



March 2013

ADDENDUM
to the 2012 and previous versions of
DESIGN VALUES FOR JOISTS AND RAFTERS
(a supplement to *Span Tables for Joists and Rafters*)

Effective June 1, 2013, design values for all grades of visually-graded Southern Pine and Mixed Southern Pine lumber, 2"- 4" thick will change. The design values to use with the *Span Tables for Joists and Rafters* are shown below (values that will change on June 1, 2013 are shown as underlined). These values supersede values published in the AWC March 2012 Addendum.

TABLE W-1 DESIGN VALUES FOR JOISTS AND RAFTERS - VISUALLY GRADED LUMBER^{1,2}

These F_b values are for use where repetitive members are spaced not more than 24 inches. For wider spacing, F_b values shall be reduced 13%. Values for surfaced dry or surfaced green lumber apply at 19% maximum moisture content in use.

Species and Grade	Size	Design Value in Bending, F_b			Compression perpendicular to grain, $F_{c\perp}$	Modulus of Elasticity, E	Grading Rules Agency
		Normal Duration	Snow Loading	7-Day Loading			
MIXED SOUTHERN PINE							
Select Structural	2x4	2,360	2,710	2,945	565	1,600,000	SPIB
No.1		1,670	1,920	2,085	565	1,500,000	
No.2		<u>1,265</u>	<u>1,455</u>	<u>1,580</u>	565	1,400,000	
No.3 and Stud		<u>750</u>	<u>860</u>	<u>935</u>	565	1,200,000	
Construction		<u>980</u>	<u>1,125</u>	<u>1,220</u>	565	1,300,000	
Standard		<u>545</u>	<u>630</u>	<u>685</u>	565	1,200,000	
Utility		<u>260</u>	<u>300</u>	<u>325</u>	565	1,100,000	
Select Structural	2x6	2,130	2,445	2,660	565	1,600,000	
No.1		1,495	1,720	1,870	565	1,500,000	
No.2		<u>1,150</u>	<u>1,325</u>	<u>1,440</u>	565	1,400,000	
No.3 and Stud		<u>660</u>	<u>760</u>	<u>825</u>	565	1,200,000	
Select Structural	2x8	2,015	2,315	2,515	565	1,600,000	
No.1		1,380	1,585	1,725	565	1,500,000	
No.2		<u>1,065</u>	<u>1,225</u>	<u>1,330</u>	565	1,400,000	
No.3 and Stud		<u>605</u>	<u>695</u>	<u>755</u>	565	1,200,000	
Select Structural	2x10	1,725	1,985	2,155	565	1,600,000	
No.1		1,210	1,390	1,510	565	1,500,000	
No.2		<u>920</u>	<u>1,060</u>	<u>1,150</u>	565	1,400,000	
No.3 and Stud		<u>545</u>	<u>630</u>	<u>685</u>	565	1,200,000	
Select Structural	2x12	1,610	1,850	2,015	565	1,600,000	
No.1		1,120	1,290	1,400	565	1,500,000	
No.2		<u>865</u>	<u>990</u>	<u>1,080</u>	565	1,400,000	
No.3 and Stud		<u>520</u>	<u>595</u>	<u>645</u>	565	1,200,000	

TABLE W-1 DESIGN VALUES FOR JOISTS AND RAFTERS - VISUALLY GRADED LUMBER (Cont'd)^{1,2}

These F_b values are for use where repetitive members are spaced not more than 24 inches. For wider spacing, F_b values shall be reduced 13%. Values for surfaced dry or surfaced green lumber apply at 19% maximum moisture content in use.

Species and Grade	Size	Design Value in Bending, F_b			Compression perpendicular to grain, $F_{c\perp}$	Modulus of Elasticity, E	Grading Rules Agency
		Normal Duration	Snow Loading	7-Day Loading			
SOUTHERN PINE							
Dense Select Structural	2x4	<u>3,105</u>	<u>3,570</u>	<u>3,880</u>	660	1,900,000	
Select Structural		<u>2,705</u>	<u>3,110</u>	<u>3,380</u>	565	1,800,000	
Non-Dense Select Structural		<u>2,360</u>	<u>2,710</u>	<u>2,945</u>	480	<u>1,600,000</u>	
No.1 Dense		<u>1,900</u>	<u>2,180</u>	<u>2,370</u>	660	1,800,000	
No.1		<u>1,725</u>	<u>1,985</u>	<u>2,155</u>	565	<u>1,600,000</u>	
No.1 Non-Dense		<u>1,495</u>	<u>1,720</u>	<u>1,870</u>	480	<u>1,400,000</u>	
No.2 Dense		<u>1,380</u>	<u>1,585</u>	<u>1,725</u>	660	<u>1,600,000</u>	
No.2		<u>1,265</u>	<u>1,455</u>	<u>1,580</u>	565	<u>1,400,000</u>	
No.2 Non-Dense		<u>1,210</u>	<u>1,390</u>	<u>1,510</u>	480	<u>1,300,000</u>	
No.3 and Stud		<u>750</u>	<u>860</u>	<u>935</u>	565	<u>1,300,000</u>	
Construction Standard		<u>1,005</u>	<u>1,155</u>	<u>1,260</u>	565	<u>1,400,000</u>	
Utility		<u>545</u>	<u>630</u>	<u>685</u>	565	<u>1,200,000</u>	
			<u>260</u>	<u>300</u>	<u>325</u>	565	
Dense Select Structural	2x6	<u>2,760</u>	<u>3,175</u>	<u>3,450</u>	660	1,900,000	SPIB
Select Structural		<u>2,415</u>	<u>2,775</u>	<u>3,020</u>	565	1,800,000	
Non-Dense Select Structural		<u>2,130</u>	<u>2,445</u>	<u>2,660</u>	480	<u>1,600,000</u>	
No.1 Dense		<u>1,725</u>	<u>1,985</u>	<u>2,155</u>	660	1,800,000	
No.1		<u>1,555</u>	<u>1,785</u>	<u>1,940</u>	565	<u>1,600,000</u>	
No.1 Non-Dense		<u>1,380</u>	<u>1,585</u>	<u>1,725</u>	480	<u>1,400,000</u>	
No.2 Dense		<u>1,210</u>	<u>1,390</u>	<u>1,510</u>	660	<u>1,600,000</u>	
No.2		<u>1,150</u>	<u>1,325</u>	<u>1,440</u>	565	<u>1,400,000</u>	
No.2 Non-Dense		<u>1,095</u>	<u>1,255</u>	<u>1,365</u>	480	<u>1,300,000</u>	
No.3 and Stud	<u>660</u>	<u>760</u>	<u>825</u>	565	<u>1,300,000</u>		
Dense Select Structural	2x8	<u>2,530</u>	<u>2,910</u>	<u>3,165</u>	660	1,900,000	
Select Structural		<u>2,245</u>	<u>2,580</u>	<u>2,805</u>	565	<u>1,800,000</u>	
Non-Dense Select Structural		<u>1,955</u>	<u>2,250</u>	<u>2,445</u>	480	1,600,000	
No.1 Dense		<u>1,555</u>	<u>1,785</u>	<u>1,940</u>	660	<u>1,800,000</u>	
No.1		<u>1,440</u>	<u>1,655</u>	<u>1,795</u>	565	<u>1,600,000</u>	
No.1 Non-Dense		<u>1,265</u>	<u>1,455</u>	<u>1,580</u>	480	<u>1,400,000</u>	
No.2 Dense		<u>1,120</u>	<u>1,290</u>	<u>1,400</u>	660	<u>1,600,000</u>	
No.2		<u>1,065</u>	<u>1,225</u>	<u>1,330</u>	565	<u>1,400,000</u>	
No.2 Non-Dense		<u>1,005</u>	<u>1,155</u>	<u>1,260</u>	480	<u>1,300,000</u>	
No.3 and Stud	<u>605</u>	<u>695</u>	<u>755</u>	565	<u>1,300,000</u>		

TABLE W-1 DESIGN VALUES FOR JOISTS AND RAFTERS - VISUALLY GRADED LUMBER (Cont'd)^{1,2}

These F_b values are for use where repetitive members are spaced not more than 24 inches. For wider spacing, F_b values shall be reduced 13%. Values for surfaced dry or surfaced green lumber apply at 19% maximum moisture content in use.

Species and Grade	Size	Design Value in Bending, F_b			Compression perpendicular to grain, $F_{c\perp}$	Modulus of Elasticity, E	Grading Rules Agency
		Normal Duration	Snow Loading	7-Day Loading			
SOUTHERN PINE (Cont'd)							
Dense Select Structural	2x10	<u>2,245</u>	<u>2,580</u>	<u>2,805</u>	660	1,900,000	SPIB
Select Structural		<u>1,955</u>	<u>2,250</u>	<u>2,445</u>	565	1,800,000	
Non-Dense Select Structural		<u>1,725</u>	<u>1,985</u>	<u>2,155</u>	480	<u>1,600,000</u>	
No.1 Dense		<u>1,380</u>	<u>1,585</u>	<u>1,725</u>	660	1,800,000	
No.1		<u>1,210</u>	<u>1,390</u>	<u>1,510</u>	565	<u>1,600,000</u>	
No.1 Non-Dense		<u>1,095</u>	<u>1,255</u>	<u>1,365</u>	480	<u>1,400,000</u>	
No.2 Dense		<u>980</u>	<u>1,125</u>	<u>1,220</u>	660	<u>1,600,000</u>	
No.2		<u>920</u>	<u>1,060</u>	<u>1,150</u>	565	<u>1,400,000</u>	
No.2 Non-Dense		<u>865</u>	<u>990</u>	<u>1,080</u>	480	<u>1,300,000</u>	
No.3 and Stud		<u>545</u>	<u>630</u>	<u>685</u>	565	<u>1,300,000</u>	
Dense Select Structural	2x12	<u>2,070</u>	<u>2,380</u>	<u>2,590</u>	660	1,900,000	
Select Structural		<u>1,840</u>	<u>2,115</u>	<u>2,300</u>	565	1,800,000	
Non-Dense Select Structural		<u>1,610</u>	<u>1,850</u>	<u>2,015</u>	480	<u>1,600,000</u>	
No.1 Dense		<u>1,265</u>	<u>1,455</u>	<u>1,580</u>	660	1,800,000	
No.1		<u>1,150</u>	<u>1,325</u>	<u>1,440</u>	565	<u>1,600,000</u>	
No.1 Non-Dense		<u>1,035</u>	<u>1,190</u>	<u>1,295</u>	480	<u>1,400,000</u>	
No.2 Dense		<u>920</u>	<u>1,060</u>	<u>1,150</u>	660	<u>1,600,000</u>	
No.2		<u>865</u>	<u>990</u>	<u>1,080</u>	565	<u>1,400,000</u>	
No.2 Non-Dense		<u>805</u>	<u>925</u>	<u>1,005</u>	480	<u>1,300,000</u>	
No.3 and Stud		<u>520</u>	<u>595</u>	<u>645</u>	565	<u>1,300,000</u>	

See *Span Tables for Joists and Rafters* for footnotes to Table W-1.