



TECH NOTES

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Design Load Tables for Wood Columns (Posts)

- 4x4 through 12x12
- Incised 4x4 and 4x6

In a wood structure, whether it is a deck or a five-story wood frame building, solid wood columns (posts) are often used. These columns are subject to axial compressive loads, and in some cases, eccentric loads.

The design loads of axial compression for simple wood columns subjected to concentric compression loads of commonly used lumber products are tabulated in Table 1. The design loads for 4x4 and 4x6 lumber for the commonly used grades are listed in Table 2, and for incised lumber in Table 3. Tables 4, 5, and 6 contain design loads for 6x, 8x, 10x and 12x timbers. Please note, these tables do not consider eccentric loads.

| Table 1 AXIAL COMPRESSION LOAD CAPACITY FOR 4x4 AND 4x6 COLUMNS | | | | | | | | | | | |
|------------------------------------------------------------------------|--------------------|-------|------------------|-------------------------------------|------------------|-------|------------------|------------------------------------|------------------|---------|---------------------------------------|
| Column Capacity (lbs.) | | | | | | | | | | | |
| Species | Column Length (ft) | No. 2 | | No. 2 (incised lumber) ¹ | | STUD | | STUD (incised lumber) ¹ | | Std&Btr | Std&Btr (incised lumber) ¹ |
| | | 4x4 | 4x6 ² | 4x4 | 4x6 ² | 4x4 | 4x6 ² | 4x4 | 4x6 ² | 4x4 | 4x4 |
| Douglas Fir-Larch | 3 | 17426 | 26316 | 14174 | 21384 | 10371 | 15566 | 8376 | 12564 | 15662 | 12748 |
| | 4 | 15793 | 24001 | 13133 | 19907 | 9830 | 14807 | 8029 | 12076 | 14130 | 11771 |
| | 5 | 13469 | 20663 | 11591 | 17710 | 9018 | 13665 | 7510 | 11348 | 11972 | 10332 |
| | 6 | 10936 | 16923 | 9738 | 15010 | 7942 | 12136 | 6800 | 10346 | 9663 | 8627 |
| | 7 | 8728 | 13582 | 7955 | 12344 | 6752 | 10404 | 5951 | 9128 | 7685 | 7017 |
| | 8 | 7000 | 10929 | 6468 | 10079 | 5638 | 8741 | 5085 | 7854 | 6151 | 5690 |
| | 9 | 5690 | 8900 | 5300 | 8279 | 4696 | 7310 | 4301 | 6677 | 4993 | 4655 |
| | 10 | 4694 | 7351 | 4395 | 6876 | 3934 | 6140 | 3639 | 5668 | 4117 | 3856 |
| Hem-Fir | 3 | 16433 | 24849 | 13427 | 20277 | 9701 | 14567 | 7844 | 11771 | 14404 | 11749 |
| | 4 | 14477 | 22069 | 12173 | 18498 | 9127 | 13760 | 7477 | 11254 | 12827 | 10740 |
| | 5 | 11876 | 18295 | 10386 | 15932 | 8264 | 12547 | 6924 | 10478 | 10671 | 9297 |
| | 6 | 9343 | 14508 | 8435 | 13054 | 7155 | 10962 | 6179 | 9424 | 8485 | 7626 |
| | 7 | 7320 | 11416 | 6734 | 10479 | 5989 | 9249 | 5324 | 8187 | 6688 | 6134 |
| | 8 | 5810 | 9084 | 5402 | 8433 | 4946 | 7682 | 4491 | 6951 | 5326 | 4942 |
| | 9 | 4694 | 7349 | 4391 | 6868 | 4091 | 6377 | 3765 | 5854 | 4311 | 4028 |
| | 10 | 3858 | 6046 | 3623 | 5673 | 3413 | 5331 | 3168 | 4939 | 3548 | 3329 |

¹ Incising is a procedure for improving penetration of preservative treatment whereby incisions are cut into the surfaces of wood.

² See Figure A

Design Considerations

1. Engineering formulas used in computing axial compression design loads are taken from Section 3.7 of the *National Design Specification for Wood Construction (NDS)*, 2001 Edition.
2. Design values for dimension lumber and timbers are those published in *Western Lumber Grading Rules 1998* and the *NDS Supplement*, 2001 Edition.
3. A load duration factor (C_D) of 1.0 is used in determining design loads in this Tech Note. This is conservative for load durations less than normal load duration.
4. Tables 1 and 3 contain the axial compression design loads for incised lumber. Lumber design values are adjusted by the incising factor C_i .

| Design Properties | C_i |
|-------------------|-------|
| MOE (E) | 0.95 |
| $F_{C//}$ | 0.80 |

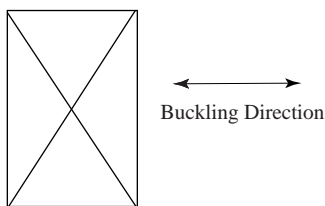
No incising adjustment is required for timbers with a nominal thickness of 5" and thicker, $C_i = 1.0$; all tabulated values for 5" and thicker are applicable to both non-incised and incised lumber.

5. Most preservative treatments have no significant affect on the mechanical properties of lumber. No adjustment is considered in this Tech Note.
6. The sizes and grades covered in this Tech Note are those commonly manufactured by Western mills. The availability of these sizes and grades may vary between regions.

Additional Information

Technical information on Western lumber products is available through the Association's web site at www.wwpa.org and our *Online Technical Guide* at www.wwpa.org/techguide. You can receive a publications order form via fax by calling 732-544-2876 and following the recorded instructions.

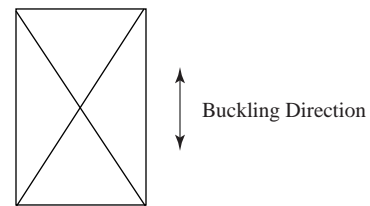
Figure A: Weak Axis Buckling



Example Application:

Single standing column with no bracing or lateral support except at the ends, i.e., deck posts seated in post bases.

Figure B: Strong Axis Buckling



Example Application:

Post or column sandwiched between structural panels, laterally braced full length (structural panels fastened on narrow faces of wood members with nails, bolts or screws), i.e. walls sheathed with structural wood panels on both sides.

| Table 2 | | | | | | | | | | | | | | |
|----------------------------------------------------------------|--------------------|-------------------|------------------|------------------|-------|------------------|------------------|-------|------------------|------------------|-------|------------------|------------------|---------|
| AXIAL COMPRESSION LOAD CAPACITY FOR 4x4 and 4x6 COLUMNS | | | | | | | | | | | | | | |
| Column Capacity (lbs.) | | | | | | | | | | | | | | |
| Species | Column Length (ft) | Select Structural | | | No. 1 | | | No. 2 | | | Stud | | | Std&Btr |
| | | 4x4 | 4x6 ² | 4x6 ¹ | 4x4 | 4x6 ² | 4x6 ¹ | 4x4 | 4x6 ² | 4x6 ¹ | 4x4 | 4x6 ² | 4x6 ¹ | 4x4 |
| Douglas Fir-Larch | 2 | 23098 | 35531 | 34779 | 20392 | 31356 | 30704 | 18384 | 28237 | 27679 | 10701 | 16233 | 16033 | 16559 |
| | 3 | 21799 | 34897 | 32933 | 19266 | 30806 | 29103 | 17426 | 27766 | 26316 | 10371 | 16064 | 15566 | 15662 |
| | 4 | 19579 | 33910 | 29784 | 17342 | 29949 | 26375 | 15793 | 27036 | 24001 | 9830 | 15809 | 14807 | 14130 |
| | 5 | 16483 | 32468 | 25323 | 14645 | 28700 | 22492 | 13469 | 25975 | 20663 | 9018 | 15453 | 13665 | 11972 |
| | 6 | 13232 | 30466 | 20503 | 11788 | 26966 | 18260 | 10936 | 24504 | 16923 | 7942 | 14971 | 12136 | 9663 |
| | 7 | 10488 | 27882 | 16335 | 9358 | 24723 | 14573 | 8728 | 22590 | 13582 | 6752 | 14339 | 10404 | 7685 |
| | 8 | 8379 | 24880 | 13089 | 7484 | 22105 | 11688 | 7000 | 20326 | 10929 | 5638 | 13541 | 8741 | 6151 |
| | 9 | 6795 | 21782 | 10632 | 6072 | 19387 | 9500 | 5690 | 17930 | 8900 | 4696 | 12584 | 7310 | 4993 |
| | 10 | 5598 | 18883 | 8769 | 5004 | 16830 | 7838 | 4694 | 15635 | 7351 | 3934 | 11514 | 6140 | 4117 |
| | 11 | 4682 | 16335 | 7338 | 4186 | 14573 | 6561 | 3929 | 13582 | 6158 | 3326 | 10404 | 5200 | 3444 |
| | 12 | 3967 | 14168 | 6222 | 3548 | 12648 | 5563 | 3332 | 11815 | 5225 | 2840 | 9324 | 4445 | 2920 |
| | 13 | 3402 | 12349 | 5337 | 3042 | 11030 | 4773 | 2859 | 10319 | 4484 | 2449 | 8325 | 3835 | 2504 |
| | 14 | 2948 | 10828 | 4626 | 2636 | 9675 | 4137 | 2478 | 9062 | 3888 | 2130 | 7430 | 3338 | 2170 |
| Hem-Fir | 2 | 20341 | 31330 | 30631 | 18338 | 28213 | 27613 | 17578 | 27127 | 26475 | 10049 | 15266 | 15057 | 15326 |
| | 3 | 19125 | 30741 | 28903 | 17299 | 27706 | 26136 | 16433 | 26577 | 24849 | 9701 | 15090 | 14567 | 14404 |
| | 4 | 17045 | 29819 | 25951 | 15523 | 26917 | 23616 | 14477 | 25713 | 22069 | 9127 | 14823 | 13760 | 12827 |
| | 5 | 14196 | 28467 | 21836 | 13050 | 25763 | 20053 | 11876 | 24437 | 18295 | 8264 | 14447 | 12547 | 10671 |
| | 6 | 11298 | 26589 | 17522 | 10465 | 24161 | 16217 | 9343 | 22667 | 14508 | 7155 | 13935 | 10962 | 8485 |
| | 7 | 8909 | 24183 | 13885 | 8289 | 22095 | 12912 | 7320 | 20428 | 11416 | 5989 | 13262 | 9249 | 6688 |
| | 8 | 7098 | 21434 | 11092 | 6620 | 19700 | 10342 | 5810 | 17935 | 9084 | 4946 | 12416 | 7682 | 5326 |
| | 9 | 5746 | 18654 | 8994 | 5367 | 17234 | 8399 | 4694 | 15487 | 7349 | 4091 | 11420 | 6377 | 4311 |
| | 10 | 4729 | 16100 | 7410 | 4422 | 14932 | 6926 | 3858 | 13290 | 6046 | 3413 | 10337 | 5331 | 3548 |
| | 11 | 3952 | 13885 | 6196 | 3697 | 12912 | 5795 | 3221 | 11416 | 5051 | 2877 | 9249 | 4500 | 2965 |
| | 12 | 3348 | 12017 | 5251 | 3133 | 11196 | 4913 | 2727 | 9853 | 4278 | 2452 | 8224 | 3839 | 2511 |
| | 13 | 2870 | 10459 | 4502 | 2686 | 9757 | 4215 | 2337 | 8559 | 3666 | 2111 | 7299 | 3307 | 2153 |
| | 14 | 2486 | 9161 | 3901 | 2328 | 8554 | 3653 | 2023 | 7487 | 3176 | 1834 | 6484 | 2876 | 1865 |

¹ See Figure A

² See Figure B

Table 3**AXIAL COMPRESSION LOAD CAPACITY FOR 4x4 and 4x6 INCISED COLUMNS**

Column Capacity (lbs.)

| Species | Column Length (ft) | Select Structural (incised lumber) | | | No. 1 (incised lumber) | | | No. 2 (incised lumber) | | | Stud (incised lumber) | | | Std&Btr (incised lumber) |
|----------------------|--------------------|---------------------------------------|------------------|------------------|---------------------------|------------------|------------------|---------------------------|------------------|------------------|--------------------------|------------------|------------------|-----------------------------|
| | | 4x4 | 4x6 ² | 4x6 ¹ | 4x4 | 4x6 ² | 4x6 ¹ | 4x4 | 4x6 ² | 4x6 ¹ | 4x4 | 4x6 ² | 4x6 ¹ | 4x4 |
| Douglas Fir-Larch | 2 | 18594 | 28485 | 27989 | 16414 | 25138 | 24707 | 14794 | 22635 | 22266 | 8592 | 13003 | 12870 | 13328 |
| | 3 | 17756 | 28066 | 26796 | 15687 | 24774 | 23672 | 14174 | 22323 | 21384 | 8376 | 12890 | 12564 | 12748 |
| | 4 | 16339 | 27424 | 24787 | 14459 | 24216 | 21932 | 13133 | 21847 | 19907 | 8029 | 12723 | 12076 | 11771 |
| | 5 | 14263 | 26499 | 21821 | 12656 | 23415 | 19357 | 11591 | 21165 | 17710 | 7510 | 12491 | 11348 | 10332 |
| | 6 | 11842 | 25224 | 18279 | 10537 | 22310 | 16260 | 9738 | 20228 | 15010 | 6800 | 12181 | 10346 | 8627 |
| | 7 | 9593 | 23550 | 14901 | 8553 | 20860 | 13283 | 7955 | 18996 | 12344 | 5951 | 11778 | 9128 | 7017 |
| | 8 | 7760 | 21512 | 12101 | 6927 | 19088 | 10800 | 6468 | 17478 | 10079 | 5085 | 11269 | 7854 | 5690 |
| | 9 | 6340 | 19258 | 9908 | 5663 | 17119 | 8849 | 5300 | 15766 | 8279 | 4301 | 10646 | 6677 | 4655 |
| | 10 | 5247 | 16999 | 8212 | 4689 | 15134 | 7338 | 4395 | 14009 | 6876 | 3639 | 9921 | 5668 | 3856 |
| | 11 | 4401 | 14901 | 6895 | 3934 | 13283 | 6163 | 3691 | 12344 | 5780 | 3097 | 9128 | 4834 | 3237 |
| | 12 | 3738 | 13046 | 5859 | 3342 | 11639 | 5238 | 3137 | 10848 | 4916 | 2656 | 8312 | 4152 | 2750 |
| | 13 | 3210 | 11447 | 5034 | 2870 | 10218 | 4501 | 2696 | 9544 | 4227 | 2297 | 7518 | 3594 | 2362 |
| | 14 | 2784 | 10085 | 4368 | 2490 | 9007 | 3906 | 2339 | 8425 | 3670 | 2002 | 6777 | 3136 | 2049 |
| | Hem-Fir | 2 | 16381 | 25120 | 24659 | 14763 | 22619 | 22223 | 14164 | 21754 | 21324 | 8071 | 12230 | 12091 |
| 3 | | 15597 | 24731 | 23544 | 14093 | 22284 | 21268 | 13427 | 21391 | 20277 | 7844 | 12113 | 11771 | 11749 |
| 4 | | 14267 | 24132 | 21659 | 12958 | 21770 | 19660 | 12173 | 20830 | 18498 | 7477 | 11937 | 11254 | 10740 |
| 5 | | 12339 | 23266 | 18899 | 11299 | 21031 | 17289 | 10386 | 20015 | 15932 | 6924 | 11693 | 10478 | 9279 |
| 6 | | 10150 | 22069 | 15684 | 9370 | 20010 | 14466 | 8435 | 18885 | 13054 | 6179 | 11365 | 9424 | 7626 |
| 7 | | 8170 | 20502 | 12701 | 7584 | 18671 | 11783 | 6734 | 17414 | 10479 | 5324 | 10936 | 8187 | 6134 |
| 8 | | 6585 | 18614 | 10273 | 6133 | 17042 | 9564 | 5402 | 15673 | 8433 | 4491 | 10394 | 6951 | 4942 |
| 9 | | 5367 | 16563 | 8391 | 5008 | 15245 | 7828 | 4391 | 13829 | 6868 | 3765 | 9736 | 5854 | 4028 |
| 10 | | 4436 | 14545 | 6945 | 4145 | 13448 | 6487 | 3623 | 12061 | 5673 | 3168 | 8986 | 4939 | 3329 |
| 11 | | 3718 | 12701 | 5825 | 3476 | 11783 | 5445 | 3033 | 10479 | 4753 | 2685 | 8187 | 4195 | 2789 |
| 12 | | 3155 | 11088 | 4947 | 2952 | 10312 | 4627 | 2572 | 9116 | 4033 | 2297 | 7389 | 3593 | 2367 |
| 13 | | 2708 | 9710 | 4248 | 2535 | 9045 | 3975 | 2206 | 7963 | 3461 | 1983 | 6635 | 3105 | 2032 |
| 14 | | 2349 | 8543 | 3685 | 2199 | 7968 | 3449 | 1912 | 6993 | 3001 | 1727 | 5946 | 2705 | 1762 |

¹ See Figure A² See Figure B

Table 4 **AXIAL COMPRESSION LOAD CAPACITY FOR 6x6 and 6x8 COLUMNS**

Column Capacity (lbs.)

| Species | Column Length (ft) | Select Structural | | | No. 1 | | | No. 2 | | |
|-------------------|--------------------|-------------------|------------------|------------------|-------|------------------|------------------|-------|------------------|------------------|
| | | 6x6 | 6x8 ² | 6x8 ¹ | 6x6 | 6x8 ² | 6x8 ¹ | 6x6 | 6x8 ² | 6x8 ¹ |
| Douglas Fir-Larch | 2 | 34461 | 47201 | 46993 | 30004 | 41072 | 40915 | 21027 | 28768 | 28674 |
| | 3 | 34028 | 46896 | 46402 | 29680 | 40842 | 40473 | 20834 | 28630 | 28410 |
| | 4 | 33371 | 46450 | 45506 | 29194 | 40509 | 39810 | 20547 | 28431 | 28018 |
| | 5 | 32438 | 45843 | 44234 | 28511 | 40058 | 38879 | 20147 | 28164 | 27473 |
| | 6 | 31162 | 45047 | 42493 | 27586 | 39473 | 37618 | 19612 | 27820 | 26744 |
| | 7 | 29482 | 44031 | 40203 | 26373 | 38731 | 35963 | 18915 | 27388 | 25793 |
| | 8 | 27387 | 42756 | 37347 | 24841 | 37807 | 33874 | 18032 | 26853 | 24589 |
| | 9 | 24965 | 41189 | 34044 | 23015 | 36676 | 31384 | 16958 | 26202 | 23124 |
| | 10 | 22400 | 39311 | 30546 | 20989 | 35315 | 28621 | 15721 | 25421 | 21437 |
| | 11 | 19894 | 37138 | 27128 | 18906 | 33720 | 25781 | 14386 | 24500 | 19617 |
| | 12 | 17586 | 34729 | 23981 | 16902 | 31909 | 23048 | 13035 | 23437 | 17775 |
| | 13 | 15539 | 32184 | 21190 | 15061 | 29932 | 20538 | 11742 | 22248 | 16011 |
| | 14 | 13761 | 29617 | 18765 | 13421 | 27863 | 18302 | 10550 | 20960 | 14386 |
| | 15 | 12230 | 27128 | 16678 | 11984 | 25781 | 16342 | 9478 | 19617 | 12925 |
| | 16 | 10916 | 24787 | 14886 | 10734 | 23758 | 14637 | 8530 | 18262 | 11632 |
| | Hem-Fir | 2 | 29205 | 40010 | 39825 | 25494 | 34904 | 34764 | 17276 | 23633 |
| 3 | | 28820 | 39739 | 39300 | 25205 | 34700 | 34370 | 17122 | 23524 | 23348 |
| 4 | | 28235 | 39343 | 38502 | 24770 | 34402 | 33777 | 16894 | 23365 | 23037 |
| 5 | | 27400 | 38802 | 37364 | 24156 | 33999 | 32940 | 16577 | 23153 | 22605 |
| 6 | | 26256 | 38092 | 35804 | 23323 | 33474 | 31803 | 16154 | 22880 | 22028 |
| 7 | | 24750 | 37182 | 33750 | 22227 | 32807 | 30310 | 15603 | 22537 | 21277 |
| 8 | | 22883 | 36039 | 31204 | 20849 | 31975 | 28430 | 14906 | 22115 | 20326 |
| 9 | | 20749 | 34633 | 28294 | 19219 | 30953 | 26208 | 14055 | 21600 | 19166 |
| 10 | | 18525 | 32953 | 25262 | 17436 | 29726 | 23777 | 13070 | 20983 | 17822 |
| 11 | | 16385 | 31019 | 22344 | 15633 | 28292 | 21317 | 11997 | 20255 | 16359 |
| 12 | | 14440 | 28895 | 19691 | 13922 | 26675 | 18985 | 10902 | 19414 | 14866 |
| 13 | | 12731 | 26676 | 17360 | 12371 | 24926 | 16869 | 9843 | 18469 | 13422 |
| 14 | | 11255 | 24464 | 15348 | 11000 | 23116 | 15000 | 8860 | 17440 | 12081 |
| 15 | | 9991 | 22344 | 13624 | 9806 | 21317 | 13371 | 7971 | 16359 | 10870 |
| 16 | | 8910 | 20368 | 12149 | 8772 | 19588 | 11962 | 7181 | 15262 | 9793 |

¹ See Figure A

² See Figure B

Applicable to both non-incised and incised lumber

| Table 5 | | | | | | | | | | |
|-----------------------------------------------------------------|--------------------|-------------------|-------------------|-------------------|-------|-------------------|-------------------|-------|-------------------|-------------------|
| AXIAL COMPRESSION LOAD CAPACITY FOR 8x8 and 8x10 COLUMNS | | | | | | | | | | |
| Column Capacity (lbs.) | | | | | | | | | | |
| Species | Column Length (ft) | Select Structural | | | No. 1 | | | No. 2 | | |
| | | 8x8 | 8x10 ² | 8x10 ¹ | 8x8 | 8x10 ² | 8x10 ¹ | 8x8 | 8x10 ² | 8x10 ¹ |
| Douglas Fir-Larch | 2 | 64365 | 81685 | 81529 | 56007 | 71059 | 70942 | 39229 | 49760 | 49690 |
| | 3 | 63949 | 81362 | 81002 | 55694 | 70816 | 70546 | 39041 | 49614 | 49452 |
| | 4 | 63341 | 80898 | 80232 | 55240 | 70468 | 69970 | 38770 | 49405 | 49109 |
| | 5 | 62513 | 80279 | 79183 | 54625 | 70005 | 69192 | 38406 | 49129 | 48647 |
| | 6 | 61428 | 79488 | 77809 | 53827 | 69418 | 68181 | 37937 | 48781 | 48053 |
| | 7 | 60042 | 78504 | 76053 | 52815 | 68691 | 66899 | 37347 | 48352 | 47306 |
| | 8 | 58303 | 77299 | 73851 | 51556 | 67807 | 65304 | 36618 | 47835 | 46383 |
| | 9 | 56166 | 75843 | 71144 | 50012 | 66747 | 63349 | 35731 | 47217 | 45259 |
| | 10 | 53606 | 74106 | 67901 | 48157 | 65488 | 60999 | 34665 | 46489 | 43909 |
| | 11 | 50643 | 72056 | 64147 | 45982 | 64007 | 58244 | 33408 | 45637 | 42317 |
| | 12 | 47358 | 69675 | 59987 | 43513 | 62286 | 55116 | 31960 | 44649 | 40482 |
| | 13 | 43887 | 66960 | 55591 | 40817 | 60313 | 51702 | 30338 | 43514 | 38428 |
| | 14 | 40387 | 63937 | 51156 | 37995 | 58088 | 48127 | 28582 | 42227 | 36204 |
| | 15 | 36993 | 60664 | 46857 | 35156 | 55632 | 44531 | 26750 | 40788 | 33883 |
| | 16 | 33801 | 57225 | 42814 | 32398 | 52986 | 41037 | 24903 | 39208 | 31544 |
| | Hem-Fir | 2 | 54559 | 69245 | 69108 | 47596 | 60393 | 60289 | 32227 | 40877 |
| 3 | | 54190 | 68959 | 68640 | 47318 | 60176 | 59936 | 32078 | 40761 | 40632 |
| 4 | | 53649 | 68547 | 67956 | 46912 | 59866 | 59422 | 31862 | 40594 | 40358 |
| 5 | | 52912 | 67998 | 67022 | 46362 | 59453 | 58725 | 31572 | 40375 | 39992 |
| 6 | | 51944 | 67294 | 65796 | 45646 | 58928 | 57819 | 31200 | 40098 | 39520 |
| 7 | | 50703 | 66416 | 64224 | 44737 | 58277 | 56667 | 30733 | 39757 | 38928 |
| 8 | | 49144 | 65339 | 62250 | 43602 | 57483 | 55229 | 30156 | 39347 | 38198 |
| 9 | | 47227 | 64036 | 59821 | 42209 | 56530 | 53464 | 29455 | 38858 | 37309 |
| 10 | | 44935 | 62478 | 56918 | 40535 | 55395 | 51345 | 28613 | 38282 | 36244 |
| 11 | | 42298 | 60639 | 53578 | 38580 | 54059 | 48868 | 27621 | 37608 | 34986 |
| 12 | | 39402 | 58505 | 49909 | 36374 | 52506 | 46074 | 26474 | 36828 | 33534 |
| 13 | | 36376 | 56078 | 46076 | 33990 | 50727 | 43054 | 25185 | 35932 | 31901 |
| 14 | | 33360 | 53392 | 42256 | 31522 | 48728 | 39928 | 23782 | 34914 | 30124 |
| 15 | | 30469 | 50504 | 38594 | 29069 | 46533 | 36821 | 22308 | 33776 | 28257 |
| 16 | | 27774 | 47496 | 35181 | 26711 | 44186 | 33834 | 20812 | 32522 | 26362 |

¹ See Figure A

² See Figure B

Applicable to both non-incised and incised lumber

Table 6**AXIAL COMPRESSION LOAD CAPACITY FOR 10x10, 10x12 and 12x12 COLUMNS**

Column Capacity (lbs.)

| Species | Column Length (ft) | Select Structural | | | | No. 1 | | | | No. 2 | | | |
|----------------------|--------------------|-------------------|--------------------|--------------------|--------|--------|--------------------|--------------------|--------|--------|--------------------|--------------------|-------|
| | | 10x10 | 10x12 ² | 10x12 ¹ | 12x12 | 10x10 | 10x12 ² | 10x12 ¹ | 12x12 | 10x10 | 10x12 ² | 10x12 ¹ | 12x12 |
| Douglas Fir-Larch | 2 | 103467 | 125374 | 125250 | 151768 | 90008 | 109051 | 108957 | 132009 | 63029 | 76355 | 76299 | 92430 |
| | 3 | 103058 | 125039 | 124755 | 151363 | 89700 | 108798 | 108584 | 131703 | 62844 | 76203 | 76075 | 92246 |
| | 4 | 102470 | 124562 | 124043 | 150786 | 89259 | 108439 | 108050 | 131269 | 62580 | 75988 | 75755 | 91985 |
| | 5 | 101687 | 123933 | 123094 | 150024 | 88673 | 107968 | 107341 | 130698 | 62231 | 75705 | 75332 | 91643 |
| | 6 | 100685 | 123141 | 121882 | 149065 | 87929 | 107376 | 106440 | 129981 | 61789 | 75352 | 74797 | 91216 |
| | 7 | 99438 | 122169 | 120372 | 147889 | 87008 | 106654 | 105326 | 129107 | 61246 | 74924 | 74140 | 90697 |
| | 8 | 97912 | 121001 | 118525 | 146474 | 85889 | 105789 | 103971 | 128060 | 60590 | 74413 | 73346 | 90079 |
| | 9 | 96068 | 119613 | 116293 | 144795 | 84546 | 104768 | 102345 | 126825 | 59809 | 73813 | 72400 | 89352 |
| | 10 | 93867 | 117982 | 113629 | 142820 | 82951 | 103575 | 100415 | 125380 | 58886 | 73115 | 71283 | 88508 |
| | 11 | 91271 | 116079 | 110486 | 140517 | 81076 | 102190 | 98145 | 123704 | 57807 | 72310 | 69977 | 87533 |
| | 12 | 88255 | 113879 | 106834 | 137853 | 78896 | 100596 | 95506 | 121774 | 56555 | 71388 | 68462 | 86417 |
| | 13 | 84816 | 111354 | 102672 | 134797 | 76396 | 98771 | 92480 | 119565 | 55118 | 70337 | 66722 | 85145 |
| | 14 | 80987 | 108486 | 98037 | 131325 | 73578 | 96700 | 89068 | 117058 | 53487 | 69147 | 64748 | 83705 |
| | 15 | 76842 | 105265 | 93019 | 127426 | 70467 | 94368 | 85302 | 114235 | 51664 | 67808 | 62541 | 82084 |
| | 16 | 72485 | 101702 | 87745 | 123113 | 67115 | 91770 | 81245 | 111090 | 49663 | 66313 | 60118 | 80273 |
| | Hem-Fir | 2 | 87710 | 106285 | 106176 | 128661 | 76497 | 92685 | 92602 | 112198 | 51778 | 62723 | 62678 |
| 3 | | 87348 | 105989 | 105737 | 128303 | 76223 | 92461 | 92270 | 111926 | 51630 | 62602 | 62500 | 75781 |
| 4 | | 86827 | 105566 | 105106 | 127791 | 75830 | 92141 | 91794 | 111539 | 51420 | 62430 | 62245 | 75574 |
| 5 | | 86130 | 105008 | 104263 | 127116 | 75307 | 91721 | 91161 | 111030 | 51142 | 62206 | 61908 | 75302 |
| 6 | | 85239 | 104304 | 103184 | 126263 | 74642 | 91192 | 90356 | 110391 | 50791 | 61925 | 61483 | 74961 |
| 7 | | 84127 | 103440 | 101838 | 125217 | 73817 | 90547 | 89357 | 109609 | 50359 | 61584 | 60961 | 74549 |
| 8 | | 82763 | 102399 | 100187 | 123957 | 72812 | 89773 | 88141 | 108672 | 49839 | 61178 | 60332 | 74057 |
| 9 | | 81113 | 101160 | 98189 | 122457 | 71604 | 88857 | 86679 | 107564 | 49220 | 60702 | 59582 | 73481 |
| 10 | | 79139 | 99701 | 95800 | 120691 | 70167 | 87785 | 84939 | 106266 | 48490 | 60148 | 58699 | 72811 |
| 11 | | 76810 | 97997 | 92980 | 118628 | 68475 | 86539 | 82890 | 104758 | 47637 | 59511 | 57666 | 72040 |
| 12 | | 74106 | 96024 | 89707 | 116240 | 66507 | 85102 | 80509 | 103018 | 46649 | 58781 | 56469 | 71156 |
| 13 | | 71033 | 93759 | 85987 | 113497 | 64254 | 83456 | 77781 | 101026 | 45514 | 57951 | 55095 | 70151 |
| 14 | | 67629 | 91186 | 81867 | 110383 | 61722 | 81586 | 74716 | 98762 | 44225 | 57011 | 53536 | 69013 |
| 15 | | 63971 | 88303 | 77439 | 106893 | 58942 | 79483 | 71351 | 96216 | 42782 | 55953 | 51789 | 67733 |
| 16 | | 60161 | 85123 | 72827 | 103044 | 55969 | 77143 | 67751 | 93383 | 41194 | 54772 | 49866 | 66303 |

¹ See Figure A² See Figure B

Applicable to both non-incised and incised lumber