



# Allowable Properties *for* Dimension Lumber

*Domestic Species*

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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:**

While West Coast Lumber Inspection Bureau works to ensure the accuracy of this document, errors may have occurred in its preparation. Updates and Errata, when necessary are posted on the WCLIB website [www.wclib.org](http://www.wclib.org). Technical inquiries may be directed to WCLIB at [info@wclib.org](mailto:info@wclib.org) or by phone to (503) 639-0651.



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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	Fc	Fc <sup>⊥</sup>	Fv	E	
	2" nom.	4" nom.	(psi)	(psi)	(psi)	(psi)	(psi)	
<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

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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	775		350	1,100	335	135	1,000,000
Standard	425		200	925	335	135	900,000
Utility	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	775	775	350	1,100	335	135	1,000,000
Standard	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

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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 Stud	500		275	775	525	165	1,100,000
	250		125	500	525	165	1,000,000
	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 Stud	500	500	275	775	525	165	1,100,000
	250	250	125	500	525	165	1,000,000
	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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Coast  
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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	550		300	900	470	165	1,200,000
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	550	550	300	900	470	165	1,200,000
Utility	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

West Coast Lumber Inspection Bureau

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## 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	



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	975		600	1,550	370	145	1,300,000
Standard	550		325	1,300	370	145	1,200,000
Utility	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	975	975	600	1,550	370	145	1,300,000
Standard	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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## Spruce-Pine-Fir/Spruce-Pine-Fir South

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

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Lumber  
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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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