A F & P A®

AMERICAN FOREST & PAPER ASSOCIATION
American Wood Council
Engineered and Traditional Wood Products

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1993 ERRATA/ADDENDUM to February, 1992 Edition of

DESIGN VALUES FOR JOISTS AND RAFTERS

Add the following to TABLE W-1 DESIGN VALUES FOR JOISTS AND RAFTERS VISUALLY GRADED LUMBER

Species[1]	Compression design value perpendicular to grain, psi "$F_{c\perp}$"
Aspen	265
Beech-Birch-Hickory	715
Cottonwood	320
Douglas Fir-Larch	625
Douglas Fir-Larch (North)	625
Douglas Fir-South	520
Eastern Hemlock-Tamarack	555
Eastern Softwoods	335
Eastern White Pine	350
Hem-Fir	405
Hem-Fir (North)	370
Mixed Maple	620
Mixed Oak	800
Mixed Southern Pine	565
Northern Red Oak	885
Northern Species	350
Northern White Cedar	370
Red Maple	615
Red Oak	820
Redwood	
Clear Structural, Select Structural, No.1, No.2, No.3	650
Open grain, Stud, Construction, Standard, Utility	425
Southern Pine	
Dense	660
Select Structural, No.1, No.2, No.3, Stud, Construction, Standard, Utility	565
Non-Dense	480
Spruce-Pine-Fir	425
Spruce-Pine-Fir (South)	335
Western Cedars	425
Western Woods	335
White Oak	800
Yellow Poplar	420

1. Design values apply to all grades for the species listed unless otherwise indicated in the table above.

1995 ADDENDUM to February, 1992 Edition of *DESIGN VALUES FOR JOISTS AND RAFTERS*

Revise as follows:

TABLE W-2 DESIGN VALUES FOR JOISTS AND RAFTERS MECHANICALLY GRADED LUMBER

These "F_b" values are for use where repetitive members are spaced not more than 24 inches. For wider spacing, the "F_b" values shall be reduced 13%.

Values for surfaced dry or surfaced green lumber apply at 19% maximum moisture content in use.

Grade Designation	Size Classification	Design values in Bending, "F_b" Normal Duration	Snow Loading	7-Day Loading	Modulus of Elasticity E	Grading Rules Agency
MACHINE STRESS RATED (MSR) LUMBER						
900f-1.0E		1040	1190	1290	1,000,000	WCLIB, ~~WWPA~~
1200f-1.2E		1380	1590	1730	1,200,000	NLGA, SPIB, WCLIB, WWPA
1250f-1.4E		1440	1650	1800	1,400,000	WCLIB
1350f-1.3E		1550	1790	1940	1,300,000	NLGA, SPIB, WCLIB, WWPA
1400f-1.2E		1610	1850	2010	1,200,000	NLGA, SPIB
1450f-1.3E		1670	1920	2080	1,300,000	NLGA, WCLIB, WWPA
1500f-1.3E		1730	1980	2160	1,300,000	SPIB
1500f-1.4E		1730	1980	2160	1,400,000	NLGA, SPIB, WCLIB, WWPA
1600f-1.4E		1840	2120	2300	1,400,000	NLGA, SPIB
1650f-1.3E		1900	2180	2370	1,300,000	NLGA
1650f-1.4E		1900	2180	2370	1,400,000	SPIB
1650f-1.5E		1900	2180	2370	1,500,000	NLGA, SPIB, WCLIB, WWPA
1650f-1.6E		1900	2180	2370	1,600,000	WCLIB
1800f-1.5E		2070	2380	2590	1,500,000	NLGA, SPIB
1800f-1.6E		2070	2380	2590	1,600,000	NLGA, SPIB, WCLIB, WWPA
1950f-1.5E	2"& less in thickness	2240	2580	2800	1,500,000	SPIB
1950f-1.7E		2240	2580	2800	1,700,000	NLGA, SPIB, WWPA
2000f-1.6E		2300	2650	2880	1,600,000	NLGA, SPIB
2100f-1.8E	2"& wider	2420	2780	3020	1,800,000	NLGA, SPIB, WCLIB, WWPA
2250f-1.6E		2590	2980	3230	1,600,000	SPIB
2250f-1.7E		2590	2980	3230	1,700,000	NLGA, SPIB
2250f-1.8E		2590	2980	3230	1,800,000	NLGA
2250f-1.9E		2590	2980	3230	1,900,000	NLGA, SPIB, WWPA
2400f-1.7E		2760	3170	3450	1,700,000	SPIB
2400f-1.8E		2760	3170	3450	1,800,000	NLGA, SPIB
2400f-2.0E		2760	3170	3450	2,000,000	NLGA, SPIB, WCLIB, WWPA
2500f-2.2E		2880	3310	3590	2,200,000	WCLIB
2550f-2.1E		2930	3370	3670	2,100,000	NLGA, SPIB, WWPA
2700f-2.0E		3110	3570	3880	2,000,000	WCLIB
2700f-2.2E		3110	3570	3880	2,200,000	NLGA, SPIB, WCLIB, WWPA
2850f-2.3E		3280	3770	4100	2,300,000	NLGA, SPIB, WWPA
3000f-2.4E		3450	3970	4310	2,400,000	NLGA, SPIB
3150f-2.5E		3620	4170	4530	2,500,000	SPIB
3300f-2.6E		3800	4360	4740	2,600,000	SPIB
900f-1.2E		1040	1190	1290	1,200,000	~~NLGA~~, WCLIB
1200f-1.5E	2"& less in thickness	1380	1590	1730	1,500,000	~~NLGA~~, WCLIB
~~1350f-1.8E~~		~~1550~~	~~1790~~	~~1940~~	~~1,800,000~~	~~NLGA~~
1500f-1.8E	6"& wider	1730	1980	2160	1,800,000	WCLIB
1800f-2.1E		2070	2380	2590	2,100,000	~~NLGA~~, WCLIB
MACHINE EVALUATED LUMBER (MEL)						
M-10		1610	1850	2010	1,200,000	NLGA, SPIB
M-11		1780	2050	2230	1,500,000	NLGA, SPIB
M-12		1840	2120	2300	1,600,000	NLGA, SPIB
M-13		1840	2120	2300	1,400,000	NLGA, SPIB
M-14		2070	2380	2590	1,700,000	NLGA, SPIB
M-15		2070	2380	2590	1,500,000	NLGA, SPIB
M-16		2070	2380	2590	1,500,000	SPIB
M-17	2"& less in thickness	2240	2580	2800	1,700,000	SPIB
M-18		2300	2650	2880	1,800,000	NLGA, SPIB
M-19	2"& wider	2300	2650	2880	1,600,000	NLGA, SPIB
M-20		2300	2650	2880	1,900,000	SPIB
M-21		2650	3040	3310	1,900,000	NLGA, SPIB
M-22		2700	3110	3380	1,700,000	NLGA, SPIB
M-23		2760	3170	3450	1,800,000	NLGA, SPIB
M-24		3110	3570	3880	1,900,000	NLGA, SPIB
M-25		3160	3640	3950	2,200,000	NLGA, SPIB
M-26		3220	3700	4030	2,000,000	NLGA, SPIB
M-27		3450	3970	4310	2,100,000	SPIB

TABLE W1-FOOTNOTES

Revise Table W-1 Footnotes as follows:

1. When dimension lumber is used where moisture content will exceed 19% for an extended time period, F_b shall be multiplied by 0.85 if F_b exceeds 1150 psi, ~~and~~ E shall be multiplied by 0.9, and $Fc_{\wedge}$ shall be multiplied by 0.67.

2. Following is a list of agencies . . .

National Lumber Grades Authority (NLGA)
~~260-1055 W. Hastings Street, Vancouver, BC, Canada V6E 2E9~~
103, 4400 Dominion Street, Burnaby, BC, Canada V5G 4G3

TABLE W2-FOOTNOTES

Add Table W-2 Footnotes as follows:

1. Design values for compression perpendicular to grain, $F_{c\wedge}$, are identical to the design values given in Table W1 for visually graded lumber of the appropriate species. When the "$F_{c\wedge}$" values shown on the grade stamp differ from the values shown in Table W1, the values shown on the grade stamp shall be used for design.

2. For any given bending design value, F_b, the average modulus of elasticity, E, design value may vary depending upon species, timber source or other variables. The "E" values included in the "F_b-E" grade designations in Table W2 are those usually associated with each "F_b" level. Grade stamps may show higher or lower values if machine rating indicates the assignment is appropriate. When the "E" value shown on a grade stamp differs from the values in Table W2, the values shown on the grade stamp shall be used for design. The tabulated "F_b" value associated with the designated "F_b" value shall be used for design.