



# Allowable Properties *for* Dimension Lumber

*Domestic Species*

---

listed in  
Standard Grading Rules No. 17

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Updated & Revised  
*May 1*

# 2005

**ALLOWABLE PROPERTIES  
FOR  
DIMENSION LUMBER**

listed in Standard Grading Rules No. 17  
updated and revised  
**May 1, 2005**

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**Note:**

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Allowable Property Values - Douglas fir

| <b>Douglas fir</b>   |                          |         |                           |                         |                        |              |                       |           |
|--|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|-----------|
| Grade  | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |           |
|  | Fb (psi)                 |         | Ft (psi)                  | Fc (psi)                | Fc <sup>⊥</sup> (psi)  | Fv (psi)     | E (psi)               |           |
|  | 2" nom.                  | 4" nom. |                           |                         |                        |              |                       |           |
| <b>BASE VALUES</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,500                    |         | 1,000                     | 1,700                   | 625                    | 180          | 1,900,000             |           |
| No. 1 & Btr.   | 1,200                    |         | 800                       | 1,550                   | 625                    | 180          | 1,800,000             |           |
| No. 1  | 1,000                    |         | 675                       | 1,500                   | 625                    | 180          | 1,700,000             |           |
| No. 2  | 900                      |         | 575                       | 1,350                   | 625                    | 180          | 1,600,000             |           |
| No. 3  | 525                      |         | 325                       | 775                     | 625                    | 180          | 1,400,000             |           |
| Construction Standard  | 1,000                    |         | 650                       | 1,650                   | 625                    | 180          | 1,500,000             |           |
| Utility  | 575                      |         | 375                       | 1,400                   | 625                    | 180          | 1,400,000             |           |
| Stud   | 700                      |         | 450                       | 850                     | 625                    | 180          | 1,400,000             |           |
| <b>2x4 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 2,250                    | 2,250   | 1,500                     | 1,955                   | 625                    | 180          | 1,900,000             |           |
| No. 1 & Btr.   | 1,800                    | 1,800   | 1,200                     | 1,785                   | 625                    | 180          | 1,800,000             |           |
| No. 1  | 1,500                    | 1,500   | 1,015                     | 1,725                   | 625                    | 180          | 1,700,000             |           |
| No. 2  | 1,350                    | 1,350   | 865                       | 1,555                   | 625                    | 180          | 1,600,000             |           |
| No. 3  | 790                      | 790     | 490                       | 890                     | 625                    | 180          | 1,400,000             |           |
| Construction Standard  | 1,000                    | 1,000   | 650                       | 1,650                   | 625                    | 180          | 1,500,000             |           |
| Utility  | 575                      | 575     | 375                       | 1,400                   | 625                    | 180          | 1,400,000             |           |
| Stud   | 770                      | 770     | 495                       | 895                     | 625                    | 180          | 1,400,000             |           |
| <b>2x6 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,950                    | 1,950   | 1,300                     | 1,870                   | 625                    | 180          | 1,900,000             |           |
| No. 1 & Btr.   | 1,560                    | 1,560   | 1,040                     | 1,705                   | 625                    | 180          | 1,800,000             |           |
| No. 1  | 1,300                    | 1,300   | 880                       | 1,650                   | 625                    | 180          | 1,700,000             |           |
| No. 2  | 1,170                    | 1,170   | 750                       | 1,485                   | 625                    | 180          | 1,600,000             |           |
| No. 3  | 685                      | 685     | 425                       | 855                     | 625                    | 180          | 1,400,000             |           |
| Stud   | 700                      | 700     | 450                       | 850                     | 625                    | 180          | 1,400,000             |           |
| <b>2x8 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,800                    | 1,950   | 1,200                     | 1,785                   | 625                    | 180          | 1,900,000             |           |
| No. 1 & Btr.   | 1,440                    | 1,560   | 960                       | 1,630                   | 625                    | 180          | 1,800,000             |           |
| No. 1  | 1,200                    | 1,300   | 810                       | 1,575                   | 625                    | 180          | 1,700,000             |           |
| No. 2  | 1,080                    | 1,170   | 690                       | 1,420                   | 625                    | 180          | 1,600,000             |           |
| No. 3  | 630                      | 685     | 390                       | 815                     | 625                    | 180          | 1,400,000             |           |
| Stud   | 630                      | 685     | 390                       | 815                     | 625                    | 180          | 1,400,000             |           |
| <b>2x10 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,650                    | 1,800   | 1,100                     | 1,700                   | 625                    | 180          | 1,900,000             |           |
| No. 1 & Btr.   | 1,320                    | 1,440   | 880                       | 1,550                   | 625                    | 180          | 1,800,000             |           |
| No. 1  | 1,100                    | 1,200   | 745                       | 1,500                   | 625                    | 180          | 1,700,000             |           |
| No. 2  | 990                      | 1,080   | 635                       | 1,350                   | 625                    | 180          | 1,600,000             |           |
| No. 3  | 580                      | 630     | 360                       | 775                     | 625                    | 180          | 1,400,000             |           |
| Stud   | 580                      | 630     | 360                       | 775                     | 625                    | 180          | 1,400,000             |           |
| <b>2x12 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,500                    | 1,650   | 1,000                     | 1,700                   | 625                    | 180          | 1,900,000             |           |
| No. 1 & Btr.   | 1,200                    | 1,320   | 800                       | 1,550                   | 625                    | 180          | 1,800,000             |           |
| No. 1  | 1,000                    | 1,100   | 675                       | 1,500                   | 625                    | 180          | 1,700,000             |           |
| No. 2  | 900                      | 990     | 575                       | 1,350                   | 625                    | 180          | 1,600,000             |           |
| No. 3  | 525                      | 580     | 325                       | 775                     | 625                    | 180          | 1,400,000             |           |
| Stud   | 525                      | 580     | 325                       | 775                     | 625                    | 180          | 1,400,000             |           |
| <b>2x14 &amp; Wdr. Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,350                    | 1,500   | 900                       | 1,530                   | 625                    | 180          | 1,900,000             |           |
| No. 1 & Btr.   | 1,080                    | 1,200   | 720                       | 1,395                   | 625                    | 180          | 1,800,000             |           |
| No. 1  | 900                      | 1,000   | 610                       | 1,350                   | 625                    | 180          | 1,700,000             |           |
| No. 2  | 810                      | 900     | 520                       | 1,215                   | 625                    | 180          | 1,600,000             |           |
| No. 3  | 475                      | 525     | 295                       | 700                     | 625                    | 180          | 1,400,000             |           |
| Stud   | 475                      | 525     | 295                       | 700                     | 625                    | 180          | 1,400,000             |           |
| Specific Gravity (all grades) = 0.50   |                          |         |                           |                         |                        |              |                       |           |
| <b>Notes:</b> All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.50 |                          |         |                           |                         |                        |              |                       |           |
| Prepared by West Coast Lumber Inspection Bureau  |                          |         |                           | 3/14/2005               |                        | Approved     |                       | 4/25/1996 |



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Allowable Property Values - Hem-Fir

| <b>Hem-Fir</b>   |                          |         |                           |                         |                        |              |                       |           |
|--|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|-----------|
| Grade  | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |           |
|  | Fb (psi)                 |         | Ft (psi)                  | Fc (psi)                | Fc <sup>⊥</sup> (psi)  | Fv (psi)     | E (psi)               |           |
|  | 2" nom.                  | 4" nom. |                           |                         |                        |              |                       |           |
| <b>BASE VALUES</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,400                    |         | 925                       | 1,500                   | 405                    | 150          | 1,600,000             |           |
| No. 1 & Btr.   | 1,100                    |         | 725                       | 1,350                   | 405                    | 150          | 1,500,000             |           |
| No. 1  | 975                      |         | 625                       | 1,350                   | 405                    | 150          | 1,500,000             |           |
| No. 2  | 850                      |         | 525                       | 1,300                   | 405                    | 150          | 1,300,000             |           |
| No. 3  | 500                      |         | 300                       | 725                     | 405                    | 150          | 1,200,000             |           |
| Construction Standard  | 975                      |         | 600                       | 1,500                   | 405                    | 150          | 1,300,000             |           |
| Utility  | 250                      |         | 150                       | 850                     | 405                    | 150          | 1,100,000             |           |
| Stud   | 675                      |         | 400                       | 800                     | 405                    | 150          | 1,200,000             |           |
| <b>2x4 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 2,100                    | 2,100   | 1,390                     | 1,725                   | 405                    | 150          | 1,600,000             |           |
| No. 1 & Btr.   | 1,650                    | 1,650   | 1,090                     | 1,555                   | 405                    | 150          | 1,500,000             |           |
| No. 1  | 1,465                    | 1,465   | 940                       | 1,555                   | 405                    | 150          | 1,500,000             |           |
| No. 2  | 1,275                    | 1,275   | 790                       | 1,495                   | 405                    | 150          | 1,300,000             |           |
| No. 3  | 750                      | 750     | 450                       | 835                     | 405                    | 150          | 1,200,000             |           |
| Construction Standard  | 975                      | 975     | 600                       | 1,500                   | 405                    | 150          | 1,300,000             |           |
| Utility  | 250                      | 250     | 150                       | 850                     | 405                    | 150          | 1,100,000             |           |
| Stud   | 745                      | 745     | 440                       | 840                     | 405                    | 150          | 1,200,000             |           |
| <b>2x6 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,820                    | 1,820   | 1,205                     | 1,650                   | 405                    | 150          | 1,600,000             |           |
| No. 1 & Btr.   | 1,430                    | 1,430   | 945                       | 1,485                   | 405                    | 150          | 1,500,000             |           |
| No. 1  | 1,270                    | 1,270   | 815                       | 1,485                   | 405                    | 150          | 1,500,000             |           |
| No. 2  | 1,105                    | 1,105   | 685                       | 1,430                   | 405                    | 150          | 1,300,000             |           |
| No. 3  | 650                      | 650     | 390                       | 800                     | 405                    | 150          | 1,200,000             |           |
| Stud   | 675                      | 675     | 400                       | 800                     | 405                    | 150          | 1,200,000             |           |
| <b>2x8 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,680                    | 1,820   | 1,110                     | 1,575                   | 405                    | 150          | 1,600,000             |           |
| No. 1 & Btr.   | 1,320                    | 1,430   | 870                       | 1,420                   | 405                    | 150          | 1,500,000             |           |
| No. 1  | 1,170                    | 1,270   | 750                       | 1,420                   | 405                    | 150          | 1,500,000             |           |
| No. 2  | 1,020                    | 1,105   | 630                       | 1,365                   | 405                    | 150          | 1,300,000             |           |
| No. 3  | 600                      | 650     | 360                       | 760                     | 405                    | 150          | 1,200,000             |           |
| Stud   | 600                      | 650     | 360                       | 760                     | 405                    | 150          | 1,200,000             |           |
| <b>2x10 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,540                    | 1,680   | 1,020                     | 1,500                   | 405                    | 150          | 1,600,000             |           |
| No. 1 & Btr.   | 1,210                    | 1,320   | 800                       | 1,350                   | 405                    | 150          | 1,500,000             |           |
| No. 1  | 1,075                    | 1,170   | 690                       | 1,350                   | 405                    | 150          | 1,500,000             |           |
| No. 2  | 935                      | 1,020   | 580                       | 1,300                   | 405                    | 150          | 1,300,000             |           |
| No. 3  | 550                      | 600     | 330                       | 725                     | 405                    | 150          | 1,200,000             |           |
| Stud   | 550                      | 600     | 330                       | 725                     | 405                    | 150          | 1,200,000             |           |
| <b>2x12 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,400                    | 1,540   | 925                       | 1,500                   | 405                    | 150          | 1,600,000             |           |
| No. 1 & Btr.   | 1,100                    | 1,210   | 725                       | 1,350                   | 405                    | 150          | 1,500,000             |           |
| No. 1  | 975                      | 1,075   | 625                       | 1,350                   | 405                    | 150          | 1,500,000             |           |
| No. 2  | 850                      | 935     | 525                       | 1,300                   | 405                    | 150          | 1,300,000             |           |
| No. 3  | 500                      | 550     | 300                       | 725                     | 405                    | 150          | 1,200,000             |           |
| Stud   | 500                      | 550     | 300                       | 725                     | 405                    | 150          | 1,200,000             |           |
| <b>2x14 &amp; Wdr. Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural  | 1,260                    | 1,400   | 835                       | 1,350                   | 405                    | 150          | 1,600,000             |           |
| No. 1 & Btr.   | 990                      | 1,100   | 655                       | 1,215                   | 405                    | 150          | 1,500,000             |           |
| No. 1  | 880                      | 975     | 565                       | 1,215                   | 405                    | 150          | 1,500,000             |           |
| No. 2  | 765                      | 850     | 475                       | 1,170                   | 405                    | 150          | 1,300,000             |           |
| No. 3  | 450                      | 500     | 270                       | 655                     | 405                    | 150          | 1,200,000             |           |
| Stud   | 450                      | 500     | 270                       | 655                     | 405                    | 150          | 1,200,000             |           |
| Specific Gravity (all grades) = 0.43   |                          |         |                           |                         |                        |              |                       |           |
| <b>Notes:</b> All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.43 |                          |         |                           |                         |                        |              |                       |           |
| Prepared by West Coast Lumber Inspection Bureau  |                          |         |                           | 3/14/2005               |                        | Approved     |                       | 4/25/1996 |



# Allowable Property Values - Spruce-Pine-Fir South

## Spruce-Pine-Fir South

| Grade | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |
|-------|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|
|       | Fb (psi)                 |         | Ft                        | Fc                      | Fc <sup>⊥</sup>        | Fv           | E                     |
|       | 2" nom.                  | 4" nom. | (psi)                     | (psi)                   | (psi)                  | (psi)        | (psi)                 |

### BASE VALUES

|                   |       |  |     |       |     |     |           |
|-------------------|-------|--|-----|-------|-----|-----|-----------|
| Select Structural | 1,300 |  | 575 | 1,200 | 335 | 135 | 1,300,000 |
| No. 1             | 875   |  | 400 | 1,050 | 335 | 135 | 1,200,000 |
| No. 2             | 775   |  | 350 | 1,000 | 335 | 135 | 1,100,000 |
| No. 3             | 450   |  | 200 | 575   | 335 | 135 | 1,000,000 |
| Construction      | 875   |  | 400 | 1,200 | 335 | 135 | 1,000,000 |
| Standard          | 500   |  | 225 | 1,000 | 335 | 135 | 900,000   |
| Utility           | 225   |  | 100 | 675   | 335 | 135 | 900,000   |
| Stud              | 600   |  | 275 | 625   | 335 | 135 | 1,000,000 |

### 2x4 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,950 | 1,950 | 865 | 1,380 | 335 | 135 | 1,300,000 |
| No. 1             | 1,315 | 1,315 | 600 | 1,210 | 335 | 135 | 1,200,000 |
| No. 2             | 1,165 | 1,165 | 525 | 1,150 | 335 | 135 | 1,100,000 |
| No. 3             | 675   | 675   | 300 | 660   | 335 | 135 | 1,000,000 |
| Construction      | 875   | 875   | 400 | 1,200 | 335 | 135 | 1,000,000 |
| Standard          | 500   | 500   | 225 | 1,000 | 335 | 135 | 900,000   |
| Utility           | 225   | 225   | 100 | 675   | 335 | 135 | 900,000   |
| Stud              | 660   | 660   | 305 | 655   | 335 | 135 | 1,000,000 |

### 2x6 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,690 | 1,690 | 750 | 1,320 | 335 | 135 | 1,300,000 |
| No. 1             | 1,140 | 1,140 | 520 | 1,155 | 335 | 135 | 1,200,000 |
| No. 2             | 1,010 | 1,010 | 455 | 1,100 | 335 | 135 | 1,100,000 |
| No. 3             | 585   | 585   | 260 | 635   | 335 | 135 | 1,000,000 |
| Stud              | 600   | 600   | 275 | 625   | 335 | 135 | 1,000,000 |

### 2x8 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,560 | 1,690 | 690 | 1,260 | 335 | 135 | 1,300,000 |
| No. 1             | 1,050 | 1,140 | 480 | 1,105 | 335 | 135 | 1,200,000 |
| No. 2             | 930   | 1,010 | 420 | 1,050 | 335 | 135 | 1,100,000 |
| No. 3             | 540   | 585   | 240 | 605   | 335 | 135 | 1,000,000 |
| Stud              | 540   | 585   | 240 | 605   | 335 | 135 | 1,000,000 |

### 2x10 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,430 | 1,560 | 635 | 1,200 | 335 | 135 | 1,300,000 |
| No. 1             | 965   | 1,050 | 440 | 1,050 | 335 | 135 | 1,200,000 |
| No. 2             | 855   | 930   | 385 | 1,000 | 335 | 135 | 1,100,000 |
| No. 3             | 495   | 540   | 220 | 575   | 335 | 135 | 1,000,000 |
| Stud              | 495   | 540   | 220 | 575   | 335 | 135 | 1,000,000 |

### 2x12 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,300 | 1,430 | 575 | 1,200 | 335 | 135 | 1,300,000 |
| No. 1             | 875   | 965   | 400 | 1,050 | 335 | 135 | 1,200,000 |
| No. 2             | 775   | 855   | 350 | 1,000 | 335 | 135 | 1,100,000 |
| No. 3             | 450   | 495   | 200 | 575   | 335 | 135 | 1,000,000 |
| Stud              | 450   | 495   | 200 | 575   | 335 | 135 | 1,000,000 |

### 2x14 & Wdr. Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,170 | 1,300 | 520 | 1,080 | 335 | 135 | 1,300,000 |
| No. 1             | 790   | 875   | 360 | 945   | 335 | 135 | 1,200,000 |
| No. 2             | 700   | 775   | 315 | 900   | 335 | 135 | 1,100,000 |
| No. 3             | 405   | 450   | 180 | 520   | 335 | 135 | 1,000,000 |
| Stud              | 405   | 450   | 180 | 520   | 335 | 135 | 1,000,000 |

Specific Gravity (all grades) = 0.36

**Notes:** All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.36

Prepared by West Coast Lumber Inspection Bureau

3/14/2005

Approved

4/25/1996

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Allowable Property Values - Western Woods

**Western Woods**

| Grade | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |
|-------|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|
|       | Fb (psi)                 |         | Ft                        | Fc                      | Fc <sup>⊥</sup>        | Fv           | E                     |
|       | 2" nom.                  | 4" nom. | (psi)                     | (psi)                   | (psi)                  | (psi)        | (psi)                 |

**BASE VALUES**

|                       |     |  |     |       |     |     |           |
|-----------------------|-----|--|-----|-------|-----|-----|-----------|
| Select Structural     | 900 |  | 400 | 1,050 | 335 | 135 | 1,200,000 |
| No. 1                 | 675 |  | 300 | 950   | 335 | 135 | 1,100,000 |
| No. 2                 | 675 |  | 300 | 900   | 335 | 135 | 1,000,000 |
| No. 3                 | 375 |  | 175 | 525   | 335 | 135 | 900,000   |
| Construction Standard | 775 |  | 350 | 1,100 | 335 | 135 | 1,000,000 |
| Utility               | 425 |  | 200 | 925   | 335 | 135 | 900,000   |
| Stud                  | 200 |  | 100 | 600   | 335 | 135 | 800,000   |
| Stud                  | 525 |  | 225 | 575   | 335 | 135 | 900,000   |

**2x4 Size Adjusted Values**

|                       |       |       |     |       |     |     |           |
|-----------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural     | 1,350 | 1,350 | 600 | 1,210 | 335 | 135 | 1,200,000 |
| No. 1                 | 1,015 | 1,015 | 450 | 1,095 | 335 | 135 | 1,100,000 |
| No. 2                 | 1,015 | 1,015 | 450 | 1,035 | 335 | 135 | 1,000,000 |
| No. 3                 | 565   | 565   | 265 | 605   | 335 | 135 | 900,000   |
| Construction Standard | 775   | 775   | 350 | 1,100 | 335 | 135 | 1,000,000 |
| Utility               | 425   | 425   | 200 | 925   | 335 | 135 | 900,000   |
| Utility               | 200   | 200   | 100 | 600   | 335 | 135 | 800,000   |
| Stud                  | 580   | 580   | 250 | 605   | 335 | 135 | 900,000   |

**2x6 Size Adjusted Values**

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,170 | 1,170 | 520 | 1,155 | 335 | 135 | 1,200,000 |
| No. 1             | 880   | 880   | 390 | 1,045 | 335 | 135 | 1,100,000 |
| No. 2             | 880   | 880   | 390 | 990   | 335 | 135 | 1,000,000 |
| No. 3             | 490   | 490   | 230 | 580   | 335 | 135 | 900,000   |
| Stud              | 525   | 525   | 225 | 575   | 335 | 135 | 900,000   |

**2x8 Size Adjusted Values**

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,080 | 1,170 | 480 | 1,105 | 335 | 135 | 1,200,000 |
| No. 1             | 810   | 880   | 360 | 1,000 | 335 | 135 | 1,100,000 |
| No. 2             | 810   | 880   | 360 | 945   | 335 | 135 | 1,000,000 |
| No. 3             | 450   | 490   | 210 | 550   | 335 | 135 | 900,000   |
| Stud              | 450   | 490   | 210 | 550   | 335 | 135 | 900,000   |

**2x10 Size Adjusted Values**

|                   |     |       |     |       |     |     |           |
|-------------------|-----|-------|-----|-------|-----|-----|-----------|
| Select Structural | 990 | 1,080 | 440 | 1,050 | 335 | 135 | 1,200,000 |
| No. 1             | 745 | 810   | 330 | 950   | 335 | 135 | 1,100,000 |
| No. 2             | 745 | 810   | 330 | 900   | 335 | 135 | 1,000,000 |
| No. 3             | 415 | 450   | 195 | 525   | 335 | 135 | 900,000   |
| Stud              | 415 | 450   | 195 | 525   | 335 | 135 | 900,000   |

**2x12 Size Adjusted Values**

|                   |     |     |     |       |     |     |           |
|-------------------|-----|-----|-----|-------|-----|-----|-----------|
| Select Structural | 900 | 990 | 400 | 1,050 | 335 | 135 | 1,200,000 |
| No. 1             | 675 | 745 | 300 | 950   | 335 | 135 | 1,100,000 |
| No. 2             | 675 | 745 | 300 | 900   | 335 | 135 | 1,000,000 |
| No. 3             | 375 | 415 | 175 | 525   | 335 | 135 | 900,000   |
| Stud              | 375 | 415 | 175 | 525   | 335 | 135 | 900,000   |

**2x14 & Wdr. Size Adjusted Values**

|                   |     |     |     |     |     |     |           |
|-------------------|-----|-----|-----|-----|-----|-----|-----------|
| Select Structural | 810 | 900 | 360 | 945 | 335 | 135 | 1,200,000 |
| No. 1             | 610 | 675 | 270 | 855 | 335 | 135 | 1,100,000 |
| No. 2             | 610 | 675 | 270 | 810 | 335 | 135 | 1,000,000 |
| No. 3             | 340 | 375 | 160 | 475 | 335 | 135 | 900,000   |
| Stud              | 340 | 375 | 160 | 475 | 335 | 135 | 900,000   |

Specific Gravity (all grades) = 0.36

**Notes:** All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.36

Prepared by West Coast Lumber Inspection Bureau 3/14/2005 Approved 4/25/1996

West Coast Lumber Inspection Bureau

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# Allowable Property Values - Western Cedars

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## Western Cedars

| Grade | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |
|-------|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|
|       | Fb (psi)                 |         | Ft                        | Fc                      | Fc <sup>⊥</sup>        | Fv           | E                     |
|       | 2" nom.                  | 4" nom. | (psi)                     | (psi)                   | (psi)                  | (psi)        | (psi)                 |

### BASE VALUES

|                       |       |  |     |       |     |     |           |
|-----------------------|-------|--|-----|-------|-----|-----|-----------|
| Select Structural     | 1,000 |  | 600 | 1,000 | 425 | 155 | 1,100,000 |
| No. 1                 | 725   |  | 425 | 825   | 425 | 155 | 1,000,000 |
| No. 2                 | 700   |  | 425 | 650   | 425 | 155 | 1,000,000 |
| No. 3                 | 400   |  | 250 | 375   | 425 | 155 | 900,000   |
| Construction Standard | 800   |  | 475 | 850   | 425 | 155 | 900,000   |
| Utility Stud          | 450   |  | 275 | 650   | 425 | 155 | 800,000   |
|                       | 225   |  | 125 | 425   | 425 | 155 | 800,000   |
|                       | 550   |  | 325 | 400   | 425 | 155 | 900,000   |

### 2x4 Size Adjusted Values

|                       |       |       |     |       |     |     |           |
|-----------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural     | 1,500 | 1,500 | 900 | 1,150 | 425 | 155 | 1,100,000 |
| No. 1                 | 1,090 | 1,090 | 640 | 950   | 425 | 155 | 1,000,000 |
| No. 2                 | 1,050 | 1,050 | 640 | 750   | 425 | 155 | 1,000,000 |
| No. 3                 | 600   | 600   | 375 | 430   | 425 | 155 | 900,000   |
| Construction Standard | 800   | 800   | 475 | 850   | 425 | 155 | 900,000   |
| Utility Stud          | 450   | 450   | 275 | 650   | 425 | 155 | 800,000   |
|                       | 225   | 225   | 125 | 425   | 425 | 155 | 800,000   |
|                       | 605   | 605   | 360 | 420   | 425 | 155 | 900,000   |

### 2x6 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,300 | 1,300 | 780 | 1,100 | 425 | 155 | 1,100,000 |
| No. 1             | 945   | 945   | 555 | 910   | 425 | 155 | 1,000,000 |
| No. 2             | 910   | 910   | 555 | 715   | 425 | 155 | 1,000,000 |
| No. 3             | 520   | 520   | 325 | 415   | 425 | 155 | 900,000   |
| Stud              | 550   | 550   | 325 | 400   | 425 | 155 | 900,000   |

### 2x8 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,200 | 1,300 | 720 | 1,050 | 425 | 155 | 1,100,000 |
| No. 1             | 870   | 945   | 510 | 865   | 425 | 155 | 1,000,000 |
| No. 2             | 840   | 910   | 510 | 685   | 425 | 155 | 1,000,000 |
| No. 3             | 480   | 520   | 300 | 395   | 425 | 155 | 900,000   |
| Stud              | 480   | 520   | 300 | 395   | 425 | 155 | 900,000   |

### 2x10 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,100 | 1,200 | 660 | 1,000 | 425 | 155 | 1,100,000 |
| No. 1             | 800   | 870   | 470 | 825   | 425 | 155 | 1,000,000 |
| No. 2             | 770   | 840   | 470 | 650   | 425 | 155 | 1,000,000 |
| No. 3             | 440   | 480   | 275 | 375   | 425 | 155 | 900,000   |
| Stud              | 440   | 480   | 275 | 375   | 425 | 155 | 900,000   |

### 2x12 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,000 | 1,100 | 600 | 1,000 | 425 | 155 | 1,100,000 |
| No. 1             | 725   | 800   | 425 | 825   | 425 | 155 | 1,000,000 |
| No. 2             | 700   | 770   | 425 | 650   | 425 | 155 | 1,000,000 |
| No. 3             | 400   | 440   | 250 | 375   | 425 | 155 | 900,000   |
| Stud              | 400   | 440   | 250 | 375   | 425 | 155 | 900,000   |

### 2x14 & Wdr. Size Adjusted Values

|                   |     |       |     |     |     |     |           |
|-------------------|-----|-------|-----|-----|-----|-----|-----------|
| Select Structural | 900 | 1,000 | 540 | 900 | 425 | 155 | 1,100,000 |
| No. 1             | 655 | 725   | 385 | 745 | 425 | 155 | 1,000,000 |
| No. 2             | 630 | 700   | 385 | 585 | 425 | 155 | 1,000,000 |
| No. 3             | 360 | 400   | 225 | 340 | 425 | 155 | 900,000   |
| Stud              | 360 | 400   | 225 | 340 | 425 | 155 | 900,000   |

Specific Gravity (all grades) = 0.36

**Notes:** All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.36

Prepared by West Coast Lumber Inspection Bureau

3/14/2005

Approved

4/25/1996



# Allowable Property Values - Alaska Cedar

## Alaska Cedar

| Grade | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |
|-------|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|
|       | Fb (psi)                 |         | Ft                        | Fc                      | Fc <sup>⊥</sup>        | Fv           | E                     |
|       | 2" nom.                  | 4" nom. | (psi)                     | (psi)                   | (psi)                  | (psi)        | (psi)                 |

### BASE VALUES

|                       |       |  |     |       |     |     |           |
|-----------------------|-------|--|-----|-------|-----|-----|-----------|
| Select Structural     | 1,150 |  | 625 | 1,000 | 525 | 165 | 1,400,000 |
| No. 1                 | 975   |  | 525 | 900   | 525 | 165 | 1,300,000 |
| No. 2                 | 800   |  | 425 | 750   | 525 | 165 | 1,200,000 |
| No. 3                 | 450   |  | 250 | 425   | 525 | 165 | 1,100,000 |
| Construction Standard | 900   |  | 500 | 950   | 525 | 165 | 1,200,000 |
| Utility               | 500   |  | 275 | 775   | 525 | 165 | 1,100,000 |
| Stud                  | 250   |  | 125 | 500   | 525 | 165 | 1,000,000 |
| Stud                  | 625   |  | 350 | 475   | 525 | 165 | 1,100,000 |

### 2x4 Size Adjusted Values

|                       |       |       |     |       |     |     |           |
|-----------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural     | 1,725 | 1,725 | 940 | 1,150 | 525 | 165 | 1,400,000 |
| No. 1                 | 1,465 | 1,465 | 790 | 1,035 | 525 | 165 | 1,300,000 |
| No. 2                 | 1,200 | 1,200 | 640 | 865   | 525 | 165 | 1,200,000 |
| No. 3                 | 675   | 675   | 375 | 490   | 525 | 165 | 1,100,000 |
| Construction Standard | 900   | 900   | 500 | 950   | 525 | 165 | 1,200,000 |
| Utility               | 500   | 500   | 275 | 775   | 525 | 165 | 1,100,000 |
| Utility               | 250   | 250   | 125 | 500   | 525 | 165 | 1,000,000 |
| Stud                  | 690   | 690   | 385 | 500   | 525 | 165 | 1,100,000 |

### 2x6 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,495 | 1,495 | 815 | 1,100 | 525 | 165 | 1,400,000 |
| No. 1             | 1,270 | 1,270 | 685 | 990   | 525 | 165 | 1,300,000 |
| No. 2             | 1,040 | 1,040 | 555 | 825   | 525 | 165 | 1,200,000 |
| No. 3             | 585   | 585   | 325 | 470   | 525 | 165 | 1,100,000 |
| Stud              | 625   | 625   | 350 | 475   | 525 | 165 | 1,100,000 |

### 2x8 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,380 | 1,495 | 750 | 1,050 | 525 | 165 | 1,400,000 |
| No. 1             | 1,170 | 1,270 | 630 | 945   | 525 | 165 | 1,300,000 |
| No. 2             | 960   | 1,040 | 510 | 790   | 525 | 165 | 1,200,000 |
| No. 3             | 540   | 585   | 300 | 445   | 525 | 165 | 1,100,000 |
| Stud              | 540   | 585   | 300 | 445   | 525 | 165 | 1,100,000 |

### 2x10 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,265 | 1,380 | 690 | 1,000 | 525 | 165 | 1,400,000 |
| No. 1             | 1,075 | 1,170 | 580 | 900   | 525 | 165 | 1,300,000 |
| No. 2             | 880   | 960   | 470 | 750   | 525 | 165 | 1,200,000 |
| No. 3             | 495   | 540   | 275 | 425   | 525 | 165 | 1,100,000 |
| Stud              | 495   | 540   | 275 | 425   | 525 | 165 | 1,100,000 |

### 2x12 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,150 | 1,265 | 625 | 1,000 | 525 | 165 | 1,400,000 |
| No. 1             | 975   | 1,075 | 525 | 900   | 525 | 165 | 1,300,000 |
| No. 2             | 800   | 880   | 425 | 750   | 525 | 165 | 1,200,000 |
| No. 3             | 450   | 495   | 250 | 425   | 525 | 165 | 1,100,000 |
| Stud              | 450   | 495   | 250 | 425   | 525 | 165 | 1,100,000 |

### 2x14 & Wdr. Size Adjusted Values

|                   |       |       |     |     |     |     |           |
|-------------------|-------|-------|-----|-----|-----|-----|-----------|
| Select Structural | 1,035 | 1,150 | 565 | 900 | 525 | 165 | 1,400,000 |
| No. 1             | 880   | 975   | 475 | 810 | 525 | 165 | 1,300,000 |
| No. 2             | 720   | 800   | 385 | 675 | 525 | 165 | 1,200,000 |
| No. 3             | 405   | 450   | 225 | 385 | 525 | 165 | 1,100,000 |
| Stud              | 405   | 450   | 225 | 385 | 525 | 165 | 1,100,000 |

Specific Gravity (all grades) = 0.47

**Notes:** All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.47

Prepared by West Coast Lumber Inspection Bureau 3/14/2005 Approved 10/31/2002

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# Allowable Property Values - Port Orford Cedar

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## Port Orford Cedar

| Grade | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |
|-------|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|
|       | Fb (psi)                 |         | Ft                        | Fc                      | Fc <sup>⊥</sup>        | Fv           | E                     |
|       | 2" nom.                  | 4" nom. | (psi)                     | (psi)                   | (psi)                  | (psi)        | (psi)                 |

### BASE VALUES

|                       |       |  |     |       |     |     |           |
|-----------------------|-------|--|-----|-------|-----|-----|-----------|
| Select Structural     | 1,250 |  | 700 | 1,150 | 470 | 165 | 1,600,000 |
| No. 1                 | 1,050 |  | 575 | 1,050 | 470 | 165 | 1,500,000 |
| No. 2                 | 875   |  | 475 | 875   | 470 | 165 | 1,400,000 |
| No. 3                 | 500   |  | 275 | 500   | 470 | 165 | 1,300,000 |
| Construction Standard | 975   |  | 550 | 1,100 | 470 | 165 | 1,300,000 |
| Utility Stud          | 250   |  | 150 | 600   | 470 | 165 | 1,100,000 |
| Stud                  | 675   |  | 375 | 550   | 470 | 165 | 1,300,000 |

### 2x4 Size Adjusted Values

|                       |       |       |       |       |     |     |           |
|-----------------------|-------|-------|-------|-------|-----|-----|-----------|
| Select Structural     | 1,875 | 1,875 | 1,050 | 1,325 | 470 | 165 | 1,600,000 |
| No. 1                 | 1,575 | 1,575 | 865   | 1,210 | 470 | 165 | 1,500,000 |
| No. 2                 | 1,315 | 1,315 | 715   | 1,005 | 470 | 165 | 1,400,000 |
| No. 3                 | 750   | 750   | 415   | 575   | 470 | 165 | 1,300,000 |
| Construction Standard | 975   | 975   | 550   | 1,100 | 470 | 165 | 1,300,000 |
| Utility Stud          | 250   | 250   | 150   | 600   | 470 | 165 | 1,100,000 |
| Stud                  | 745   | 745   | 415   | 580   | 470 | 165 | 1,300,000 |

### 2x6 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,625 | 1,625 | 910 | 1,265 | 470 | 165 | 1,600,000 |
| No. 1             | 1,365 | 1,365 | 750 | 1,155 | 470 | 165 | 1,500,000 |
| No. 2             | 1,140 | 1,140 | 620 | 965   | 470 | 165 | 1,400,000 |
| No. 3             | 650   | 650   | 360 | 550   | 470 | 165 | 1,300,000 |
| Stud              | 675   | 675   | 375 | 550   | 470 | 165 | 1,300,000 |

### 2x8 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,500 | 1,625 | 840 | 1,210 | 470 | 165 | 1,600,000 |
| No. 1             | 1,260 | 1,365 | 690 | 1,105 | 470 | 165 | 1,500,000 |
| No. 2             | 1,050 | 1,140 | 570 | 920   | 470 | 165 | 1,400,000 |
| No. 3             | 600   | 650   | 330 | 525   | 470 | 165 | 1,300,000 |
| Stud              | 600   | 650   | 330 | 525   | 470 | 165 | 1,300,000 |

### 2x10 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,375 | 1,500 | 770 | 1,150 | 470 | 165 | 1,600,000 |
| No. 1             | 1,155 | 1,260 | 635 | 1,050 | 470 | 165 | 1,500,000 |
| No. 2             | 965   | 1,050 | 525 | 875   | 470 | 165 | 1,400,000 |
| No. 3             | 550   | 600   | 305 | 500   | 470 | 165 | 1,300,000 |
| Stud              | 550   | 600   | 305 | 500   | 470 | 165 | 1,300,000 |

### 2x12 Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,250 | 1,375 | 700 | 1,150 | 470 | 165 | 1,600,000 |
| No. 1             | 1,050 | 1,155 | 575 | 1,050 | 470 | 165 | 1,500,000 |
| No. 2             | 875   | 965   | 475 | 875   | 470 | 165 | 1,400,000 |
| No. 3             | 500   | 550   | 275 | 500   | 470 | 165 | 1,300,000 |
| Stud              | 500   | 550   | 275 | 500   | 470 | 165 | 1,300,000 |

### 2x14 & Wdr. Size Adjusted Values

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,125 | 1,250 | 630 | 1,035 | 470 | 165 | 1,600,000 |
| No. 1             | 945   | 1,050 | 520 | 945   | 470 | 165 | 1,500,000 |
| No. 2             | 790   | 875   | 430 | 790   | 470 | 165 | 1,400,000 |
| No. 3             | 450   | 500   | 250 | 450   | 470 | 165 | 1,300,000 |
| Stud              | 450   | 500   | 250 | 450   | 470 | 165 | 1,300,000 |

Specific Gravity (all grades) = 0.44

**Notes:** All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.44

Prepared by West Coast Lumber Inspection Bureau 3/14/2005

Approved 4/25/2002



Allowable Property Values - Douglas fir/Douglas fir North

**Douglas fir/Douglas fir North**

| Grade   | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |
|---|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|
|   | Fb (psi)                 |         | Ft (psi)                  | Fc (psi)                | Fc <sup>⊥</sup> (psi)  | Fv (psi)     | E (psi)               |
|   | 2" nom.                  | 4" nom. |                           |                         |                        |              |                       |
| <b>BASE VALUES</b>  |                          |         |                           |                         |                        |              |                       |
| Select Structural   | 1,350                    |         | 825                       | 1,700                   | 625                    | 180          | 1,900,000             |
| No. 1   | 850                      |         | 500                       | 1,400                   | 625                    | 180          | 1,600,000             |
| No. 2   | 850                      |         | 500                       | 1,350                   | 625                    | 180          | 1,600,000             |
| No. 3   | 475                      |         | 300                       | 775                     | 625                    | 180          | 1,400,000             |
| Construction  | 950                      |         | 575                       | 1,650                   | 625                    | 180          | 1,500,000             |
| Standard  | 525                      |         | 325                       | 1,400                   | 625                    | 180          | 1,400,000             |
| Utility   | 250                      |         | 150                       | 900                     | 625                    | 180          | 1,300,000             |
| Stud  | 650                      |         | 400                       | 850                     | 625                    | 180          | 1,400,000             |
| <b>2x4 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |
| Select Structural   | 2,025                    | 2,025   | 1,240                     | 1,955                   | 625                    | 180          | 1,900,000             |
| No. 1   | 1,275                    | 1,275   | 750                       | 1,610                   | 625                    | 180          | 1,600,000             |
| No. 2   | 1,275                    | 1,275   | 750                       | 1,555                   | 625                    | 180          | 1,600,000             |
| No. 3   | 715                      | 715     | 450                       | 890                     | 625                    | 180          | 1,400,000             |
| Construction  | 950                      | 950     | 575                       | 1,650                   | 625                    | 180          | 1,500,000             |
| Standard  | 525                      | 525     | 325                       | 1,400                   | 625                    | 180          | 1,400,000             |
| Utility   | 250                      | 250     | 150                       | 900                     | 625                    | 180          | 1,300,000             |
| Stud  | 715                      | 715     | 440                       | 895                     | 625                    | 180          | 1,400,000             |
| <b>2x6 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |
| Select Structural   | 1,755                    | 1,755   | 1,075                     | 1,870                   | 625                    | 180          | 1,900,000             |
| No. 1   | 1,105                    | 1,105   | 650                       | 1,540                   | 625                    | 180          | 1,600,000             |
| No. 2   | 1,105                    | 1,105   | 650                       | 1,485                   | 625                    | 180          | 1,600,000             |
| No. 3   | 620                      | 620     | 390                       | 855                     | 625                    | 180          | 1,400,000             |
| Stud  | 650                      | 650     | 400                       | 850                     | 625                    | 180          | 1,400,000             |
| <b>2x8 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |
| Select Structural   | 1,620                    | 1,755   | 990                       | 1,785                   | 625                    | 180          | 1,900,000             |
| No. 1   | 1,020                    | 1,105   | 600                       | 1,470                   | 625                    | 180          | 1,600,000             |
| No. 2   | 1,020                    | 1,105   | 600                       | 1,420                   | 625                    | 180          | 1,600,000             |
| No. 3   | 570                      | 620     | 360                       | 815                     | 625                    | 180          | 1,400,000             |
| Stud  | 570                      | 620     | 360                       | 815                     | 625                    | 180          | 1,400,000             |
| <b>2x10 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |
| Select Structural   | 1,485                    | 1,620   | 910                       | 1,700                   | 625                    | 180          | 1,900,000             |
| No. 1   | 935                      | 1,020   | 550                       | 1,400                   | 625                    | 180          | 1,600,000             |
| No. 2   | 935                      | 1,020   | 550                       | 1,350                   | 625                    | 180          | 1,600,000             |
| No. 3   | 525                      | 570     | 330                       | 775                     | 625                    | 180          | 1,400,000             |
| Stud  | 525                      | 570     | 330                       | 775                     | 625                    | 180          | 1,400,000             |
| <b>2x12 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |
| Select Structural   | 1,350                    | 1,485   | 825                       | 1,700                   | 625                    | 180          | 1,900,000             |
| No. 1   | 850                      | 935     | 500                       | 1,400                   | 625                    | 180          | 1,600,000             |
| No. 2   | 850                      | 935     | 500                       | 1,350                   | 625                    | 180          | 1,600,000             |
| No. 3   | 475                      | 525     | 300                       | 775                     | 625                    | 180          | 1,400,000             |
| Stud  | 475                      | 525     | 300                       | 775                     | 625                    | 180          | 1,400,000             |
| <b>2x14 &amp; Wdr. Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |
| Select Structural   | 1,215                    | 1,350   | 745                       | 1,530                   | 625                    | 180          | 1,900,000             |
| No. 1   | 765                      | 850     | 450                       | 1,260                   | 625                    | 180          | 1,600,000             |
| No. 2   | 765                      | 850     | 450                       | 1,215                   | 625                    | 180          | 1,600,000             |
| No. 3   | 430                      | 475     | 270                       | 700                     | 625                    | 180          | 1,400,000             |
| Stud  | 430                      | 475     | 270                       | 700                     | 625                    | 180          | 1,400,000             |
| Specific Gravity (all grades) = 0.49  |                          |         |                           |                         |                        |              |                       |
| <p><b>Notes:</b> All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.49</p> <p>When two or more species or species groupings (each with its own published Allowable Properties) are combined, as in this case, for marketing convenience, the lowest assigned Allowable Property value among the species or species groups included in the combination is applied to the entire grouping.</p> |                          |         |                           |                         |                        |              |                       |
| Prepared by West Coast Lumber Inspection Bureau   |                          |         | 9/11/2002                 |                         | Approved               |              | 4/25/1996             |

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Allowable Property Values - Hem-Fir/Hem-Fir North

## Hem-Fir/Hem-Fir North

| Grade | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |
|-------|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|
|       | Fb (psi)                 |         | Ft (psi)                  | Fc (psi)                | Fc <sup>⊥</sup> (psi)  | Fv (psi)     | E (psi)               |
|       | 2" nom.                  | 4" nom. |                           |                         |                        |              |                       |

**BASE VALUES**

|                       |       |  |     |       |     |     |           |
|-----------------------|-------|--|-----|-------|-----|-----|-----------|
| Select Structural     | 1,300 |  | 775 | 1,500 | 370 | 145 | 1,600,000 |
| No. 1                 | 975   |  | 575 | 1,350 | 370 | 145 | 1,500,000 |
| No. 2                 | 850   |  | 525 | 1,300 | 370 | 145 | 1,300,000 |
| No. 3                 | 500   |  | 300 | 725   | 370 | 145 | 1,200,000 |
| Construction Standard | 975   |  | 600 | 1,550 | 370 | 145 | 1,300,000 |
| Utility               | 550   |  | 325 | 1,300 | 370 | 145 | 1,200,000 |
| Stud                  | 250   |  | 150 | 850   | 370 | 145 | 1,100,000 |
| Stud                  | 675   |  | 400 | 800   | 370 | 145 | 1,200,000 |

**2x4 Size Adjusted Values**

|                       |       |       |       |       |     |     |           |
|-----------------------|-------|-------|-------|-------|-----|-----|-----------|
| Select Structural     | 1,950 | 1,950 | 1,165 | 1,725 | 370 | 145 | 1,600,000 |
| No. 1                 | 1,465 | 1,465 | 865   | 1,555 | 370 | 145 | 1,500,000 |
| No. 2                 | 1,275 | 1,275 | 790   | 1,495 | 370 | 145 | 1,300,000 |
| No. 3                 | 750   | 750   | 450   | 835   | 370 | 145 | 1,200,000 |
| Construction Standard | 975   | 975   | 600   | 1,550 | 370 | 145 | 1,300,000 |
| Utility               | 550   | 550   | 325   | 1,300 | 370 | 145 | 1,200,000 |
| Utility               | 250   | 250   | 150   | 850   | 370 | 145 | 1,100,000 |
| Stud                  | 745   | 745   | 440   | 840   | 370 | 145 | 1,200,000 |

**2x6 Size Adjusted Values**

|                   |       |       |       |       |     |     |           |
|-------------------|-------|-------|-------|-------|-----|-----|-----------|
| Select Structural | 1,690 | 1,690 | 1,010 | 1,650 | 370 | 145 | 1,600,000 |
| No. 1             | 1,270 | 1,270 | 750   | 1,485 | 370 | 145 | 1,500,000 |
| No. 2             | 1,105 | 1,105 | 685   | 1,430 | 370 | 145 | 1,300,000 |
| No. 3             | 650   | 650   | 390   | 800   | 370 | 145 | 1,200,000 |
| Stud              | 675   | 675   | 400   | 800   | 370 | 145 | 1,200,000 |

**2x8 Size Adjusted Values**

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,560 | 1,690 | 930 | 1,575 | 370 | 145 | 1,600,000 |
| No. 1             | 1,170 | 1,270 | 690 | 1,420 | 370 | 145 | 1,500,000 |
| No. 2             | 1,020 | 1,105 | 630 | 1,365 | 370 | 145 | 1,300,000 |
| No. 3             | 600   | 650   | 360 | 760   | 370 | 145 | 1,200,000 |
| Stud              | 600   | 650   | 360 | 760   | 370 | 145 | 1,200,000 |

**2x10 Size Adjusted Values**

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,430 | 1,560 | 855 | 1,500 | 370 | 145 | 1,600,000 |
| No. 1             | 1,075 | 1,170 | 635 | 1,350 | 370 | 145 | 1,500,000 |
| No. 2             | 935   | 1,020 | 580 | 1,300 | 370 | 145 | 1,300,000 |
| No. 3             | 550   | 600   | 330 | 725   | 370 | 145 | 1,200,000 |
| Stud              | 550   | 600   | 330 | 725   | 370 | 145 | 1,200,000 |

**2x12 Size Adjusted Values**

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,300 | 1,430 | 775 | 1,500 | 370 | 145 | 1,600,000 |
| No. 1             | 975   | 1,075 | 575 | 1,350 | 370 | 145 | 1,500,000 |
| No. 2             | 850   | 935   | 525 | 1,300 | 370 | 145 | 1,300,000 |
| No. 3             | 500   | 550   | 300 | 725   | 370 | 145 | 1,200,000 |
| Stud              | 500   | 550   | 300 | 725   | 370 | 145 | 1,200,000 |

**2x14 & Wdr. Size Adjusted Values**

|                   |       |       |     |       |     |     |           |
|-------------------|-------|-------|-----|-------|-----|-----|-----------|
| Select Structural | 1,170 | 1,300 | 700 | 1,350 | 370 | 145 | 1,600,000 |
| No. 1             | 880   | 975   | 520 | 1,215 | 370 | 145 | 1,500,000 |
| No. 2             | 765   | 850   | 475 | 1,170 | 370 | 145 | 1,300,000 |
| No. 3             | 450   | 500   | 270 | 655   | 370 | 145 | 1,200,000 |
| Stud              | 450   | 500   | 270 | 655   | 370 | 145 | 1,200,000 |

Specific Gravity (all grades) = 0.43

**Notes:** All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.43

When two or more species or species groupings (each with its own published Allowable Properties) are combined, as in this case, for marketing convenience, the lowest assigned Allowable Property value among the species or species groups included in the combination is applied to the entire grouping.

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Allowable Property Values - S-P-F/S-P-F South

## Spruce-Pine-Fir/Spruce-Pine-Fir South

| Grade   | Extreme fiber in bending |         | Tension parallel to grain | Comp. parallel to grain | Comp. Perpen. to grain | Horiz. shear | Modulus of elasticity |           |
|---|--------------------------|---------|---------------------------|-------------------------|------------------------|--------------|-----------------------|-----------|
|   | Fb (psi)                 |         | Ft (psi)                  | Fc (psi)                | Fc <sup>⊥</sup> (psi)  | Fv (psi)     | E (psi)               |           |
|   | 2" nom.                  | 4" nom. |                           |                         |                        |              |                       |           |
| <b>BASE VALUES</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural   | 1,250                    |         | 575                       | 1,200                   | 335                    | 135          | 1,300,000             |           |
| No. 1   | 875                      |         | 400                       | 1,050                   | 335                    | 135          | 1,200,000             |           |
| No. 2   | 775                      |         | 350                       | 1,000                   | 335                    | 135          | 1,100,000             |           |
| No. 3   | 450                      |         | 200                       | 575                     | 335                    | 135          | 1,000,000             |           |
| Construction  | 875                      |         | 400                       | 1,200                   | 335                    | 135          | 1,000,000             |           |
| Standard  | 500                      |         | 225                       | 1,000                   | 335                    | 135          | 900,000               |           |
| Utility   | 225                      |         | 100                       | 675                     | 335                    | 135          | 900,000               |           |
| Stud  | 600                      |         | 275                       | 625                     | 335                    | 135          | 1,000,000             |           |
| <b>2x4 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural   | 1,875                    | 1,875   | 865                       | 1,380                   | 335                    | 135          | 1,300,000             |           |
| No. 1   | 1,315                    | 1,315   | 600                       | 1,210                   | 335                    | 135          | 1,200,000             |           |
| No. 2   | 1,165                    | 1,165   | 525                       | 1,150                   | 335                    | 135          | 1,100,000             |           |
| No. 3   | 675                      | 675     | 300                       | 660                     | 335                    | 135          | 1,000,000             |           |
| Construction  | 875                      | 875     | 400                       | 1,200                   | 335                    | 135          | 1,000,000             |           |
| Standard  | 500                      | 500     | 225                       | 1,000                   | 335                    | 135          | 900,000               |           |
| Utility   | 225                      | 225     | 100                       | 675                     | 335                    | 135          | 900,000               |           |
| Stud  | 660                      | 660     | 305                       | 655                     | 335                    | 135          | 1,000,000             |           |
| <b>2x6 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural   | 1,625                    | 1,625   | 750                       | 1,320                   | 335                    | 135          | 1,300,000             |           |
| No. 1   | 1,140                    | 1,140   | 520                       | 1,155                   | 335                    | 135          | 1,200,000             |           |
| No. 2   | 1,010                    | 1,010   | 455                       | 1,100                   | 335                    | 135          | 1,100,000             |           |
| No. 3   | 585                      | 585     | 260                       | 635                     | 335                    | 135          | 1,000,000             |           |
| Stud  | 600                      | 600     | 275                       | 625                     | 335                    | 135          | 1,000,000             |           |
| <b>2x8 Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural   | 1,500                    | 1,625   | 690                       | 1,260                   | 335                    | 135          | 1,300,000             |           |
| No. 1   | 1,050                    | 1,140   | 480                       | 1,105                   | 335                    | 135          | 1,200,000             |           |
| No. 2   | 930                      | 1,010   | 420                       | 1,050                   | 335                    | 135          | 1,100,000             |           |
| No. 3   | 540                      | 585     | 240                       | 605                     | 335                    | 135          | 1,000,000             |           |
| Stud  | 540                      | 585     | 240                       | 605                     | 335                    | 135          | 1,000,000             |           |
| <b>2x10 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural   | 1,375                    | 1,500   | 635                       | 1,200                   | 335                    | 135          | 1,300,000             |           |
| No. 1   | 965                      | 1,050   | 440                       | 1,050                   | 335                    | 135          | 1,200,000             |           |
| No. 2   | 855                      | 930     | 385                       | 1,000                   | 335                    | 135          | 1,100,000             |           |
| No. 3   | 495                      | 540     | 220                       | 575                     | 335                    | 135          | 1,000,000             |           |
| Stud  | 495                      | 540     | 220                       | 575                     | 335                    | 135          | 1,000,000             |           |
| <b>2x12 Size Adjusted Values</b>  |                          |         |                           |                         |                        |              |                       |           |
| Select Structural   | 1,250                    | 1,375   | 575                       | 1,200                   | 335                    | 135          | 1,300,000             |           |
| No. 1   | 875                      | 965     | 400                       | 1,050                   | 335                    | 135          | 1,200,000             |           |
| No. 2   | 775                      | 855     | 350                       | 1,000                   | 335                    | 135          | 1,100,000             |           |
| No. 3   | 450                      | 495     | 200                       | 575                     | 335                    | 135          | 1,000,000             |           |
| Stud  | 450                      | 495     | 200                       | 575                     | 335                    | 135          | 1,000,000             |           |
| <b>2x14 &amp; Wdr. Size Adjusted Values</b>   |                          |         |                           |                         |                        |              |                       |           |
| Select Structural   | 1,125                    | 1,250   | 520                       | 1,080                   | 335                    | 135          | 1,300,000             |           |
| No. 1   | 790                      | 875     | 360                       | 945                     | 335                    | 135          | 1,200,000             |           |
| No. 2   | 700                      | 775     | 315                       | 900                     | 335                    | 135          | 1,100,000             |           |
| No. 3   | 405                      | 450     | 180                       | 520                     | 335                    | 135          | 1,000,000             |           |
| Stud  | 405                      | 450     | 180                       | 520                     | 335                    | 135          | 1,000,000             |           |
| Specific Gravity (all grades) = 0.36  |                          |         |                           |                         |                        |              |                       |           |
| <p><b>Notes:</b> All values are in pounds per square inch (psi). Values for specific widths are the product of the Base Value for the grade and the width adjustment factor (see Standard Grading Rules No. 17, Para. 200 Table 4). Values for specific sizes are rounded to the nearest 5 psi. Property values are for dimension lumber surfaced either green or dry used at 19% maximum moisture content as in most covered structures. For other use conditions see WCLIB Standard Grading Rules No. 17. Allowable property values are for Normal Loading. Published property values are developed in accordance with ASTM standards D1990, D2555, D245. Published Base Values are approved by the American Lumber Standard Committee Board of Review. Assigned Specific Gravity for all grades = 0.36</p> <p>When two or more species or species groupings (each with its own published Allowable Properties) are combined, as in this case, for marketing convenience, the lowest assigned Allowable Property value among the species or species groups included in the combination is applied to the entire grouping.</p> |                          |         |                           |                         |                        |              |                       |           |
| Prepared by West Coast Lumber Inspection Bureau   |                          |         |                           | 9/11/2002               |                        | Approved     |                       | 4/25/1996 |



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