420	20702 L/465
18'	16"	4265 L/456	8582 L/536	11988 L/564	6423 L/463	10265 L/555	13988 L/599	5477 L/529	10596 L/601	14875 L/617	7974 L/526	12713 L/615	17359 L/651
	24"	3733 L/313	7884 L/429	11988 L/468	6047 L/360	10265 L/453	13988 L/505	4918 L/391	10124 L/492	14875 L/524	7816 L/418	12713 L/513	17359 L/560
	36"	2932 L/208	6820 L/313	11988 L/373	5221 L/243	9583 L/355	13988 L/409	4074 L/261	8994 L/386	14875 L/427	6937 L/304	12382 L/411	17359 L/464
	48"	1408 L/156	5761 L/234	11895 L/310	4417 L/182	8693 L/274	13988 L/343	3211 L/195	7877 L/293	14875 L/360	6079 L/228	11435 L/342	17359 L/395
20'	16"	3882 L/347	7124 L/460	10165 L/506	5748 L/382	8727 L/487	11861 L/546	5026 L/425	9041 L/526	12626 L/566	7211 L/442	10818 L/551	14731 L/604
	24"	3294 L/231	6432 L/347	10165 L/404	5170 L/270	8624 L/382	11861 L/442	4401 L/289	8320 L/414	12626 L/461	6733 L/338	10818 L/442	14731 L/501
	36"	2418 L/154	5416 L/231	10165 L/309	4338 L/180	7755 L/270	11861 L/344	3475 L/193	7243 L/289	12626 L/361	5843 L/225	10093 L/338	14731 L/398
	48"	-	4422 L/173	9617 L/231	3530 L/135	6919 L/202	11684 L/270	2035 L/144	6188 L/217	12554 L/289	4984 L/169	9206 L/253	14731 L/330
22'	16"	3482 L/265	5955 L/390	8721 L/446	4775 L/309	7500 L/422	10175 L/487	4547 L/331	7615 L/454	10836 L/508	6135 L/376	9302 L/485	12642 L/550
	24"	2861 L/176	5293 L/265	8721 L/344	4232 L/206	7165 L/309	10175 L/381	3881 L/220	6909 L/331	10836 L/400	5555 L/257	9206 L/376	12642 L/440
	36"	-	4345 L/176	8520 L/235	3458 L/137	6354 L/206	10175 L/274	2909 L/147	5893 L/220	10836 L/294	4729 L/171	8333 L/257	12642 L/338
	48"	-	3412 L/132	7875 L/176	-	5573 L/154	9614 L/206	-	4903 L/165	10353 L/220	3925 L/128	7495 L/193	12535 L/257

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 115 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00, and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):
130 mph IBC/IRC 2021[5], Exposure C
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X6 WALLS

Height	Tributary Width	1.6E 2250F_b						2.0E 2900F_b					
		1-1/2" x 5-1/2"			1-3/4" x 5-1/2"			1-1/2" x 5-1/2"			1-3/4" x 5-1/2"		
		Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)
8'	16"	4971 L/999	13393 L/999	21381 L/843	7540 L/999	18682 L/999	24945 L/766	6197 L/999	13555 L/999	18074 L/857	9413 L/999	15815 L/999	21086 L/772
	24"	4971 L/999	13393 L/999	21381 L/806	7540 L/999	18682 L/949	24945 L/741	6197 L/999	13555 L/999	18074 L/827	9413 L/999	15815 L/992	21086 L/752
	36"	4667 L/999	13393 L/997	21381 L/757	7540 L/999	18682 L/875	24945 L/708	6025 L/999	13555 L/999	18074 L/786	9413 L/999	15815 L/928	21086 L/725
	48"	4258 L/896	13128 L/909	21381 L/717	7439 L/899	18682 L/816	24945 L/679	5609 L/999	13555 L/997	18074 L/751	9413 L/999	15815 L/875	21086 L/701
9'	16"	4952 L/999	13173 L/999	21372 L/757	7491 L/999	18239 L/891	24935 L/701	6171 L/999	13548 L/999	18065 L/774	9347 L/999	15806 L/928	21075 L/711
	24"	4832 L/999	13173 L/953	21372 L/717	7491 L/999	18239 L/830	24935 L/673	6171 L/999	13548 L/999	18065 L/741	9347 L/999	15806 L/875	21075 L/689
	36"	4284 L/839	12925 L/836	21372 L/664	7415 L/827	18239 L/752	24935 L/635	5622 L/973	13548 L/916	18065 L/696	9347 L/936	15806 L/806	21075 L/657
	48"	3733 L/642	11861 L/751	21372 L/621	6878 L/708	18239 L/692	24935 L/603	5062 L/802	13548 L/835	18065 L/659	8982 L/812	15806 L/751	21075 L/630
10'	16"	4928 L/999	12909 L/919	21364 L/689	7432 L/999	17731 L/797	24925 L/651	6139 L/999	13541 L/980	18055 L/710	9274 L/999	15798 L/836	21064 L/666
	24"	4613 L/863	12909 L/818	21364 L/644	7432 L/834	17731 L/731	24925 L/618	5958 L/990	13541 L/889	18055 L/672	9274 L/933	15798 L/778	21064 L/638
	36"	3954 L/624	11994 L/704	21364 L/587	7036 L/668	17731 L/650	24925 L/574	5278 L/776	13541 L/780	18055 L/622	9127 L/764	15798 L/705	21064 L/601
	48"	3262 L/474	10722 L/622	21364 L/542	6369 L/554	17731 L/589	24925 L/538	4583 L/593	13541 L/700	18055 L/581	8441 L/652	15798 L/648	21064 L/569
12'	16"	4700 L/753	12259 L/720	20596 L/601	7279 L/727	16486 L/655	24704 L/620	6031 L/861	13527 L/783	18036 L/633	9074 L/811	15782 L/699	21042 L/649
	24"	4148 L/561	11710 L/618	20596 L/543	7099 L/584	16486 L/581	24704 L/567	5454 L/678	13527 L/686	18036 L/581	9074 L/667	15782 L/631	21042 L/602
	36"	3248 L/374	10047 L/510	20596 L/475	6197 L/436	16362 L/496	24704 L/502	4532 L/467	13289 L/578	18036 L/518	8209 L/527	15782 L/551	21042 L/543
	48"	-	8349 L/421	20596 L/421	5251 L/327	14723 L/433	24704 L/450	3223 L/350	11516 L/501	18036 L/467	7233 L/409	15782 L/488	21042 L/495
14'	16"	4325 L/540	11290 L/575	17305 L/556	7072 L/542	14723 L/564	20183 L/583	5612 L/628	13513 L/638	18017 L/598	8806 L/615	15765 L/616	21020 L/623
	24"	3625 L/362	10013 L/475	17305 L/478	6387 L/422	14694 L/477	20183 L/509	4888 L/453	13017 L/538	18017 L/525	8344 L/490	15765 L/532	21020 L/554
	36"	1765 L/241	8086 L/362	17305 L/395	5262 L/281	12962 L/388	20183 L/427	3712 L/302	11003 L/436	18017 L/444	7168 L/352	15765 L/442	21020 L/475
	48"	-	5848 L/271	16620 L/336	4053 L/211	11244 L/317	20183 L/367	-	8970 L/339	18017 L/384	5958 L/264	15151 L/378	21020 L/416
16'	16"	3908 L/372	9388 L/472	14306 L/496	6473 L/414	12219 L/489	16695 L/529	5140 L/465	12050 L/534	17756 L/547	8352 L/478	15116 L/547	20702 L/579
	24"	3069 L/248	8076 L/372	14306 L/406	5607 L/289	11500 L/393	16695 L/441	4269 L/310	10655 L/432	17756 L/458	7439 L/362	14835 L/450	20702 L/493
	36"	-	6111 L/248	13955 L/319	4304 L/193	9854 L/289	16695 L/352	2078 L/207	8594 L/310	17756 L/368	6076 L/241	13095 L/355	20702 L/402
	48"	-	2020 L/186	12645 L/248	1401 L/144	8229 L/217	15620 L/289	-	6281 L/232	16810 L/307	4663 L/181	11389 L/271	20530 L/339
18'	16"	3453 L/266	7507 L/388	11988 L/430	5755 L/310	10173 L/413	13988 L/467	4620 L/332	9723 L/449	14875 L/485	7496 L/377	12713 L/472	17359 L/522
	24"	2495 L/177	6256 L/266	11988 L/337	4796 L/207	9110 L/310	13988 L/371	3619 L/221	8397 L/332	14875 L/389	6482 L/258	11869 L/372	17359 L/425
	36"	-	4283 L/177	10975 L/236	3257 L/138	7562 L/207	13433 L/276	-	6438 L/221	14446 L/295	4987 L/172	10232 L/258	17359 L/332
	48"	-	-	9757 L/177	-	6041 L/155	12190 L/207	-	2728 L/166	13160 L/221	2118 L/129	8624 L/194	16204 L/258
20'	16"	2991 L/197	6076 L/296	10165 L/365	4876 L/230	8315 L/344	11861 L/402	4079 L/246	7944 L/370	12626 L/421	6418 L/287	10697 L/400	14731 L/460
	24"	1376 L/131	4897 L/197	9947 L/263	3914 L/153	7315 L/230	11861 L/307	2989 L/164	6690 L/246	12626 L/324	5391 L/191	9625 L/287	14731 L/360
	36"	-	2158 L/131	8767 L/175	-	5876 L/153	10804 L/204	-	4843 L/164	11643 L/219	3888 L/127	8092 L/191	14200 L/255
	48"	-	-	7636 L/131	-	-	9652 L/153	-	-	10452 L/164	-	6585 L/143	12982 L/191
22'	16"	2539 L/150	4958 L/225	8721 L/300	3960 L/175	6873 L/263	10175 L/342	3540 L/188	6549 L/282	10836 L/359	5261 L/219	8893 L/329	12642 L/398
	24"	-	3856 L/150	8178 L/200	-	5941 L/175	9925 L/234	2060 L/125	5375 L/188	10668 L/250	4304 L/146	7889 L/219	12642 L/292
	36"	-	-	7086 L/133	-	-	8801 L/156	-	3112 L/125	9503 L/167	-	6460 L/146	11662 L/195
	48"	-	-	-	-	-	-	-	-	8398 L/125	-	-	10528 L/146

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 130 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00, and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):

115 mph Exposure B and 130 mph Exposure C, IBC/IRC 2021[5]

These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X6 WALLS

Height	Tributary Width	2.1E 3100Fb															
		115 mph Exposure B								130 mph Exposure C							
		3-1/2" x 5-1/2"		5-1/4" x 5-1/2"		5-1/4" x 7-1/4" (plank)		5-1/4" x 9-1/4" (plank)		3-1/2" x 5-1/2"		5-1/4" x 5-1/2"		5-1/4" x 7-1/4" (plank)		5-1/4" x 9-1/4" (plank)	
8'	16"	12472	L/999	18708	L/744	24661	L/812	31464	L/816	12472	L/999	18708	L/724	24661	L/796	31464	L/804
	24"	12472	L/999	18708	L/730	24661	L/801	31464	L/808	12472	L/987	18708	L/702	24661	L/780	31464	L/790
	36"	12472	L/999	18708	L/712	24661	L/787	31464	L/796	12472	L/885	18708	L/672	24661	L/756	31464	L/771
	48"	12472	L/963	18708	L/695	24661	L/774	31464	L/786	12472	L/807	18708	L/646	24661	L/735	31464	L/754
9'	16"	12467	L/999	18701	L/691	24651	L/803	31452	L/810	12467	L/927	18701	L/667	24651	L/780	31452	L/792
	24"	12467	L/956	18701	L/675	24651	L/788	31452	L/798	12467	L/842	18701	L/641	24651	L/756	31452	L/772
	36"	12467	L/879	18701	L/653	24651	L/767	31452	L/781	12467	L/740	18701	L/606	24651	L/723	31452	L/744
	48"	12467	L/816	18701	L/633	24651	L/748	31452	L/766	12467	L/666	18701	L/577	24651	L/694	31452	L/720
10'	16"	12462	L/904	18693	L/658	24641	L/799	31439	L/809	12462	L/810	18693	L/629	24641	L/766	31439	L/782
	24"	12462	L/841	18693	L/639	24641	L/778	31439	L/792	12462	L/724	18693	L/597	24641	L/732	31439	L/754
	36"	12462	L/761	18693	L/611	24641	L/747	31439	L/767	12462	L/625	18693	L/556	24641	L/686	31439	L/715
	48"	12462	L/698	18693	L/587	24641	L/721	31439	L/744	12462	L/553	18693	L/521	24641	L/647	31439	L/682
12'	16"	12452	L/738	18678	L/666	24621	L/793	31414	L/811	12452	L/637	18678	L/612	24621	L/734	31414	L/762
	24"	12452	L/669	18678	L/629	24621	L/753	31414	L/779	12452	L/551	18678	L/559	24621	L/675	31414	L/712
	36"	12452	L/587	18678	L/582	24621	L/700	31414	L/734	12452	L/458	18678	L/495	24621	L/603	31414	L/648
	48"	12452	L/523	18678	L/540	24621	L/654	31414	L/694	12452	L/391	18678	L/443	24621	L/544	31414	L/594
14'	16"	12442	L/623	18663	L/659	21289	L/776	27147	L/807	12442	L/516	18663	L/575	21289	L/684	27147	L/727
	24"	12442	L/548	18663	L/602	21289	L/714	27147	L/753	12442	L/430	18663	L/502	21289	L/602	27147	L/653
	36"	12442	L/464	18663	L/532	21289	L/636	27147	L/684	12442	L/343	18663	L/420	21289	L/509	27147	L/566
	48"	12442	L/403	18663	L/477	21289	L/574	27147	L/627	11179	L/277	18663	L/362	20405	L/441	27147	L/499
16'	16"	11060	L/558	16621	L/635	17849	L/744	22774	L/788	11060	L/435	16621	L/523	17849	L/620	22774	L/676
	24"	11060	L/472	16621	L/557	17849	L/658	22774	L/711	11060	L/347	16621	L/435	17849	L/520	22774	L/581
	36"	11060	L/382	16621	L/471	17849	L/561	22774	L/620	9904	L/253	16621	L/346	17446	L/418	22774	L/479
	48"	10861	L/321	16621	L/407	17849	L/489	22774	L/550	8651	L/190	15600	L/285	15617	L/343	21940	L/408
18'	16"	9254	L/500	13906	L/593	15118	L/693	19289	L/751	9254	L/367	13906	L/461	15118	L/546	19289	L/611
	24"	9254	L/404	13906	L/499	15118	L/589	19289	L/653	8872	L/271	13906	L/366	15118	L/438	19289	L/502
	36"	9246	L/313	13906	L/403	15118	L/481	19289	L/546	7666	L/181	13384	L/271	13803	L/326	19060	L/396
	48"	8545	L/239	13906	L/338	15092	L/406	19289	L/469	6503	L/135	12187	L/203	12077	L/245	17302	L/312
20'	16"	7845	L/437	11782	L/539	12946	L/632	16522	L/699	7845	L/302	11782	L/397	12946	L/471	16522	L/540
	24"	7845	L/340	11782	L/437	12946	L/516	16522	L/586	7140	L/201	11782	L/302	12724	L/363	16522	L/427
	36"	7483	L/236	11782	L/339	12946	L/405	16522	L/471	6026	L/134	10775	L/201	11049	L/242	15462	L/309
	48"	6832	L/177	11612	L/266	12260	L/320	16522	L/393	-		9656	L/151	9440	L/181	13823	L/231
22'	16"	6723	L/376	10096	L/481	11189	L/565	14273	L/639	6550	L/230	10096	L/337	11189	L/401	14273	L/469
	24"	6723	L/270	10096	L/376	11189	L/446	14273	L/517	5816	L/153	9870	L/230	10503	L/276	14273	L/353
	36"	6136	L/180	10096	L/270	10979	L/325	14273	L/401	-		8781	L/153	8938	L/184	12691	L/235
	48"	5532	L/135	9565	L/203	10068	L/243	13845	L/311	-		-		7436	L/138	11149	L/176

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 115 and 130 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00 , and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):
115 mph IBC/IRC 2021[5], Exposure B
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X8 WALLS

Height	Tributary Width	1.6E 2250Fb												2.0E 2900Fb											
		1-1/2" x 7-1/4"						1-3/4" x 7-1/4"						1-1/2" x 7-1/4"						1-3/4" x 7-1/4"					
		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)	
8'	16"	6409	L/999	17064	L/999	28184	L/999	9833	L/999	24473	L/999	32882	L/999	7996	L/999	17869	L/999	23825	L/999	12301	L/999	20847	L/999	27796	L/999
	24"	6409	L/999	17064	L/999	28184	L/999	9833	L/999	24473	L/999	32882	L/999	7996	L/999	17869	L/999	23825	L/999	12301	L/999	20847	L/999	27796	L/999
	36"	6409	L/999	17064	L/999	28184	L/999	9833	L/999	24473	L/999	32882	L/999	7996	L/999	17869	L/999	23825	L/999	12301	L/999	20847	L/999	27796	L/999
	48"	6409	L/999	17064	L/999	28184	L/999	9833	L/999	24473	L/999	32882	L/999	7996	L/999	17869	L/999	23825	L/999	12301	L/999	20847	L/999	27796	L/999
9'	16"	6393	L/999	16886	L/999	28106	L/999	9799	L/999	24166	L/999	32868	L/999	7973	L/999	17859	L/999	23812	L/999	12250	L/999	20836	L/999	27781	L/999
	24"	6393	L/999	16886	L/999	28106	L/999	9799	L/999	24166	L/999	32868	L/999	7973	L/999	17859	L/999	23812	L/999	12250	L/999	20836	L/999	27781	L/999
	36"	6393	L/999	16886	L/999	28106	L/999	9799	L/999	24166	L/999	32868	L/999	7973	L/999	17859	L/999	23812	L/999	12250	L/999	20836	L/999	27781	L/999
	48"	6393	L/999	16886	L/999	28106	L/999	9799	L/999	24166	L/999	32868	L/999	7973	L/999	17859	L/999	23812	L/999	12250	L/999	20836	L/999	27781	L/999
10'	16"	6373	L/999	16696	L/999	27544	L/999	9750	L/999	23799	L/999	32855	L/998	7949	L/999	17850	L/999	23800	L/999	12196	L/999	20825	L/999	27767	L/999
	24"	6373	L/999	16696	L/999	27544	L/999	9750	L/999	23799	L/999	32855	L/979	7949	L/999	17850	L/999	23800	L/999	12196	L/999	20825	L/999	27767	L/994
	36"	6373	L/999	16696	L/999	27544	L/999	9750	L/999	23799	L/999	32855	L/953	7949	L/999	17850	L/999	23800	L/999	12196	L/999	20825	L/999	27767	L/973
	48"	6362	L/999	16696	L/999	27544	L/999	9750	L/999	23799	L/999	32855	L/930	7949	L/999	17850	L/999	23800	L/999	12196	L/999	20825	L/999	27767	L/953
12'	16"	6328	L/999	16237	L/999	26243	L/999	9646	L/999	22935	L/999	32829	L/877	7889	L/999	17831	L/999	23775	L/999	12059	L/999	20803	L/999	27738	L/893
	24"	6328	L/999	16237	L/999	26243	L/999	9646	L/999	22935	L/964	32829	L/853	7889	L/999	17831	L/999	23775	L/999	12059	L/999	20803	L/999	27738	L/873
	36"	6328	L/999	16237	L/999	26243	L/946	9646	L/999	22935	L/900	32829	L/818	7889	L/999	17831	L/999	23775	L/989	12059	L/999	20803	L/944	27738	L/844
	48"	5958	L/999	16237	L/960	26243	L/898	9646	L/966	22935	L/845	32829	L/786	7720	L/999	17831	L/999	23775	L/948	12059	L/999	20803	L/896	27738	L/817
14'	16"	6270	L/999	15673	L/999	24735	L/921	9506	L/999	21866	L/878	32299	L/806	7814	L/999	17813	L/999	23750	L/954	11880	L/999	20781	L/910	27709	L/831
	24"	6270	L/999	15673	L/947	24735	L/871	9506	L/998	21866	L/822	32299	L/772	7814	L/999	17813	L/999	23750	L/912	11880	L/999	20781	L/862	27709	L/802
	36"	6000	L/867	15673	L/839	24735	L/806	9506	L/833	21866	L/750	32299	L/726	7744	L/991	17813	L/910	23750	L/855	11880	L/929	20781	L/799	27709	L/763
	48"	5527	L/723	15246	L/754	24735	L/750	9477	L/716	21866	L/690	32299	L/685	7263	L/838	17813	L/829	23750	L/805	11880	L/811	20781	L/744	27709	L/727
16'	16"	6200	L/999	14982	L/890	23046	L/846	9336	L/938	20602	L/780	29473	L/787	7724	L/999	17794	L/945	23725	L/887	11660	L/999	20760	L/817	27680	L/818
	24"	6197	L/837	14982	L/795	23046	L/783	9336	L/794	20602	L/716	29473	L/737	7724	L/948	17794	L/858	23725	L/832	11660	L/879	20760	L/760	27680	L/776
	36"	5644	L/652	14845	L/685	23046	L/704	9336	L/646	20602	L/637	29473	L/674	7360	L/755	17794	L/755	23725	L/760	11660	L/731	20760	L/688	27680	L/719
	48"	5075	L/498	13780	L/602	22682	L/640	8888	L/545	20602	L/573	29473	L/620	6773	L/622	17794	L/673	23725	L/700	11528	L/626	20760	L/628	27680	L/670
18'	16"	6111	L/827	14194	L/774	20425	L/800	9121	L/775	19136	L/717	25507	L/763	7610	L/929	17634	L/832	23700	L/849	11382	L/850	20738	L/761	27651	L/801
	24"	5895	L/655	14194	L/674	20425	L/719	9121	L/641	19136	L/640	25507	L/696	7587	L/752	17634	L/738	23700	L/775	11382	L/718	20738	L/691	27651	L/742
	36"	5249	L/474	13427	L/564	20254	L/624	8889	L/508	19136	L/551	25507	L/615	6921	L/585	17310	L/631	23700	L/685	11382	L/583	20738	L/607	27651	L/667
	48"	4569	L/356	12270	L/485	18992	L/550	8214	L/415	18800	L/484	25507	L/551	6236	L/445	16102	L/551	23700	L/614	10769	L/490	20738	L/541	27651	L/607
20'	16"	6000	L/672	13315	L/681	17895	L/749	8850	L/649	16642	L/673	22202	L/731	7469	L/764	16521	L/742	22119	L/805	11033	L/720	20666	L/725	27550	L/777
	24"	5565	L/521	13228	L/576	17895	L/651	8850	L/524	16642	L/581	22202	L/647	7215	L/605	16521	L/641	22119	L/714	11033	L/595	20666	L/638	27550	L/701
	36"	4819	L/351	11990	L/468	17216	L/545	8260	L/406	16642	L/482	22202	L/553	6447	L/439	15551	L/532	22029	L/610	10735	L/472	20666	L/541	27550	L/611
	48"	4043	L/263	10743	L/394	15973	L/468	7497	L/307	15735	L/412	22202	L/482	5665	L/329	14276	L/455	20740	L/532	9947	L/384	20325	L/470	27550	L/541
22'	16"	5758	L/553	11814	L/616	15753	L/693	8526	L/549	14570	L/623	19423	L/691	7298	L/636	14621	L/682	19487	L/756	10625	L/617	18106	L/681	24131	L/745
	24"	5207	L/402	11343	L/504	15753	L/584	8430	L/433	14570	L/520	19423	L/594	6806	L/494	14517	L/570	19487	L/650	10625	L/498	18106	L/581	24131	L/653
	36"	4240	L/268	10134	L/396	14717	L/472	7577	L/313	14260	L/417	19423	L/490	5869	L/335	13265	L/458	18938	L/537	9950	L/387	18106	L/476	24131	L/551
	48"	2957	L/201	8848	L/302	13518	L/396	6612	L/235	13261	L/348	19010	L/417	4849	L/251	12034	L/377	17694	L/457	9023	L/293	17258	L/403	24131	L/476
24'	16"	5392	L/462	10459	L/551	13945	L/634	8136	L/469	12836	L/570	17111	L/645	6997	L/535	12952	L/620	17278	L/702	10131	L/533	15948	L/633	21261	L/706
	24"	4643	L/315	9783	L/437	13835	L/518	7723	L/363	12836	L/461	17111	L/538	6231	L/393	12594	L/503	17278	L/586	10061	L/421	15948	L/524	21261	L/601
	36"	3500	L/210	8313	L/315	12553	L/407	6607	L/245	12117	L/359	17111	L/430	5059	L/262	11205	L/393	16388	L/469	8902	L/306	15751	L/416	21261	L/492
	48"	551	L/157	6858	L/236	11078	L/315	5502	L/183	10916	L/275	16148	L/359	3642	L/196	9697	L/295	14939	L/393	7761	L/229	14545	L/344	20996	L/416
26'	16"	4903	L/377	9216	L/490	12411	L/575	7554	L/407	11379	L/516	15175	L/596	6452	L/457	11535	L/559	15379	L/646	9428	L/467	14145	L/581	18858	L/662
	24"	4045	L/251	8189	L/377	11950	L/458	6730	L/293	11337	L/407	15175	L/483	5552	L/314	10785	L/443	15379	L/524	8874	L/363	14145	L/467	18858	L/548
	36"	2286	L/167	6695	L/251	10421	L/335	5530	L/195	10095	L/293	14691	L/377	4214	L/209	9227	L/314	13857	L/411	7615	L/244	13312	L/363	18858	L/436
	48"	-		5208	L/188	8925	L/251	4354	L/146	8890	L/220	13460	L/293	1220	L/157	7680	L/235	12306	L/314	6389	L/183	12046	L/275	17745	L/363
28'	16"	4383	L/305	7886	L/435	11108	L/518	6441	L/356	10147	L/464	13533	L/545	5845	L/381	10230	L/502	13771	L/588	8365	L/416	12618	L/528	16832	L/613
	24"	3426	L/203	6849	L/305	10162	L/403	5604	L/237	9657	L/356	13533	L/432	4843	L/254	9137	L/381	13274	L/468	7487	L/296	12556	L/416	16832	L/495
	36"	477	L/135	5332	L/203	8621	L/271	4402	L/158	8406	L/237	12449	L/316	3094	L/169	7548	L/254	11654	L/339	6219	L/197	11230	L/296	16282	L/385
	48"	-		2863	L/152	7107	L/203	-		7197	L/178	11215	L/237	-		5980	L/190	10061	L/254	4983	L/148	9955	L/222	14970	L/296
30'	16"	3812	L/250	6766	L/376	9744	L/465	5505	L/292	9100	L/415	12132	L/496	5161	L/313	8849	L/449	12393	L/535	7206	L/365	11317	L/479	15097	L/564
	24"	2787	L/167	5717	L/250	8663	L/334	4669	L/195	8253	L/292	11882	L/384	4094	L/209	7745	L/313	11426	L/415	6327	L/243	10814	L/365	15097	L/446
	36"	-		4181	L/167	7107	L/222	3459	L/130	7000	L/195	10580	L/260	1252	L/139	6139	L/209	9784	L/278	5059	L/162	9484	L/243	13962	L/325
	48"	-		416	L/125	5581	L/167	-		5794	L/146	9334	L/195	-		4033	L/156	8190	L/209	3632	L/121	8213	L/182	12658	L/243

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 115 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00 , and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):
130 mph IBC/IRC 2021[5], Exposure C
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X8 WALLS

Height	Tributary Width	1.6E 2250Fb									2.0E 2900Fb								
		1-1/2" x 7-1/4"						1-3/4" x 7-1/4"						1-1/2" x 7-1/4"				1-3/4" x 7-1/4"					
		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)	
8'	16"	6409	L/999	17064	L/999	28184	L/999	9833	L/999	24473	L/999	32882	L/999	7996	L/999	17869	L/999	23825	L/999	12301	L/999	20847	L/999	27796	L/999
	24"	6409	L/999	17064	L/999	28184	L/999	9833	L/999	24473	L/999	32882	L/999	7996	L/999	17869	L/999	23825	L/999	12301	L/999	20847	L/999	27796	L/999
	36"	6409	L/999	17064	L/999	28184	L/999	9833	L/999	24473	L/999	32882	L/999	7996	L/999	17869	L/999	23825	L/999	12301	L/999	20847	L/999	27796	L/999
	48"	6184	L/999	17064	L/999	28184	L/999	9833	L/999	24473	L/999	32882	L/999	7979	L/999	17869	L/999	23825	L/999	12301	L/999	20847	L/999	27796	L/999
9'	16"	6393	L/999	16886	L/999	28106	L/999	9799	L/999	24166	L/999	32868	L/999	7973	L/999	17859	L/999	23812	L/999	12250	L/999	20836	L/999	27781	L/999
	24"	6393	L/999	16886	L/999	28106	L/999	9799	L/999	24166	L/999	32868	L/999	7973	L/999	17859	L/999	23812	L/999	12250	L/999	20836	L/999	27781	L/999
	36"	6212	L/999	16886	L/999	28106	L/999	9799	L/999	24166	L/999	32868	L/995	7973	L/999	17859	L/999	23812	L/999	12250	L/999	20836	L/999	27781	L/999
	48"	5789	L/999	16886	L/999	28106	L/999	9799	L/999	24166	L/999	32868	L/963	7568	L/999	17859	L/999	23812	L/999	12250	L/999	20836	L/999	27781	L/995
10'	16"	6373	L/999	16696	L/999	27544	L/999	9750	L/999	23799	L/999	32855	L/970	7949	L/999	17850	L/999	23800	L/999	12196	L/999	20825	L/999	27767	L/987
	24"	6373	L/999	16696	L/999	27544	L/999	9750	L/999	23799	L/999	32855	L/939	7949	L/999	17850	L/999	23800	L/999	12196	L/999	20825	L/999	27767	L/962
	36"	5963	L/999	16696	L/999	27544	L/999	9750	L/999	23799	L/997	32855	L/897	7742	L/999	17850	L/999	23800	L/999	12196	L/999	20825	L/999	27767	L/927
	48"	5445	L/999	16130	L/999	27544	L/991	9609	L/999	23799	L/930	32855	L/861	7217	L/999	17850	L/999	23800	L/999	12196	L/999	20825	L/993	27767	L/896
12'	16"	6328	L/999	16237	L/999	26243	L/980	9646	L/999	22935	L/940	32829	L/840	7889	L/999	17831	L/999	23775	L/999	12059	L/999	20803	L/979	27738	L/863
	24"	6137	L/999	16237	L/998	26243	L/920	9646	L/999	22935	L/869	32829	L/801	7889	L/999	17831	L/999	23775	L/967	12059	L/999	20803	L/918	27738	L/829
	36"	5450	L/843	15653	L/868	26243	L/843	9517	L/834	22935	L/782	32829	L/748	7206	L/980	17831	L/951	23775	L/899	12059	L/943	20803	L/839	27738	L/784
	48"	4700	L/632	14269	L/769	25844	L/778	8810	L/704	22935	L/711	32829	L/702	6460	L/790	17831	L/855	23775	L/840	11552	L/808	20803	L/773	27738	L/744
14'	16"	6270	L/997	15673	L/906	24735	L/847	9506	L/933	21866	L/795	32299	L/755	7814	L/999	17813	L/971	23750	L/891	11880	L/999	20781	L/839	27709	L/788
	24"	5752	L/785	15672	L/792	24735	L/776	9506	L/767	21866	L/717	32299	L/704	7493	L/904	17813	L/865	23750	L/828	11880	L/863	20781	L/769	27709	L/743
	36"	4881	L/546	14043	L/667	24506	L/689	8856	L/606	21866	L/625	32299	L/639	6611	L/683	17813	L/744	23750	L/748	11547	L/697	20781	L/683	27709	L/685
	48"	3909	L/410	12368	L/576	22364	L/620	7960	L/478	21213	L/555	32299	L/585	5670	L/512	16658	L/653	23750	L/683	10645	L/584	20781	L/615	27709	L/635
16'	16"	6003	L/760	14982	L/752	23046	L/753	9336	L/734	20602	L/685	29473	L/713	7724	L/869	17794	L/818	23725	L/805	11660	L/820	20760	L/733	27680	L/754
	24"	5342	L/563	14277	L/638	23046	L/668	9153	L/588	20602	L/601	29473	L/644	7049	L/681	17794	L/709	23725	L/727	11660	L/671	20760	L/655	27680	L/691
	36"	4278	L/375	12395	L/520	21024	L/572	8125	L/438	20334	L/507	29473	L/562	5983	L/469	16472	L/591	23725	L/634	10746	L/528	20760	L/565	27680	L/615
	48"	1665	L/281	10473	L/422	18732	L/500	7047	L/328	18546	L/439	28297	L/498	4825	L/352	14516	L/507	23725	L/563	9659	L/411	20760	L/496	27680	L/554
18'	16"	5667	L/590	14190	L/630	20425	L/682	9121	L/587	19136	L/605	25507	L/665	7352	L/683	17634	L/696	23700	L/741	11382	L/664	20738	L/658	27651	L/714
	24"	4894	L/403	12815	L/519	19597	L/583	8533	L/458	19136	L/513	25507	L/579	6561	L/504	16676	L/586	23700	L/646	11102	L/530	20738	L/570	27651	L/634
	36"	3632	L/269	10742	L/403	17355	L/478	7329	L/314	17438	L/418	25112	L/485	5309	L/336	14544	L/474	22763	L/541	9862	L/392	20738	L/474	27651	L/543
	48"	-		8631	L/302	15103	L/403	6081	L/235	15575	L/352	23244	L/418	2903	L/252	12395	L/378	20451	L/466	8600	L/294	20738	L/406	27651	L/474
20'	16"	5309	L/449	12790	L/534	17895	L/610	8756	L/476	16642	L/542	22202	L/611	6949	L/546	16385	L/599	22119	L/674	11033	L/545	20666	L/600	27550	L/667
	24"	4422	L/299	11341	L/426	16570	L/502	7866	L/349	16222	L/443	22202	L/513	6042	L/374	14890	L/489	21359	L/567	10327	L/426	20666	L/501	27550	L/572
	36"	1782	L/199	9145	L/299	14382	L/397	6505	L/233	14414	L/347	21033	L/414	4604	L/249	12636	L/374	19091	L/458	8931	L/291	18961	L/401	27158	L/472
	48"	-		6311	L/224	12204	L/299	5107	L/174	12621	L/262	19225	L/347	-		10362	L/281	16850	L/374	7516	L/218	17107	L/327	25288	L/401
22'	16"	4871	L/342	10924	L/460	15510	L/539	8134	L/390	14570	L/479	19423	L/553	6512	L/428	14073	L/525	19487	L/606	10516	L/453	18106	L/540	24131	L/613
	24"	3712	L/228	9504	L/342	14090	L/428	7070	L/266	13734	L/378	19423	L/449	5339	L/285	12615	L/415	18280	L/492	9493	L/333	17743	L/435	24131	L/509
	36"	-		7015	L/228	11868	L/304	5355	L/177	11911	L/266	17721	L/350	2046	L/190	10231	L/285	16097	L/381	7737	L/222	15938	L/333	23071	L/406
	48"	-		939	L/171	9351	L/228	1395	L/133	9900	L/200	15879	L/266	-		6875	L/214	13641	L/285	5904	L/166	13959	L/250	21263	L/333
24'	16"	4245	L/268	9260	L/395	13420	L/472	7323	L/312	12836	L/419	17111	L/495	5824	L/335	12171	L/457	17171	L/539	9661	L/380	15948	L/480	21261	L/558
	24"	2309	L/178	7543	L/268	11777	L/357	6027	L/208	11480	L/312	16725	L/389	4431	L/223	10403	L/335	15660	L/425	8302	L/260	15138	L/376	21261	L/449
	36"	-		3775	L/178	9201	L/238	3466	L/138	9407	L/208	14604	L/277	-		7735	L/223	12984	L/297	6287	L/173	12966	L/260	19454	L/347
	48"	-		-		5028	L/178	-		7348	L/156	12540	L/208	-		1606	L/167	10326	L/223	2025	L/130	10844	L/195	17294	L/260
26'	16"	3581	L/213	7653	L/319	11396	L/413	6294	L/248	10886	L/366	15175	L/439	5072	L/266	10224	L/398	14870	L/477	8412	L/311	14140	L/424	18858	L/501
	24"	-		5896	L/213	9615	L/284	4894	L/165	9442	L/248	14025	L/331	3038	L/177	8389	L/266	13019	L/355	6950	L/207	12625	L/311	18347	L/394
	36"	-		-		6975	L/189	-		7343	L/165	11882	L/221	-		4799	L/177	10283	L/237	4394	L/138	10430	L/207	16094	L/276
	48"	-		-		-		-		3941	L/124	9792	L/165	-		-		6379	L/177	-		8267	L/155	13907	L/207
28'	16"	2921	L/173	6316	L/259	9614	L/346	5177	L/202	9210	L/303	13291	L/389	4324	L/216	8575	L/324	12700	L/422	7037	L/252	12079	L/374	16832	L/450
	24"	-		4535	L/173	7834	L/231	3775	L/134	7765	L/202	11797	L/269	877	L/144	6724	L/216	10817	L/288	5568	L/168	10552	L/252	15586	L/336
	36"	-		-		3987	L/154	-		5664	L/134	9654	L/179	-		1320	L/144	8040	L/192	-		8348	L/168	13331	L/224
	48"	-		-		-		-		-		7548	L/134	-		-		1776	L/144	-		5423	L/126	11133	L/168
30'	16"	1655	L/142	5173	L/213	8108	L/284	4239	L/165	7803	L/248	11418	L/331	3534	L/177	7171	L/266	10842	L/355	5870	L/207	10337	L/310	14848	L/401
	24"	-		2478	L/142	6299	L/189	-		6359	L/165	9917	L/221	-		5299	L/177	8939	L/236	4393	L/138	8808	L/207	13267	L/276
	36"	-		-		730	L/126	-		-		7764	L/147	-		-		5534	L/157	-		6592	L/138	11002	L/184
	48"	-		-		-		-		-		-		-		-		-		-		-		8794	L/138

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 130 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00 , and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):
115 mph Exposure B and 130 mph Exposure C, IBC/IRC 2021[5]
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X8 WALLS

Height	Tributary Width	2.1E 3100Fb															
		115 mph Exposure B								130 mph Exposure C							
		3-1/2" x 7-1/4"		5-1/4" x 7-1/4"		7" x 7-1/4"		7"x 9-1/4" (plank)		3-1/2" x 7-1/4"		5-1/4" x 7-1/4"		7" x 7-1/4"		7"x 9-1/4" (plank)	
8'	16"	16441	L/999	24661	L/936	32882	L/755	41952	L/930	16441	L/999	24661	L/921	32882	L/749	41952	L/924
	24"	16441	L/999	24661	L/926	32882	L/751	41952	L/926	16441	L/999	24661	L/903	32882	L/741	41952	L/917
	36"	16441	L/999	24661	L/911	32882	L/744	41952	L/920	16441	L/999	24661	L/878	32882	L/730	41952	L/906
	48"	16441	L/999	24661	L/898	32882	L/739	41952	L/914	16441	L/999	24661	L/856	32882	L/720	41952	L/896
9'	16"	16434	L/999	24651	L/850	32868	L/703	41936	L/888	16434	L/999	24651	L/832	32868	L/695	41936	L/879
	24"	16434	L/999	24651	L/838	32868	L/697	41936	L/882	16434	L/999	24651	L/813	32868	L/686	41936	L/870
	36"	16434	L/999	24651	L/822	32868	L/690	41936	L/874	16434	L/999	24651	L/786	32868	L/672	41936	L/856
	48"	16434	L/999	24651	L/807	32868	L/683	41936	L/866	16434	L/999	24651	L/762	32868	L/661	41936	L/843
10'	16"	16427	L/999	24641	L/784	32855	L/672	41919	L/862	16427	L/999	24641	L/764	32855	L/662	41919	L/850
	24"	16427	L/999	24641	L/771	32855	L/665	41919	L/854	16427	L/999	24641	L/742	32855	L/650	41919	L/837
	36"	16427	L/999	24641	L/752	32855	L/655	41919	L/843	16427	L/963	24641	L/712	32855	L/634	41919	L/817
	48"	16427	L/999	24641	L/735	32855	L/646	41919	L/832	16427	L/881	24641	L/685	32855	L/619	41919	L/800
12'	16"	16414	L/999	24621	L/696	32829	L/671	41885	L/839	16414	L/920	24621	L/669	32829	L/653	41885	L/818
	24"	16414	L/950	24621	L/678	32829	L/659	41885	L/825	16414	L/833	24621	L/641	32829	L/633	41885	L/794
	36"	16414	L/870	24621	L/653	32829	L/642	41885	L/805	16414	L/730	24621	L/602	32829	L/605	41885	L/761
	48"	16414	L/803	24621	L/630	32829	L/625	41885	L/785	16414	L/649	24621	L/568	32829	L/579	41885	L/731
14'	16"	16401	L/851	24602	L/669	32802	L/682	41852	L/833	16401	L/754	24602	L/630	32802	L/651	41852	L/797
	24"	16401	L/785	24602	L/643	32802	L/662	41852	L/810	16401	L/666	24602	L/590	32802	L/619	41852	L/760
	36"	16401	L/702	24602	L/607	32802	L/633	41852	L/776	16401	L/566	24602	L/538	32802	L/576	41852	L/710
	48"	16401	L/636	24602	L/575	32802	L/606	41852	L/746	16401	L/493	24602	L/495	32802	L/538	41852	L/665
16'	16"	16388	L/734	24582	L/672	32776	L/693	41818	L/831	16388	L/631	24582	L/613	32776	L/645	41818	L/777
	24"	16388	L/663	24582	L/633	32776	L/661	41818	L/795	16388	L/543	24582	L/557	32776	L/597	41818	L/722
	36"	16388	L/580	24582	L/581	32776	L/618	41818	L/746	16388	L/449	24582	L/489	32776	L/538	41818	L/653
	48"	16388	L/515	24582	L/537	32776	L/580	41818	L/703	16388	L/382	24582	L/436	32776	L/489	41818	L/596
18'	16"	16375	L/645	24562	L/667	32750	L/697	36598	L/826	16375	L/536	24562	L/586	32750	L/629	36598	L/749
	24"	16375	L/570	24562	L/612	32750	L/651	36598	L/774	16375	L/449	24562	L/514	32750	L/566	36598	L/677
	36"	16375	L/485	24562	L/544	32750	L/593	36598	L/707	16375	L/361	24562	L/434	32750	L/491	36598	L/591
	48"	16375	L/422	24562	L/490	32750	L/544	36598	L/652	16375	L/301	24562	L/375	32750	L/434	36598	L/524
20'	16"	15516	L/583	23340	L/651	31141	L/693	32088	L/812	15516	L/467	23340	L/549	31141	L/604	32088	L/713
	24"	15516	L/501	23340	L/581	31141	L/631	32088	L/744	15516	L/379	23340	L/465	31141	L/525	32088	L/624
	36"	15516	L/414	23340	L/499	31141	L/557	32088	L/661	15516	L/295	23340	L/378	31141	L/439	32088	L/526
	48"	15516	L/352	23340	L/438	31141	L/499	32088	L/594	14706	L/229	23340	L/318	31141	L/378	32088	L/454
22'	16"	13496	L/543	20298	L/626	27085	L/679	28269	L/792	13496	L/415	20298	L/506	27085	L/569	28269	L/669
	24"	13496	L/451	20298	L/542	27085	L/602	28269	L/706	13496	L/325	20298	L/414	27085	L/479	28269	L/567
	36"	13496	L/360	20298	L/450	27085	L/515	28269	L/608	13278	L/233	20298	L/325	27085	L/387	28269	L/461
	48"	13496	L/299	20298	L/385	27085	L/450	28269	L/534	11941	L/175	20298	L/262	27085	L/324	28269	L/389
24'	16"	11837	L/499	17792	L/593	23736	L/656	25062	L/762	11837	L/364	17792	L/459	23736	L/528	25062	L/619
	24"	11837	L/402	17792	L/498	23736	L/566	25062	L/662	11837	L/273	17792	L/363	23736	L/430	25062	L/509
	36"	11837	L/311	17792	L/401	23736	L/469	25062	L/553	10793	L/182	17792	L/273	23736	L/337	25062	L/401
	48"	11797	L/241	17792	L/335	23736	L/401	25062	L/474	9461	L/136	17018	L/205	23736	L/273	24932	L/325
26'	16"	10445	L/453	15705	L/554	20949	L/625	22329	L/725	10445	L/318	15705	L/411	20949	L/482	22329	L/566
	24"	10445	L/355	15705	L/452	20949	L/524	22329	L/613	10171	L/217	15705	L/317	20949	L/382	22329	L/451
	36"	10445	L/256	15705	L/354	20949	L/422	22329	L/497	8781	L/145	15376	L/217	20949	L/290	22329	L/345
	48"	9797	L/192	15705	L/289	20949	L/354	22329	L/419	-		14003	L/163	20552	L/217	20606	L/259
28'	16"	9280	L/407	13949	L/511	18610	L/587	19994	L/682	9280	L/265	13949	L/367	18610	L/438	19994	L/513
	24"	9280	L/311	13949	L/406	18610	L/480	19994	L/561	8534	L/176	13949	L/265	18610	L/339	19994	L/401
	36"	8962	L/207	13949	L/311	18610	L/377	19994	L/445	-		12917	L/176	18610	L/235	19156	L/280
	48"	8158	L/155	13949	L/233	18610	L/311	19994	L/369	-		11562	L/132	17261	L/176	17045	L/210
30'	16"	8295	L/364	12466	L/468	16628	L/547	18001	L/635	8143	L/217	12466	L/325	16628	L/394	18001	L/463
	24"	8295	L/256	12466	L/363	16628	L/436	18001	L/511	7179	L/145	12306	L/217	16628	L/290	18001	L/345
	36"	7601	L/170	12466	L/256	16628	L/335	18001	L/396	-		10879	L/145	15937	L/193	16179	L/230
	48"	6807	L/128	11905	L/192	16628	L/256	17787	L/304	-		-		14525	L/145	14077	L/172

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 115 and 130 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00 , and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):
115 mph IBC/IRC 2021[5], Exposure B
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X10 WALLS

Height	Tributary Width	1.6E 2250F_b												2.0E 2900F_b											
		1-1/2 "x 9-1/4"						1-3/4" x 9-1/4"						1-1/2" x 9-1/4"						1-3/4" x 9-1/4"					
		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)		Double (2-ply)		Triple (3-ply)		Quad. (4-ply)	
8'	16"	7872	L/999	20274	L/999	33301	L/999	12177	L/999	29731	L/999	41952	L/999	9837	L/999	22798	L/999	30397	L/999	15252	L/999	26598	L/999	35464	L/999
	24"	7872	L/999	20274	L/999	33301	L/999	12177	L/999	29731	L/999	41952	L/999	9837	L/999	22798	L/999	30397	L/999	15252	L/999	26598	L/999	35464	L/999
	36"	7872	L/999	20274	L/999	33301	L/999	12177	L/999	29731	L/999	41952	L/999	9837	L/999	22798	L/999	30397	L/999	15252	L/999	26598	L/999	35464	L/999
	48"	7872	L/999	20274	L/999	33301	L/999	12177	L/999	29731	L/999	41952	L/999	9837	L/999	22798	L/999	30397	L/999	15252	L/999	26598	L/999	35464	L/999
9'	16"	7856	L/999	20142	L/999	32926	L/999	12147	L/999	29489	L/999	41936	L/999	9815	L/999	22786	L/999	30382	L/999	15209	L/999	26584	L/999	35445	L/999
	24"	7856	L/999	20142	L/999	32926	L/999	12147	L/999	29489	L/999	41936	L/999	9815	L/999	22786	L/999	30382	L/999	15209	L/999	26584	L/999	35445	L/999
	36"	7856	L/999	20142	L/999	32926	L/999	12147	L/999	29489	L/999	41936	L/999	9815	L/999	22786	L/999	30382	L/999	15209	L/999	26584	L/999	35445	L/999
	48"	7856	L/999	20142	L/999	32926	L/999	12147	L/999	29489	L/999	41936	L/999	9815	L/999	22786	L/999	30382	L/999	15209	L/999	26584	L/999	35445	L/999
10'	16"	7839	L/999	19992	L/999	32518	L/999	12108	L/999	29207	L/999	41919	L/999	9794	L/999	22774	L/999	30366	L/999	15165	L/999	26570	L/999	35427	L/999
	24"	7839	L/999	19992	L/999	32518	L/999	12108	L/999	29207	L/999	41919	L/999	9794	L/999	22774	L/999	30366	L/999	15165	L/999	26570	L/999	35427	L/999
	36"	7839	L/999	19992	L/999	32518	L/999	12108	L/999	29207	L/999	41919	L/999	9794	L/999	22774	L/999	30366	L/999	15165	L/999	26570	L/999	35427	L/999
	48"	7839	L/999	19992	L/999	32518	L/999	12108	L/999	29207	L/999	41919	L/999	9794	L/999	22774	L/999	30366	L/999	15165	L/999	26570	L/999	35427	L/999
12'	16"	7801	L/999	19634	L/999	31548	L/999	12022	L/999	28546	L/999	41885	L/999	9745	L/999	22750	L/999	30334	L/999	15047	L/999	26542	L/999	35390	L/999
	24"	7801	L/999	19634	L/999	31548	L/999	12022	L/999	28546	L/999	41885	L/999	9745	L/999	22750	L/999	30334	L/999	15047	L/999	26542	L/999	35390	L/999
	36"	7801	L/999	19634	L/999	31548	L/999	12022	L/999	28546	L/999	41885	L/999	9745	L/999	22750	L/999	30334	L/999	15047	L/999	26542	L/999	35390	L/999
	48"	7780	L/999	19634	L/999	31548	L/999	12022	L/999	28546	L/999	41885	L/999	9745	L/999	22750	L/999	30334	L/999	15047	L/999	26542	L/999	35390	L/999
14'	16"	7752	L/999	19197	L/999	30448	L/999	11909	L/999	27752	L/999	41509	L/999	9683	L/999	22727	L/999	30302	L/999	14908	L/999	26514	L/999	35353	L/999
	24"	7752	L/999	19197	L/999	30448	L/999	11909	L/999	27752	L/999	41509	L/999	9683	L/999	22727	L/999	30302	L/999	14908	L/999	26514	L/999	35353	L/999
	36"	7752	L/999	19197	L/999	30448	L/999	11909	L/999	27752	L/999	41509	L/991	9683	L/999	22727	L/999	30302	L/999	14908	L/999	26514	L/999	35353	L/999
	48"	7415	L/999	19197	L/999	30448	L/999	11909	L/999	27752	L/999	41509	L/955	9624	L/999	22727	L/999	30302	L/999	14908	L/999	26514	L/999	35353	L/985
16'	16"	7691	L/999	18690	L/999	29201	L/999	11778	L/999	26805	L/999	39630	L/963	9605	L/999	22703	L/999	30270	L/999	14742	L/999	26487	L/999	35316	L/979
	24"	7691	L/999	18690	L/999	29201	L/999	11778	L/999	26805	L/999	39630	L/929	9605	L/999	22703	L/999	30270	L/999	14742	L/999	26487	L/999	35316	L/951
	36"	7545	L/999	18690	L/999	29201	L/999	11778	L/999	26805	L/929	39630	L/881	9605	L/999	22703	L/999	30270	L/999	14742	L/999	26487	L/978	35316	L/911
	48"	7045	L/958	18597	L/968	29201	L/953	11778	L/926	26805	L/863	39630	L/838	9237	L/999	22703	L/999	30270	L/999	14742	L/999	26487	L/919	35316	L/874
18'	16"	7619	L/999	18114	L/999	27836	L/999	11625	L/999	25759	L/955	37553	L/901	9515	L/999	22638	L/999	30239	L/999	14542	L/999	26459	L/988	35279	L/927
	24"	7619	L/999	18114	L/999	27836	L/972	11625	L/999	25759	L/888	37553	L/857	9515	L/999	22638	L/999	30239	L/999	14542	L/999	26459	L/931	35279	L/890
	36"	7226	L/888	18114	L/895	27836	L/889	11625	L/856	25759	L/804	37553	L/799	9389	L/999	22638	L/970	30239	L/943	14542	L/955	26459	L/856	35279	L/839
	48"	6636	L/731	17353	L/797	27836	L/820	11447	L/734	25759	L/734	37553	L/748	8814	L/856	22511	L/878	30239	L/880	14542	L/831	26459	L/792	35279	L/794
20'	16"	7539	L/999	17467	L/993	26384	L/956	11432	L/999	24570	L/866	35298	L/872	9414	L/999	21806	L/999	30207	L/998	14299	L/999	26431	L/904	35241	L/903
	24"	7534	L/906	17467	L/883	26384	L/880	11432	L/858	24570	L/792	35298	L/815	9414	L/999	21806	L/951	30207	L/931	14299	L/947	26431	L/839	35241	L/854
	36"	6885	L/708	17242	L/757	26384	L/787	11432	L/699	24570	L/702	35298	L/743	9022	L/817	21806	L/832	30207	L/847	14299	L/789	26431	L/756	35241	L/789
	48"	6099	L/543	16064	L/663	26039	L/712	10881	L/590	24570	L/630	35298	L/682	8346	L/679	21017	L/740	30207	L/777	14172	L/676	26431	L/689	35241	L/734
22'	16"	7442	L/936	16758	L/885	24473	L/903	11215	L/870	23299	L/794	31718	L/842	9290	L/999	20913	L/945	30175	L/953	14024	L/949	26403	L/837	35204	L/879
	24"	7233	L/747	16758	L/770	24473	L/813	11215	L/723	23299	L/712	31718	L/772	9290	L/852	20913	L/840	30175	L/871	14024	L/807	26403	L/763	35204	L/817
	36"	6282	L/553	16041	L/646	24400	L/708	11005	L/578	23299	L/616	31718	L/685	8491	L/669	20773	L/719	30175	L/773	14024	L/659	26403	L/674	35204	L/739
	48"	5267	L/415	14735	L/556	23006	L/626	10044	L/483	23299	L/544	31718	L/617	7493	L/519	19502	L/629	29769	L/694	13414	L/557	26403	L/603	35204	L/674
24'	16"	7335	L/793	15996	L/793	22222	L/851	10959	L/754	21422	L/752	28562	L/810	9149	L/894	19947	L/856	27587	L/907	13699	L/831	26375	L/802	35167	L/854
	24"	6737	L/626	15996	L/676	22222	L/748	10959	L/616	21422	L/658	28562	L/726	8905	L/719	19947	L/746	27587	L/812	13699	L/693	26375	L/715	35167	L/778
	36"	5582	L/433	14648	L/557	21731	L/633	10139	L/486	21422	L/554	28562	L/628	7753	L/542	19354	L/624	27587	L/701	13425	L/558	26375	L/615	35167	L/687
	48"	4251	L/325	12709	L/477	20102	L/551	8982	L/379	20402	L/479	28562	L/554	6547	L/406	17548	L/542	26466	L/617	12257	L/468	26375	L/539	35167	L/615
26'	16"	7062	L/682	15150	L/719	20212	L/798	10672	L/658	19342	L/708	25794	L/775	8990	L/773	18835	L/785	25095	L/860	13327	L/733	24079	L/764	32108	L/826
	24"	6188	L/519	14803	L/600	20212	L/684	10515	L/532	19342	L/604	25794	L/679	8314	L/614	18835	L/669	25095	L/753	13327	L/602	24079	L/665	32108	L/737
	36"	4818	L/346	12703	L/488	19033	L/568	9196	L/404	18975	L/497	25794	L/572	6954	L/433	17200	L/553	24997	L/633	12368	L/479	24079	L/557	32108	L/634
	48"	1421	L/259	10579	L/389	16925	L/488	7856	L/303	17254	L/425	25296	L/497	5513	L/324	15064	L/473	22939	L/553	11012	L/379	23039	L/483	32108	L/557
28'	16"	6605	L/590	13810	L/658	18424	L/743	10336	L/580	17512	L/661	23349	L/736	8684	L/674	17170	L/728	22898	L/811	12903	L/648	21829	L/722	29090	L/793
	24"	5583	L/420	12791	L/542	18424	L/624	9689	L/462	17512	L/552	23349	L/629	7656	L/526	16878	L/609	22898	L/693	12771	L/528	21829	L/614	29090	L/692
	36"	3785	L/280	10598	L/420	16336	L/509	8180	L/327	16301	L/446	23349	L/521	6073	L/350	14659	L/493	21771	L/575	11232	L/409	21508	L/506	29090	L/581
	48"	-		8386	L/315	14137	L/420	6650	L/245	14530	L/368	21727	L/446	3073	L/263	12435	L/394	19552	L/493	9683	L/306	19702	L/431	28675	L/506
30'	16"	6104	L/513	12541	L/605	16834	L/689	9958	L/515	15915	L/614	21221	L/694	8129	L/591	15693	L/673	20928	L/760	12434	L/581	19828	L/679	26443	L/756
	24"	4945	L/346	11029	L/487	16206	L/571	8819	L/403	15833	L/504	21221	L/582	6955	L/432	14736	L/554	20928	L/639	11767	L/465	19828	L/566	26443	L/646
	36"	1610	L/230	8765	L/346	13948	L/454	7145	L/269	13991	L/397	20494	L/472	5139	L/288	12446	L/432	18872	L/520	10054	L/336	18682	L/456	26443	L/534
	48"	-		5632	L/259	11692	L/346	5314	L/201	12173	L/302	18659	L/397	-		10141	L/324	16577	L/432	8336	L/252	16815	L/378	24908	L/457

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 115 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00 , and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):
130 mph IBC/IRC 2021[5], Exposure C
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X10 WALLS

Height	Tributary Width	1.6E 2250Fb						2.0E 2900Fb					
		1-1/2" x 9-1/4"			1-3/4" x 9-1/4"			1-1/2" x 9-1/4"			1-3/4" x 9-1/4"		
		Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)	Double (2-ply)	Triple (3-ply)	Quad. (4-ply)
8'	16"	7872 L/999	20274 L/999	33301 L/999	12177 L/999	29731 L/999	41952 L/999	9837 L/999	22798 L/999	30397 L/999	15252 L/999	26598 L/999	35464 L/999
	24"	7872 L/999	20274 L/999	33301 L/999	12177 L/999	29731 L/999	41952 L/999	9837 L/999	22798 L/999	30397 L/999	15252 L/999	26598 L/999	35464 L/999
	36"	7872 L/999	20274 L/999	33301 L/999	12177 L/999	29731 L/999	41952 L/999	9837 L/999	22798 L/999	30397 L/999	15252 L/999	26598 L/999	35464 L/999
	48"	7872 L/999	20274 L/999	33301 L/999	12177 L/999	29731 L/999	41952 L/999	9837 L/999	22798 L/999	30397 L/999	15252 L/999	26598 L/999	35464 L/999
9'	16"	7856 L/999	20142 L/999	32926 L/999	12147 L/999	29489 L/999	41936 L/999	9815 L/999	22786 L/999	30382 L/999	15209 L/999	26584 L/999	35445 L/999
	24"	7856 L/999	20142 L/999	32926 L/999	12147 L/999	29489 L/999	41936 L/999	9815 L/999	22786 L/999	30382 L/999	15209 L/999	26584 L/999	35445 L/999
	36"	7856 L/999	20142 L/999	32926 L/999	12147 L/999	29489 L/999	41936 L/999	9815 L/999	22786 L/999	30382 L/999	15209 L/999	26584 L/999	35445 L/999
	48"	7602 L/999	20142 L/999	32926 L/999	12147 L/999	29489 L/999	41936 L/999	9815 L/999	22786 L/999	30382 L/999	15209 L/999	26584 L/999	35445 L/999
10'	16"	7839 L/999	19992 L/999	32518 L/999	12108 L/999	29207 L/999	41919 L/999	9794 L/999	22774 L/999	30366 L/999	15165 L/999	26570 L/999	35427 L/999
	24"	7839 L/999	19992 L/999	32518 L/999	12108 L/999	29207 L/999	41919 L/999	9794 L/999	22774 L/999	30366 L/999	15165 L/999	26570 L/999	35427 L/999
	36"	7768 L/999	19992 L/999	32518 L/999	12108 L/999	29207 L/999	41919 L/999	9794 L/999	22774 L/999	30366 L/999	15165 L/999	26570 L/999	35427 L/999
	48"	7306 L/999	19992 L/999	32518 L/999	12108 L/999	29207 L/999	41919 L/999	9550 L/999	22774 L/999	30366 L/999	15165 L/999	26570 L/999	35427 L/999
12'	16"	7801 L/999	19634 L/999	31548 L/999	12022 L/999	28546 L/999	41885 L/999	9745 L/999	22750 L/999	30334 L/999	15047 L/999	26542 L/999	35390 L/999
	24"	7801 L/999	19634 L/999	31548 L/999	12022 L/999	28546 L/999	41885 L/999	9745 L/999	22750 L/999	30334 L/999	15047 L/999	26542 L/999	35390 L/999
	36"	7329 L/999	19634 L/999	31548 L/999	12022 L/999	28546 L/999	41885 L/999	9556 L/999	22750 L/999	30334 L/999	15047 L/999	26542 L/999	35390 L/999
	48"	6683 L/999	18802 L/999	31548 L/999	11817 L/999	28546 L/999	41885 L/999	8921 L/999	22750 L/999	30334 L/999	15047 L/999	26542 L/999	35390 L/999
14'	16"	7752 L/999	19197 L/999	30448 L/999	11909 L/999	27752 L/999	41509 L/999	9683 L/999	22727 L/999	30302 L/999	14908 L/999	26514 L/999	35353 L/999
	24"	7617 L/999	19197 L/999	30448 L/999	11909 L/999	27752 L/999	41509 L/972	9683 L/999	22727 L/999	30302 L/999	14908 L/999	26514 L/999	35353 L/999
	36"	6858 L/999	18715 L/999	30448 L/999	11894 L/999	27752 L/954	41509 L/912	9068 L/999	22727 L/999	30302 L/999	14908 L/999	26514 L/999	35353 L/948
	48"	6039 L/837	17247 L/963	30186 L/973	11127 L/882	27752 L/873	41509 L/860	8268 L/999	22727 L/999	30302 L/999	14579 L/999	26514 L/940	35353 L/903
16'	16"	7691 L/999	18690 L/999	29201 L/999	11778 L/999	26805 L/977	39630 L/911	9605 L/999	22703 L/999	30270 L/999	14742 L/999	26487 L/999	35316 L/936
	24"	7282 L/999	18690 L/999	29201 L/981	11778 L/985	26805 L/893	39630 L/858	9468 L/999	22703 L/999	30270 L/999	14742 L/999	26487 L/945	35316 L/891
	36"	6364 L/770	17357 L/864	29201 L/881	11312 L/794	26805 L/790	39630 L/789	8561 L/926	22703 L/952	30270 L/945	14720 L/900	26487 L/852	35316 L/831
	48"	5362 L/577	15640 L/756	27351 L/801	10393 L/665	26662 L/709	39630 L/730	7595 L/722	21005 L/845	30270 L/870	13805 L/766	26487 L/776	35316 L/779
18'	16"	7594 L/999	18114 L/971	27836 L/941	11625 L/961	25759 L/856	37553 L/836	9515 L/999	22638 L/999	30239 L/989	14542 L/999	26459 L/903	35279 L/871
	24"	6917 L/803	17843 L/840	27836 L/851	11625 L/787	25759 L/766	37553 L/771	9083 L/924	22638 L/919	30239 L/909	14542 L/885	26459 L/821	35279 L/815
	36"	5828 L/553	15956 L/700	26932 L/745	10677 L/619	25759 L/661	37553 L/692	8018 L/691	21108 L/782	30239 L/810	14036 L/712	26459 L/723	35279 L/743
	48"	4383 L/414	14007 L/600	24554 L/662	9596 L/484	24377 L/581	37553 L/627	6870 L/518	19157 L/681	30239 L/731	12959 L/596	26459 L/646	35279 L/682
20'	16"	7307 L/826	17467 L/835	26384 L/846	11432 L/795	24570 L/758	35298 L/788	9414 L/941	21806 L/906	30207 L/901	14299 L/885	26431 L/808	35241 L/830
	24"	6495 L/617	16624 L/705	26384 L/746	11199 L/637	24570 L/662	35298 L/710	8673 L/739	21580 L/782	30207 L/809	14299 L/725	26431 L/720	35241 L/759
	36"	4977 L/411	14530 L/572	24227 L/634	9961 L/480	24063 L/557	35298 L/617	7264 L/514	19482 L/648	30207 L/702	13298 L/571	26431 L/618	35241 L/673
	48"	-	12166 L/462	21724 L/552	8477 L/360	22083 L/480	33608 L/546	5303 L/385	17324 L/554	29175 L/620	11947 L/450	26431 L/542	35241 L/605
22'	16"	6910 L/677	16758 L/722	24473 L/773	11215 L/665	23299 L/675	31718 L/739	9110 L/776	20913 L/793	30175 L/834	14024 L/748	26403 L/729	35204 L/788
	24"	5761 L/471	15382 L/595	23664 L/662	10501 L/524	23299 L/576	31718 L/648	7974 L/589	20114 L/668	30175 L/729	13854 L/601	26403 L/635	35204 L/703
	36"	2305 L/314	12515 L/471	21182 L/546	8761 L/366	21891 L/472	31286 L/546	6135 L/392	17627 L/543	27949 L/614	12131 L/458	26403 L/532	35204 L/606
	48"	-	8383 L/353	17888 L/469	6910 L/275	19265 L/402	29191 L/472	-	14494 L/441	25273 L/531	10320 L/343	26403 L/457	35204 L/532
24'	16"	6342 L/553	15720 L/627	22222 L/703	10879 L/563	21422 L/617	28562 L/689	8506 L/652	19947 L/698	27587 L/769	13699 L/638	26375 L/676	35167 L/744
	24"	4941 L/368	13621 L/512	20991 L/585	9530 L/430	21119 L/511	28562 L/587	7130 L/461	18480 L/577	27139 L/654	12806 L/507	26375 L/572	35167 L/647
	36"	-	10157 L/368	17498 L/476	7447 L/286	18267 L/411	27291 L/481	3630 L/307	14998 L/461	24151 L/539	10732 L/358	24728 L/467	35167 L/541
	48"	-	1923 L/276	13869 L/368	2862 L/215	15338 L/322	24359 L/411	-	11141 L/345	20496 L/461	8555 L/268	21745 L/398	32943 L/468
26'	16"	5706 L/440	14048 L/555	20212 L/636	10040 L/482	19342 L/559	25794 L/636	7831 L/550	18562 L/620	25095 L/705	13234 L/551	24079 L/622	32108 L/697
	24"	3643 L/293	11557 L/440	17907 L/522	8473 L/342	18042 L/456	25794 L/528	6190 L/367	16049 L/507	23920 L/587	11642 L/428	23859 L/514	32108 L/590
	36"	-	6383 L/293	14154 L/391	5854 L/228	15009 L/342	23062 L/426	-	12234 L/367	20136 L/475	9216 L/285	20756 L/412	30747 L/484
	48"	-	-	8507 L/293	-	11959 L/257	20010 L/342	-	4490 L/275	16302 L/367	4935 L/214	17664 L/321	27661 L/412
28'	16"	5038 L/358	12015 L/497	17740 L/578	9163 L/417	17468 L/509	23349 L/585	7110 L/447	16101 L/563	22898 L/645	12225 L/481	21829 L/570	29090 L/649
	24"	1090 L/238	9437 L/358	15166 L/464	7381 L/278	15366 L/405	22588 L/478	5196 L/298	13485 L/447	20605 L/529	10421 L/348	20562 L/463	29090 L/539
	36"	-	1680 L/238	11277 L/318	2510 L/185	12252 L/278	19441 L/371	-	9308 L/298	16676 L/398	7680 L/232	17371 L/348	26347 L/433
	48"	-	-	2260 L/238	-	8104 L/208	16331 L/278	-	-	12423 L/298	-	14199 L/261	23163 L/348
30'	16"	4310 L/294	10226 L/441	15406 L/523	8229 L/343	15180 L/460	21221 L/538	6327 L/367	13916 L/507	20374 L/591	11156 L/420	19828 L/522	26443 L/600
	24"	-	7568 L/294	12753 L/392	6246 L/228	13026 L/343	19513 L/429	2807 L/245	11213 L/367	17655 L/473	9142 L/285	17680 L/414	25793 L/490
	36"	-	-	7710 L/261	-	9826 L/228	16299 L/304	-	4460 L/245	13602 L/326	4776 L/190	14421 L/285	22492 L/381
	48"	-	-	-	-	3020 L/171	13109 L/228	-	-	5943 L/245	-	11149 L/214	19237 L/285

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 130 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 100 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00 , and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

Exterior Wall Column Capacity (lbs):
115 mph Exposure B and 130 mph Exposure C, IBC/IRC 2021[5]
These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, use the next tallest Height in the table.
2. Determine the Tributary Width of the wall associated with the horizontal wind pressure supported by the column. If not listed, use the next largest Tributary Width.
3. Select the LVL grade and size where the Vertical Load Capacity and Deflection Ratio meet or exceed the applied vertical load and required deflection limit.
4. Verify the plate bearing capacity for the selected column. See Design Assumption 9 below.

2X10 WALLS

Height	Tributary Width	2.1E 3100F_b											
		115 mph Exposure B						130 mph Exposure C					
		3-1/2" x 9-1/4"		5-1/4" x 9-1/4"		7" x 9-1/4" (plank)		3-1/2" x 9-1/4"		5-1/4" x 9-1/4"		7" x 9-1/4" (plank)	
8'	16"	20976	L/999	31464	L/999	41952	L/922	20976	L/999	31464	L/999	41952	L/917
	24"	20976	L/999	31464	L/999	41952	L/919	20976	L/999	31464	L/999	41952	L/910
	36"	20976	L/999	31464	L/999	41952	L/913	20976	L/999	31464	L/999	41952	L/902
	48"	20976	L/999	31464	L/999	41952	L/908	20976	L/999	31464	L/999	41952	L/894
9'	16"	20968	L/999	31452	L/999	41936	L/842	20968	L/999	31452	L/999	41936	L/836
	24"	20968	L/999	31452	L/999	41936	L/838	20968	L/999	31452	L/999	41936	L/829
	36"	20968	L/999	31452	L/999	41936	L/832	20968	L/999	31452	L/999	41936	L/819
	48"	20968	L/999	31452	L/999	41936	L/827	20968	L/999	31452	L/986	41936	L/810
10'	16"	20959	L/999	31439	L/967	41919	L/781	20959	L/999	31439	L/951	41919	L/774
	24"	20959	L/999	31439	L/956	41919	L/776	20959	L/999	31439	L/933	41919	L/766
	36"	20959	L/999	31439	L/941	41919	L/770	20959	L/999	31439	L/907	41919	L/755
	48"	20959	L/999	31439	L/927	41919	L/764	20959	L/999	31439	L/885	41919	L/744
12'	16"	20942	L/999	31414	L/834	41885	L/700	20942	L/999	31414	L/814	41885	L/690
	24"	20942	L/999	31414	L/821	41885	L/693	20942	L/999	31414	L/792	41885	L/679
	36"	20942	L/999	31414	L/802	41885	L/684	20942	L/999	31414	L/762	41885	L/663
	48"	20942	L/999	31414	L/784	41885	L/675	20942	L/975	31414	L/734	41885	L/648
14'	16"	20926	L/999	31389	L/747	41852	L/681	20926	L/999	31389	L/722	41852	L/666
	24"	20926	L/999	31389	L/730	41852	L/671	20926	L/952	31389	L/695	41852	L/649
	36"	20926	L/989	31389	L/707	41852	L/657	20926	L/846	31389	L/659	41852	L/626
	48"	20926	L/921	31389	L/685	41852	L/643	20926	L/761	31389	L/627	41852	L/605
16'	16"	20909	L/973	31363	L/689	41818	L/684	20909	L/878	31363	L/659	41818	L/661
	24"	20909	L/909	31363	L/669	41818	L/669	20909	L/790	31363	L/626	41818	L/637
	36"	20909	L/828	31363	L/640	41818	L/647	20909	L/686	31363	L/584	41818	L/603
	48"	20909	L/760	31363	L/615	41818	L/627	20909	L/607	31363	L/546	41818	L/573
18'	16"	20892	L/853	31338	L/678	41784	L/691	20892	L/754	31338	L/636	41784	L/658
	24"	20892	L/786	31338	L/650	41784	L/670	20892	L/665	31338	L/594	41784	L/624
	36"	20892	L/702	31338	L/612	41784	L/639	20892	L/564	31338	L/540	41784	L/578
	48"	20892	L/634	31338	L/578	41784	L/611	20892	L/490	31338	L/495	41784	L/539
20'	16"	20875	L/759	31313	L/679	41751	L/699	20875	L/656	31313	L/622	41751	L/653
	24"	20875	L/688	31313	L/641	41751	L/668	20875	L/566	31313	L/568	41751	L/607
	36"	20875	L/603	31313	L/591	41751	L/627	20875	L/470	31313	L/501	41751	L/549
	48"	20875	L/536	31313	L/548	41751	L/590	20875	L/402	31313	L/448	41751	L/500
22'	16"	20858	L/684	31288	L/677	41717	L/704	20858	L/576	31288	L/603	41717	L/642
	24"	20858	L/609	31288	L/626	41717	L/662	20858	L/487	31288	L/536	41717	L/584
	36"	20858	L/523	31288	L/564	41717	L/609	20858	L/395	31288	L/459	41717	L/514
	48"	20858	L/458	31288	L/513	41717	L/563	20858	L/333	31288	L/401	41717	L/458
24'	16"	20709	L/622	31262	L/668	41683	L/704	20709	L/510	31262	L/578	41683	L/626
	24"	20709	L/544	31262	L/606	41683	L/651	20709	L/423	31262	L/499	41683	L/555
	36"	20709	L/458	31262	L/532	41683	L/585	20709	L/337	31262	L/415	41683	L/475
	48"	20709	L/395	31262	L/474	41683	L/531	20709	L/281	31262	L/355	41683	L/414
26'	16"	18988	L/584	28602	L/654	38179	L/698	18988	L/462	28602	L/547	38179	L/604
	24"	18988	L/499	28602	L/581	38179	L/634	18988	L/374	28602	L/460	38179	L/522
	36"	18988	L/410	28602	L/496	38179	L/556	18988	L/292	28602	L/373	38179	L/434
	48"	18988	L/349	28602	L/433	38179	L/496	17997	L/224	28602	L/314	38179	L/372
28'	16"	17051	L/552	25677	L/634	34291	L/687	17051	L/424	25677	L/514	34291	L/576
	24"	17051	L/460	25677	L/550	34291	L/610	17051	L/335	25677	L/422	34291	L/486
	36"	17051	L/370	25677	L/458	34291	L/523	16721	L/243	25677	L/334	34291	L/396
	48"	17051	L/309	25677	L/394	34291	L/457	14994	L/182	25677	L/274	34291	L/334
30'	16"	15384	L/517	23162	L/609	30908	L/669	15384	L/385	23162	L/477	30908	L/545
	24"	15384	L/423	23162	L/516	30908	L/582	15384	L/297	23162	L/384	30908	L/449
	36"	15384	L/331	23162	L/421	30908	L/487	14186	L/200	23162	L/296	30908	L/357
	48"	15384	L/264	23162	L/356	30908	L/421	12453	L/150	22513	L/225	30908	L/296

Design Assumptions:

1. These tables are limited to structures with a mean roof height of 30'.
2. The vertical load capacity is valid for wall columns supporting roof and floor loads. The design dead load shall not exceed design live load.
3. The vertical capacity has been reduced to allow for holes and notches. Refer to the Drilling & Notching guidelines on page 4 for more information.
4. The vertical load capacity assumes an eccentricity of 1/6 of the wall thickness.
5. These tables are based on: a wind speed of 115 and 130 mph IBC/IRC 2021, IBC/IRC 2018/2015 and IBC 2012; 90 mph IBC 2009 and IRC 2009/2012. The design wind pressures are based on Part 1, Chapter 30 of ASCE 7-16 for Components and Cladding: Wall Zone 4, Enclosed, Risk Category II structure with topographic factor of Kzt = 1.00, and importance factor of I = 1.00 (when it applies).
6. A load duration adjustment, CD = 1.60, has been applied for wind.
7. No repetitive member increase has been applied.
8. Full-width blocking is assumed to be installed at 8' on-center or less.
9. The tabulated capacities assume the plates are the same material and grade as the stud. For other plate material or grade a lower value may control. The designer must check the required vertical load against the bearing capacity for the plate and adjust the stud size and/or spacing accordingly.

Additional Notes:

a. Height is the clear height of the wall stud between the bottom plate and the lower top plate.
b. The first value in each cell represents the allowable vertical load capacity of a single stud, in pounds per lineal foot of wall length (plf). These capacities are either the allowable capacity for vertical loads acting alone (no horizontal wind pressure) or the capacity of the stud after accounting for the bending induced by the horizontal wind pressure.
c. The second value in each cell represents the deflection ratio (L/x) based on the horizontal wind pressure. The designer shall verify the correct deflection ratio limit for the intended application.
d. Install full-width blocking per local code requirements, normally no more than every 8' along the height of the stud.
e. Do not use a product where designated "-" without further analysis by a professional engineer.

PWT LVL Free-Standing Column Tables

These tables MUST be used in conjunction with the Installation Guide

Table Usage:

1. Determine the height of the column. If not listed, select the next tallest Height in the table.
2. Select the row corresponding to the required load duration.
3. Select the size where the Vertical Load Capacity meets or exceeds the applied vertical load.
4. Verify the bearing capacity of the support for the selected column. See Design Assumption 6 below.

FREE-STANDING INTERIOR COLUMN CAPACITY (LBS)

Column Height	2.1E 3100F$_b$											
	3-1/2"x 3-1/2"			3-1/2"x 5-1/2"			3-1/2"x 7-1/4"			3-1/2"x 9-1/4"		
	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%
6'	10,391	10,391	10,391	16,329	16,329	16,329	21,525	21,525	21,525	27,463	27,463	27,463
7'	9,360	9,832	10,107	14,702	15,450	15,884	19,384	20,365	20,936	24,733	25,985	26,704
8'	7,848	8,189	8,387	12,334	12,868	13,177	16,258	16,968	17,371	20,740	21,640	22,162
9'	6,649	6,901	7,047	10,446	10,843	11,072	13,772	14,291	14,598	17,572	18,238	18,620
10'	5,690	5,882	5,993	8,942	9,243	9,414	11,788	12,185	12,418	15,040	15,549	15,844
12'	4,288	4,405	4,473	6,735	6,922	7,029	8,880	9,126	9,266	11,329	11,642	11,821
14'	3,335	3,413	3,457	5,242	5,364	5,433	6,909	7,070	7,161	8,816	9,021	9,137

Column Height	2.1E 3100F$_b$								
	5-1/4" x 5-1/2"			5-1/4" x 7-1/4"			5-1/4" x 9-1/4"		
	100%	115%	125%	100%	115%	125%	100%	115%	125%
8'	24,477	24,477	24,477	32,266	32,266	32,266	41,166	41,166	41,166
9'	24,469	24,469	24,469	32,255	32,255	32,255	41,153	41,153	41,153
10'	22,333	23,599	24,340	29,422	31,104	32,084	37,558	39,683	40,933
12'	17,765	18,580	19,057	23,416	24,495	25,123	29,868	31,251	32,057
14'	14,350	14,912	15,236	18,918	19,657	20,083	24,144	25,081	25,618
16'	11,792	12,189	12,421	15,546	16,073	16,368	19,833	20,499	20,883
18'	9,837	10,126	10,293	12,968	13,350	13,570	16,545	17,031	17,309
20'	8,318	8,537	8,661	10,965	11,254	11,419	13,987	14,359	14,570

Column Height	2.1E 3100F$_b$					
	7" x 7-1/4"			7" x 9-1/4"		
	100%	115%	125%	100%	115%	125%
8'	43,021	43,021	43,021	54,889	54,889	54,889
9'	43,006	43,006	43,006	54,870	54,870	54,870
10'	42,992	42,992	42,992	54,852	54,852	54,852
12'	42,454	42,963	42,963	54,147	54,815	54,815
14'	35,744	37,746	38,921	45,607	48,161	49,660
16'	30,269	31,736	32,593	38,618	40,485	41,576
18'	25,847	26,947	27,582	32,985	34,381	35,194
20'	22,267	23,110	23,598	28,401	29,487	30,110
22'	19,346	20,005	20,386	24,686	25,525	26,010
24'	16,942	17,465	17,770	21,611	22,283	22,669

Design Assumptions:

1. Column Height is the clear height of the column between top and bottom supports.
2. The vertical load capacity is for Solid, one-piece, columns in interior dry-use conditions.
3. The vertical load capacity is the total vertical load applied to the column, including all dead loads. No lateral loads have been applied.
4. The vertical capacity is for a full cross-section only. Notching and drilling are not allowed without further analysis by a professional engineer except as required for the proper installation of column caps, bases and other hold-downs. Bolts, lag screws and self-tapping screws shall only be inserted through the face of the column, the face of the veneers.
5. The capacity assumes an eccentricity of 1/6 of the column depth or width, whichever controls.
6. Columns are assumed to be braced in both directions at the top and bottom supports.
7. The tabulated capacities have been limited by the bearing capacity of 2500 psi concrete. For bearing on a lower strength concrete or a wood plate, the designer shall check the required vertical load against the bearing capacity for the plate and increase the column size accordingly. No increase is allowed without complete analysis of the vertical capacity of the column.

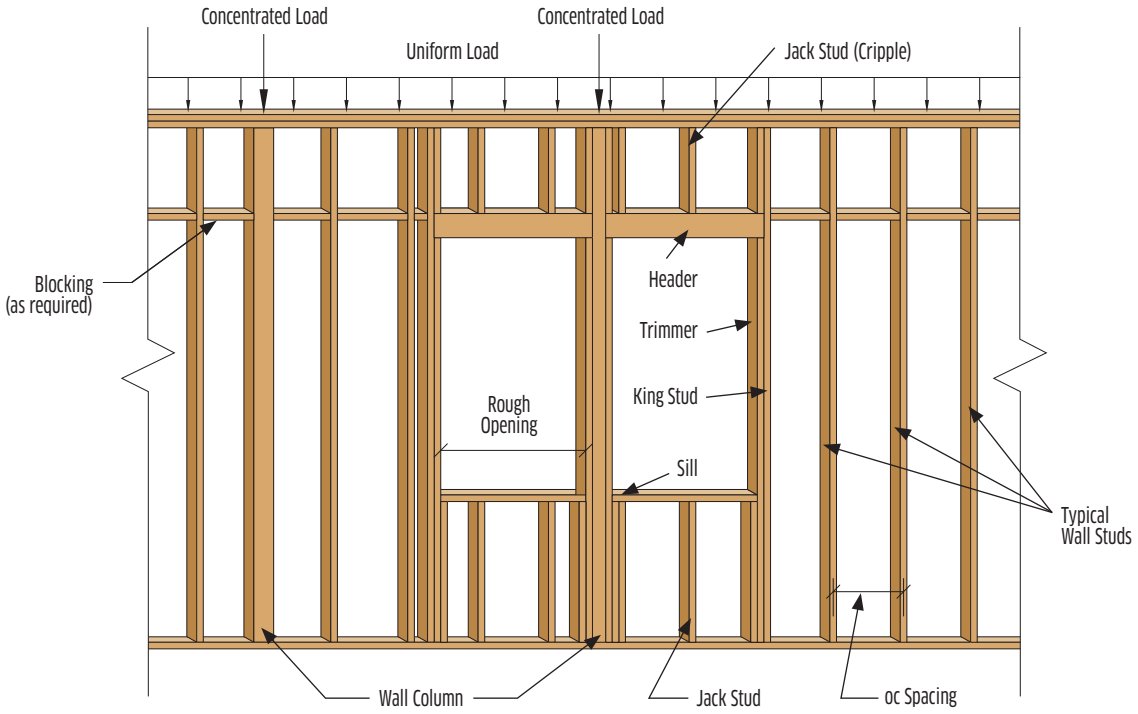
Additional Notes:

a. The value in each cell represents the allowable vertical load capacity of a column, in pounds (lbs).
b. The column dimensions are for one-piece members. Built-up columns are beyond the scope of this table.
c. Do not use a product where designated "-" without further analysis by a professional engineer.

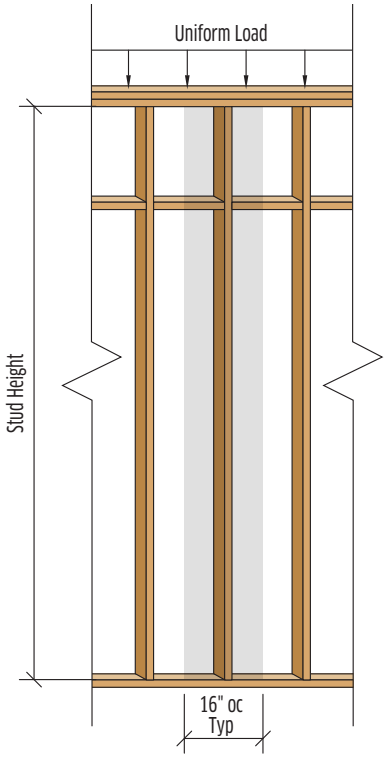
For all columns that do not meet the conditions of use for this table the Exacte by PWT software is available.

Typical Wall Framing & Wall Stud Example

TYPICAL WALL FRAMING



TYPICAL WALL STUD EXAMPLE



How to Size:

1. Determine the Basic Wind Speed.
2. Determine the Exposure Category.
3. Determine the clear height of the wall stud.
4. Determine the total vertical load (plf) applied to the wall studs from the roof and floor. Don't forget the wall weight!
5. Determine the allowable deflection ratio based on the wall construction.
6. Select the required grade and size from the appropriate chart for the desired wall stud spacing.

Example:

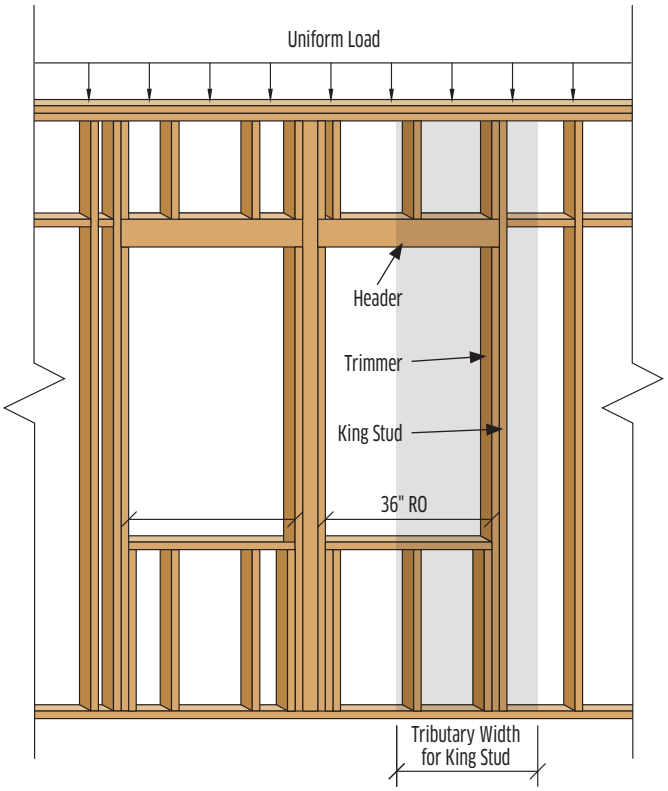
Select a suitable wall stud for a 9' first story wall for a residential structure located in a typical urban development in Pennsylvania. The wall supports the second floor and the roof of a 36' wide home. The second floor is supported at midspan and the roof trusses have a 1' overhang. The floor loads are 40 psf Live and 15 psf Dead load. The roof loads are 30 psf Snow (115%) and 17 psf Dead. Assume 100 plf for the weight of the second story wall. The exterior wall finish is "Windows and Doors."

Solution:

1. The example states the structure is located in Pennsylvania which, from the maps in the 2021 IBC, is normally considered a 115 mph Basic Wind Speed.
2. A typical urban development is normally an exposure B category provided that other structures of single-family size or larger are located in close proximity in all directions.
3. Use the height of the wall (9') as an approximation of the stud height.
4. The vertical load applied to each wall stud is:
   - Roof: (30 psf + 17 psf) * (36' / 2 + 1') = 798 plf
   - Wall: 100 plf
   - Floor: (40 psf + 15 psf) * (18' / 2) = 495 plf
   - Total Vertical Load = 893 + 100 + 495 = 1488 plf
5. With a Windows and Doors finish, the deflection ratio shall be L/175 or better.
6. Using the 115 mph, Exposure B chart from the Wall Stud Capacity tables, for a standard wall stud spacing of 16" oc, select

Typical Wall Framing

TRIMMER AND KING STUD EXAMPLES



TRIMMER

How to Size:

NOTE: Trimmers are designed only for the vertical load applied by the header. The king stud will be designed for the lateral wind pressures.

1. Determine the clear height of the trimmer.
2. Determine the Tributary Width associated with the trimmer.
3. Determine the vertical load applied to the trimmer from the window header.
4. Select the required grade and size from the appropriate chart.

HINT: To size a trimmer, use the 12" oc row for the required height from the appropriate Wall Stud Capacity table. At 12" oc, the vertical capacity in plf is equivalent to the vertical capacity in lbs. Ignore the deflection for the trimmer.

Example:

Select a suitable trimmer for a 3' (36") rough opening located in the first story wall of the Typical Wall Stud example. Assume the bottom of the window header is at a height of 7'-6".

Solution:

1. With a header height of 7'-6", use 8' for the trimmer height in the tables.
2. Add 3" to the rough opening to approximate the overall length of the header, assuming single trimmers.
   Tributary Width = (36" RO + 3") / 2 = 19.5"
3. The vertical load applied to the trimmer from the header is:
   Roof: 893 plf (from Typical Wall Stud example)
   Wall: 100 plf * (1.5' / 9') = 17 plf
   (adjusted to the wall height supported by the header, approximately 1.5')
   Floor: 495 plf (from Typical Wall Stud example)
   Total Vertical Load on Trimmer = (893 + 17 + 495) * 19.5" / 12 = 2283 lbs
4. Using the 115 mph, Exposure B chart from the Wall Stud Capacity tables, for a spacing of 12" oc, select:

Note: The allowable bearing capacity of the header should always be verified. In this example, if the header were a double SPF 2x6, a second trimmer would be required under each end of the header. Based on a 425 psi allowable bearing stress for SPF lumber, the bearing capacity is only 1912 lbs. (425 psi * 1.5" * 3") versus a reaction of 2283 lbs.

KING STUD

How to Size:

NOTE: Design the king stud like an exterior wall column.To size as a single 1-1/2" thick member, the king stud must be attached to the adjacent wall stud by an exterior wall sheathing and interior gypsum wall board (or similar).

1. Determine the clear height of the king stud.
2. Determine the Tributary Width for the lateral wind pressure.
3. Determine the total vertical load (lbs) applied to the king stud.
4. Determine the allowable deflection ratio based on the wall construction.
5. Select the required grade and size from the appropriate chart.

Example:

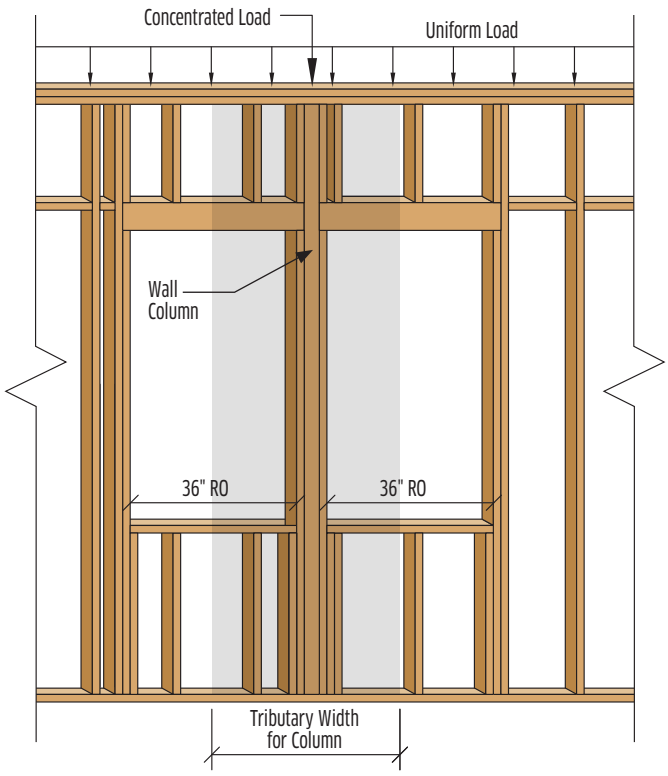
Select a suitable king stud for the same rough opening from the Trimmer example.

Solution:

1. The king stud will be the same height as the typical wall stud - 9' in this example.
2. The Tributary Width for the wind pressure on the king stud is from the middle of the rough opening to half the clear distance from the king stud to the adjacent typical wall stud. Check the distance from the king stud to adjacent wall stud on both sides of the window. If not known, and for this example, assume a full wall stud spacing.
   Tributary Width = 19.5" (from Trimmer example) + 16" / 2 (to next stud) + 1.5"
   (assuming a single king stud) = 29"
   Use 36" as next largest Tributary Width.
3. The applied vertical load on the king stud is based on half the spacing to the next adjacent wall stud. Again, check the distance on both sides of the opening. If not known, and for this example, assume a full wall stud spacing.
   Total Vertical Load = 1488 plf * (16" / 12) / 2 = 992 lbs
4. As in the typical wall stud example, use a deflection ratio of L/360 for stucco.
5. Using the table for Exterior Wall Column Capacity: 2x4 & 2x6 for 115 mph Wind, Exposure B, select the appropriate product

Typical Wall Framing: Wall Column Examples

WINDOW COLUMN EXAMPLE



How to Size:

1. Determine the clear height of the column.
2. Determine the Tributary Width for the lateral wind pressure.
3. Determine the total vertical load (lbs) applied to the column.
4. Determine the allowable deflection ratio based on the wall construction.
5. Select the required grade and size from the appropriate chart.

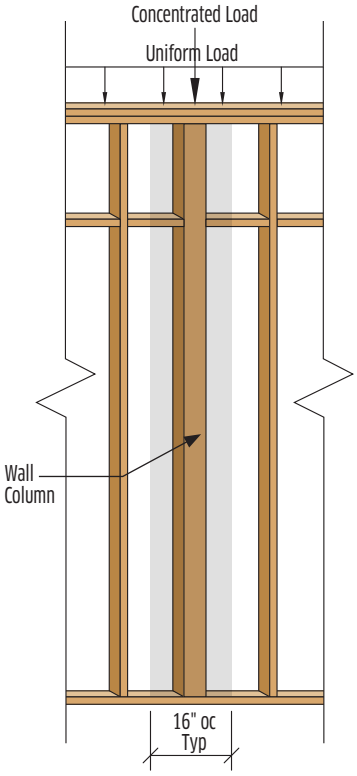
Example:

This column sits between two windows, both 36" rough openings, in the wall from the previous example. For this example, there is no additional concentrated load applied. The only vertical loads will be the uniform load from the roof trusses, second story wall and the second floor.

Solution:

1. The column will be the same height as the typical wall stud - 9'.
2. The Tributary Width for the wind pressure will be half the rough opening to both sides plus the width of the column and the trimmers. Since the width of the column is not known but the only vertical loads are the uniform loads from the common trusses, try a double 1-1/2" x 3-1/2" column.
   Tributary Width = 2 * (36" / 2) + 2 * 1-1/2" (trimmers) + 2 * 1-1/2" (double 1-1/2" column) = 42"
   Use 48" as next largest Tributary Width.
3. The applied vertical load on the column will only be the uniform load from the common roof trusses between the trimmers – assume a typical stud spacing of 16" for simplicity. The trimmers will support the vertical load from the window headers.
   Total Vertical Load = 1488 plf (from Typical Wall Stud example) * 16" oc / 12 = 1984 lbs
4. Again, use a deflection ratio of L/360 for stucco.
5. Using the table for Exterior Wall Columns: 2x4 & 2x6 for 115 mph Wind, Exposure B, select the appropriate product.

WALL COLUMN EXAMPLE



How to Size:

1. Determine the clear height of the column.
2. Determine the Tributary Width for the lateral wind pressure.
3. Determine the total vertical load (lbs) applied to the column.
4. Determine the allowable deflection ratio based on the wall construction.
5. Select the required grade and size from the appropriate chart.

Example:

Based on the conditions from the typical wall stud example, select a wall column in the same first story wall to support a girder truss load of 4020 lbs. The design must include the weight of the second story wall and the load from the second floor.

Solution:

1. The column will be the same height as the typical wall stud - 9' in this example.
2. The Tributary Width for the wind pressure will be the same as that from the typical stud example: 16."

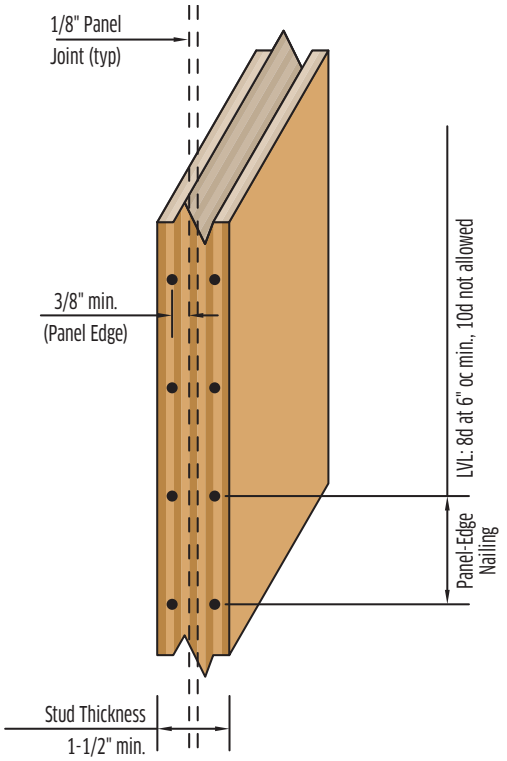
   Hint: Even if this column falls off-center between two typical studs, the Tributary Width is still 16" (in this case) as the total oc distance between the adjacent studs is 32."

3. The applied vertical load on the column will be the girder truss load transferred through the second story wall column, the tributary area of the second floor and the tributary weight of the second story wall (both the same as in the typical wall stud).
   Roof: 4020 lbs
   Wall: 100 plf x 16" oc / 12 = 134 lbs
   Floor: 495 plf x 16" oc / 12 = 660 lbs
   Total Vertical Load = 4020 + 134 + 660 = 4814 lbs
4. As in the typical wall stud example, use a minimum deflection ratio of L/360 for stucco.
5. Using the table for Exterior Wall Columns: 2x4 & 2x6 for 115 mph Wind, Exposure B

Nailing and Connection Details

WALL SHEATHING PANEL EDGE NAILING

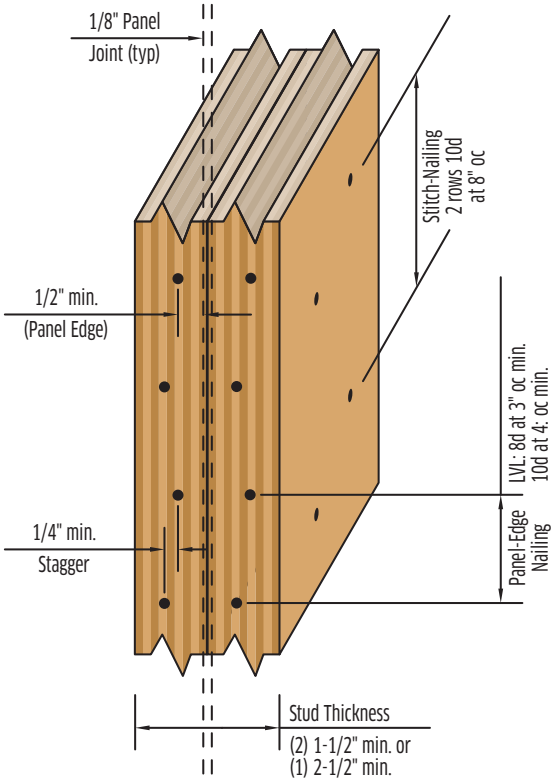
SINGLE STUD AT ADJOINING PANELS



Notes:

1. Minimum PWT LVL thickness for a single stud is 1-1/2"
2. A double stud (or a minimum 2-1/2" single stud) are required at adjoining panel edges as follows:
   a. For PWT LVL when using 8d common nails spaced closer than 6" oc. 10d common nails are not allowed for a single stud.
3. The panel-edge nailing at a double stud shall be installed a minimum 1/2" from both the panel edge and the edge of the stud, and shall be installed with every other nail staggered a minimum 1/4" horizontally.
4. The minimum nail spacing into the edge of the stud shall not be less than:
   a. For PWT LVL: 3" oc for both 8d common nails or 4" for 10d common nails.
5. Do not use nails larger than 10d common nails for wall sheathing nailing.
6. In lieu of engineering analysis for prescriptive wall framing, the double studs shall be stitch-nailed together with 2 staggered rows of 10d common nails spaced 8" oc in each row. For engineered walls, the stitch nailing shall be designed to transfer the required lateral shear.

DOUBLE STUD AT ADJOINING PANELS



Nailing and Connection Details

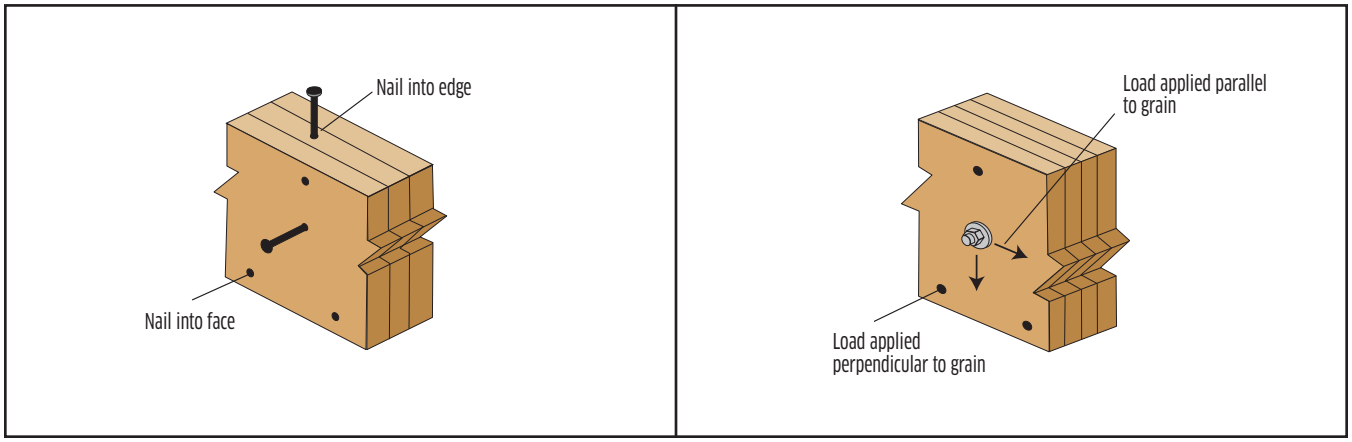
FASTENER DESIGN

Equivalent Specific Gravity					
Nails and Wood Screws				Bolts and Lag Screws	
Withdrawal		Dowel Bearing		Dowel Bearing (into the face only)	
Edge	Face	Edge	Face	Load Applied Parallel to Grain	Load Applied Perpendicular to Grain
0.46	0.50	0.50	0.50	0.46	0.50

Notes:

1. Connection design using the equivalent specific gravity for each connection type listed above is for normal load duration and shall be adjusted according to code.
2. Fastener spacing, end and edge distance shall be as specified by code except for nail spacing as specified below.
3. See details at right for fastener and applied load orientation.

FASTENER & LOAD ORIENTATION



NAIL SPACING REQUIREMENTS

Ply Thickness	Fastener Orientation	Nail Size[8] (common or box)	Minimum End Distance	Minimum Nail Spacing per Row	
				Single Row	Multiple Rows
< 1-1/2"	Edge	8d	2-1/2"	4"[5]	NA
		10d or 12d	2-1/2"	4"	NA
		16d	3-1/2"	5"	NA
	Face	8d	1-1/2"	3"	3"
		10d or 12d	1-1/2"	3"	3"
		16d	1-1/2"	5"	5"
≥ 1-1/2"	Edge	8d	2-1/2"	3"	4"
		10d or 12d	3-1/2"[6]	4"	5"
		16d	3-1/2"	5"	6"[7]
	Face	8d	1-1/2"	3"	3"
		10d or 12d	1-1/2"	3"	3"
		16d	1-1/2"	5"	5"

Notes:

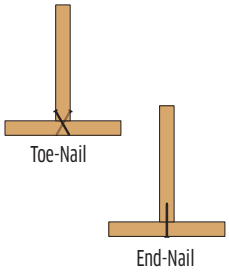
1. Edge distance shall be such that does not cause splitting.
2. Multiple rows of nails shall be offset at least 1/2" and staggered, and equally spaced about the centerline of the edge or face (whichever applies).
3. Edge orientation refers to nails driven into the narrow edge: parallel to the face of the veneer for PWT LVL. Face orientation refers to nails driven into the wide face: perpendicular to the face of the veneer for PWT LVL. (See Fastener & Load Orientation details above)
4. 16d sinkers (3-1/4" x 0.148") may be spaced the same as the 10d or 12d common nail.
5. The minimum nail spacing is permitted to be 3 inches for single row nailing for PWT LVL manufactured in the Burlington plant (Mill number 1047).
6. The minimum nail spacing may be reduced by 1 inch for single row nailing or for PWT LVL manufactured in the Wilmington and Golden plants (Mill numbers 1077 and 1066).
7. Minimum nail spacing may be reduced to 5 inches when the member is at least 1-3/4 inches in thickness.
8. Nail penetration for edge nailing shall not exceed 2 inches for 16d common nails (0.162 inch x 3-1/2 inches) and 2-1/2 inches for all nails with a smaller shank diameter.

Typical Connections

NAILED PLATE CONNECTIONS

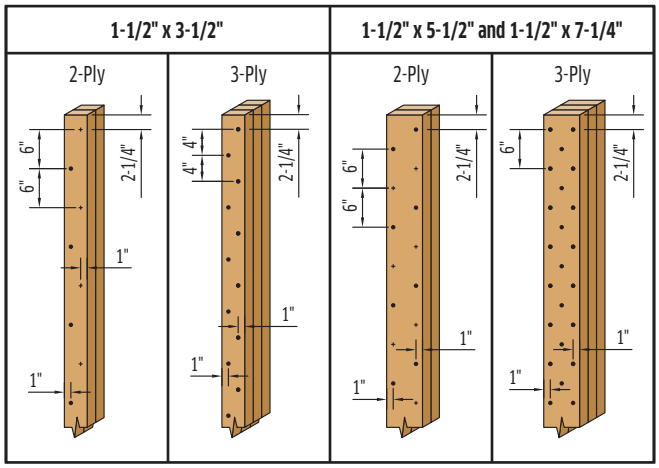
Nail Type	Length	Diameter	Lateral Capacity (lbs)	
			Toe-Nail (lbs)	End-Nail
8d box	2-1/2"	0.113"	95	68
8d common	2-1/2"	0.131"	128	79
10d box	3"	0.128"	123	99
10 common	3"	0.148"	156	126
16d sinker	3-1/4"	0.148"	156	126
16d box	3-1/2"	0.135"	136	110
16d common	3-1/2"	0.162"	187	151

Notes:
1. The lateral capacity assumes a load duration adjustment for wind, C_d = 1.60.
2. Connections assume an equivalent specific gravity of 0.50 for both the side member and main member. For an SPF plate (SG=0.42), multiply the tabulated lateral capacities by 0.84. For a Hem-Fir plate (SG=0.46), multiply the tabulated capacities by 0.93.
3. Toe-nail connections assume a toe-nail adjustment factor, C_{tn} = 0.83 for lateral capacity.
4. End-nail connections assume an end grain adjustment factor, C_{eg} = 0.67 for lateral capacity.



CONNECTION OF BUILT-UP COLUMNS

Built-up columns shall be designed in accordance with the NDS using the following recommended nailing and bolt patterns.



10d box nails (3" x 0.128")		10d box nails (3" x 0.128")	
• One row spaced 6" oc. • Drive every other nail from opposite faces and offset horizontally.	• One row spaced 4" oc from both faces. • Horizontally offset every other nail in the row. • Stagger rows on each face and from front to back.	• Two rows spaced 6" oc. • Drive every other nail in a row from opposite faces. • Stagger rows.	• Three rows spaced 6" oc from both faces. • Stagger rows on each face and from front to back.

2-Ply and 3-Ply 1-1/2" x 9-1/4"
- Three rows of 10d box nails spaced 6" oc from both faces.
- Stagger rows on each face and from front to back.

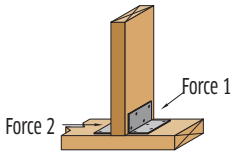
4-Ply 1-1/2" x 5-1/2" and wider (not shown)
- Two rows of 1/2" bolts spaced 8" oc.
- Maintain a 2" minimum edge distance and 4" minimum end distance.

Notes:
1. Larger nails may be used. Do not exceed 12d common (0.148") or 16d box (0.135") nail.
2. Except as specified herein, nail spacing, row spacing, edge distance and end distance shall be in accordance with the NDS.
3. Do not exceed three plies for 1-1/2" x 3-1/2" wide members.

TYPICAL FRAMING ANCHORS

Anchor Type	Number of Nails	Capacity (lbs)	
		Force 1	Force 2
Simpson Strong-Tie®			
A21	(4) 10d x 1-1/2"	175	365
A23	(8) 10d x 1-1/2"	565	715
A34	(8) 8d x 1-1/2"	515	455
A35	(12) 8d x 1-1/2"	695	670
MiTek® Structural Connectors			
A3	(8) 10d x 1-1/2"	590	600
AC5	(6) 10d	540	540
AC7	(8) 10d	725	725
AC9	(10) 10d	905	905

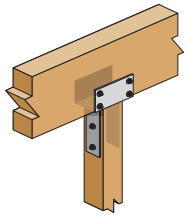
Notes:
1. Refer to the manufacturers' current catalogs for complete information.
2. Capacities assume both members being equivalent to specific gravity of 0.50 or better.
3. Capacities are for a load duration adjustment for wind, C_d = 1.60.
4. Capacities are for a single anchor and may be doubled when installed in pairs. Doubled anchors are required to achieve Force 2 capacity on both directions.



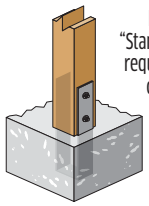
Framing Anchors

TYPICAL CONNECTIONS

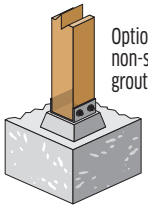
BEAM ON COLUMN CAP



COLUMN BASE

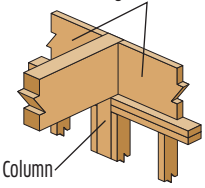


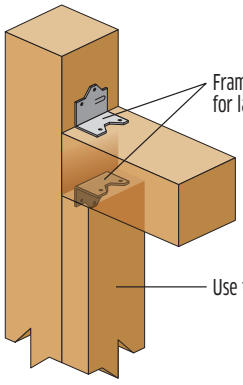
ELEVATED COLUMN BASE



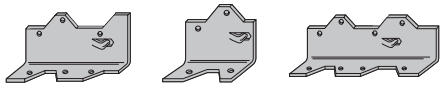
BEAM ON COLUMN

1-1/4" LSL or LVL or 1-1/8" rim board or blocking for lateral support



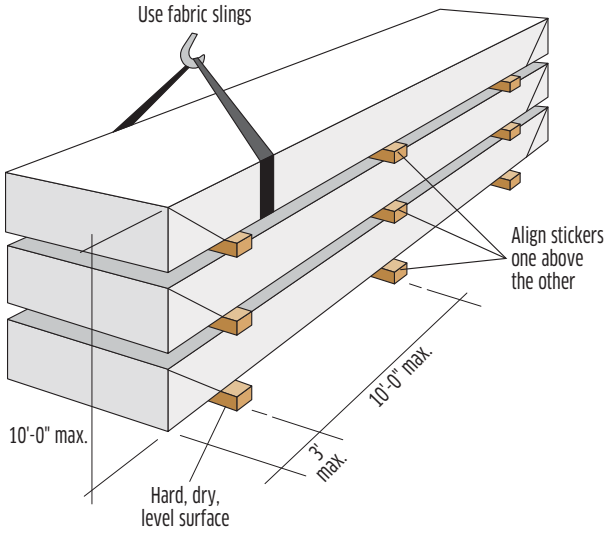


EXAMPLES OF FRAMING ANCHORS



HANDLING AND STORAGE GUIDELINES

- WARNING: Failure to follow proper procedures for handling, storage and installation could result in unsatisfactory performance, unsafe structures and possible collapse.
- Keep PWT™ products dry. These products are intended to resist the effects of moisture on structural performance from normal construction delays but are not intended for permanent exposure to the weather.
- Unload products carefully, by lifting. Support the bundles to reduce excessive bowing. Individual products should be handled in a manner which prevents physical damage during measuring, cutting, erection, etc. I-Joists shall be handled vertically and not flatwise.
- Keep products stored in wrapped and strapped bundles, stacked no more than 10' high. Support and separate bundles with 2 x 4 (or larger) stickers spaced no more than 10' apart. Keep stickers in line vertically.
- Product must not be stored in contact with the ground, or have prolonged exposure to the weather.
- Use forklifts and cranes carefully to avoid damaging product.
- Do not use a visually damaged product. Call your local PWT distributor for assistance when damaged products are encountered.
- For satisfactory performance, PWT products must be used under dry, covered and well-ventilated interior conditions in which the equivalent moisture content in lumber is less than 16%.
- For built-up members, all PWT products shall be dry before nailing or bolting to avoid trapping moisture.
- PWT I-Joists and PWT LVL shall not be used for unintended purposes such as ramps and planks.



PWT™ LVL

PWT™
FOCUSED ON EWP

1850 Park Lane Burlington, WA 98233
TF 888.707.2285
pwtewp.com

For product catalog and complete warranty details or for more information on the full line of PWT products or the nearest distributor, visit pwtewp.com.

PWT products are manufactured at different locations in the United States and Canada.

CAL. PROP 65 WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov.wood.

NOTE: PWT periodically updates and revises its product information. To verify that this version is current, contact the nearest sales office, visit pwtewp.com, or call 888.707.2285.