

**Sample Alternate Southern Pine Grades<sup>1</sup>  
Based on Maintaining the Old Maximum Span<sup>3</sup>  
for a No.2 Grade of a Selected Size**

<sup>5</sup>Maximum spans in feet-inches, spacing 16 inches on center

<b>Table 1 FLOOR JOISTS – 30 psf Live Load, 10 psf Dead Load, 360 Deflection</b>				
<b>Size</b>	<b>Grade</b>	<b>Bending F<sub>b</sub> (psi)</b>	<b>Modulus of Elasticity E (psi)</b>	<b>Maximum Span<sup>5</sup></b>
<b>2x10</b>	<b>No.2<sup>3</sup></b>	<b>1050</b>	<b>1,600,000</b>	<b>18-0</b>
2x10	<b>M-35<sup>4</sup></b>	1050	1,600,000	18-0
2x10	<b>1050f-1.6E<sup>4</sup></b>	1050	1,600,000	18-0
2x10	<b>No.1<sup>2</sup></b>	1050	1,600,000	18-0
2x10	<b>1200f-1.6E<sup>4</sup></b>	1200	1,600,000	18-0
2x10	<b>M-12<sup>4</sup></b>	1600	1,600,000	18-0
2x10	<b>M-29<sup>4</sup></b>	1550	1,700,000	18-5
2x10	<b>Select Structural<sup>2</sup></b>	1700	1,800,000	18-9
2x10	<b>2100f-1.8E<sup>4</sup></b>	2100	1,800,000	18-9
2x10	<b>M-23<sup>4</sup></b>	2400	1,800,000	18-9
2x10	<b>2400f-2.0E<sup>4</sup></b>	2400	2,000,000	19-5

<sup>1</sup>This table includes a sample of the Southern Pine visual, Machine Stress Rated (MSR) and Machine Evaluated Lumber (MEL) grades that meet or exceed the maximum span based on old design values for a selected size of No.2 Southern Pine. There are many other Southern Pine grades that meet or exceed this span, but not all of the possible Southern Pine grades will be produced. The marketplace will eventually determine the most common grades.

<sup>2</sup>The Southern Pine Inspection Bureau published new design values for all sizes and grades of visually graded Southern Pine dimension lumber in *Supplement No. 13 to the 2002 Standard Grading Rules for Southern Pine Lumber*. That includes the visual grades of Select Structural, No.1, No.2 and No.3. The maximum spans for the Select Structural and No.1 visual grades in this table were calculated using those new design values. The new design values became effective June 1, 2013.

<sup>3</sup>The maximum span for the No.2 visual grade in this table was calculated using the old design values prior to June 1, 2013. The maximum span for No.2 calculated using the new design values is lower.

<sup>4</sup>Design values and spans for mechanically graded lumber (MSR and MEL) did not change.

SFPA does not test lumber or establish design values. Accordingly, neither SFPA, nor its members, warrant that the design values on which the span tables are based are correct, and disclaim responsibility for injury or damage resulting from the use of such span tables. The conditions under which lumber is used in construction may vary widely, as does the quality of workmanship. Neither SFPA, nor its members, have knowledge of the quality of materials, workmanship or construction methods used on any construction project, and accordingly, do not warrant the technical data, design or performance of the lumber in completed structures.

**Sample Alternate Southern Pine Grades<sup>1</sup>  
Based on Maintaining the Old Maximum Span<sup>3</sup>  
for a No.2 Grade of a Selected Size**

<sup>5</sup>Maximum spans in feet-inches, spacing 16 inches on center

<b>Table 2 FLOOR JOISTS – 40 psf Live Load, 10 psf Dead Load, 360 Deflection</b>				
<b>Size</b>	<b>Grade</b>	<b>Bending F<sub>b</sub> (psi)</b>	<b>Modulus of Elasticity E (psi)</b>	<b>Maximum Span<sup>5</sup></b>
<b>2x12</b>	<b>No. 2<sup>3</sup></b>	<b>975</b>	<b>1,600,000</b>	<b>18-10</b>
2x12	<b>M-34<sup>4</sup></b>	975	1,600,000	18-10
2x12	<b>975f-1.6E<sup>4</sup></b>	975	1,600,000	18-10
2x12	<b>No. 1<sup>2</sup></b>	1000	1,600,000	19-1
2x12	<b>1650f-1.5E<sup>4</sup></b>	1650	1,500,000	19-6
2x12	<b>M-12<sup>4</sup></b>	1600	1,600,000	19-11
2x12	<b>M-29<sup>4</sup></b>	1550	1,700,000	20-4
2x12	<b>Select Structural<sup>2</sup></b>	1600	1,800,000	20-9
2x12	<b>2100f-1.8E<sup>4</sup></b>	2100	1,800,000	20-9
2x12	<b>M-23<sup>4</sup></b>	2400	1,800,000	20-9
2x12	<b>2400f-2.0E<sup>4</sup></b>	2400	2,000,000	21-6

<sup>1</sup>This table includes a sample of the Southern Pine visual, Machine Stress Rated (MSR) and Machine Evaluated Lumber (MEL) grades that meet or exceed the maximum span based on old design values for a selected size of No.2 Southern Pine. There are many other Southern Pine grades that meet or exceed this span, but not all of the possible Southern Pine grades will be produced. The marketplace will eventually determine the most common grades.

<sup>2</sup>The Southern Pine Inspection Bureau published new design values for all sizes and grades of visually graded Southern Pine dimension lumber in *Supplement No. 13 to the 2002 Standard Grading Rules for Southern Pine Lumber*. That includes the visual grades of Select Structural, No.1, No.2 and No.3. The maximum spans for the Select Structural and No.1 visual grades in this table were calculated using those new design values. The new design values became effective June 1, 2013.

<sup>3</sup>The maximum span for the No.2 visual grade in this table was calculated using the old design values prior to June 1, 2013. The maximum span for No.2 calculated using the new design values is lower.

<sup>4</sup>Design values and spans for mechanically graded lumber (MSR and MEL) did not change.

SFPA does not test lumber or establish design values. Accordingly, neither SFPA, nor its members, warrant that the design values on which the span tables are based are correct, and disclaim responsibility for injury or damage resulting from the use of such span tables. The conditions under which lumber is used in construction may vary widely, as does the quality of workmanship. Neither SFPA, nor its members, have knowledge of the quality of materials, workmanship or construction methods used on any construction project, and accordingly, do not warrant the technical data, design or performance of the lumber in completed structures.

**Sample Alternate Southern Pine Grades<sup>1</sup>  
Based on Maintaining the Old Maximum Span<sup>3</sup>  
for a No.2 Grade of a Selected Size**

<sup>5</sup>Maximum spans in feet-inches, spacing 16 inches on center

<b>Table 12 WET-SERVICE FLOOR JOISTS – MC&gt;19% 40 psf Live Load, 10 psf Dead Load, 360 Deflection</b>				
<b>Size</b>	<b>Grade</b>	<b>Bending F<sub>b</sub> (psi)</b>	<b>Modulus of Elasticity E (psi)</b>	<b>Maximum Span<sup>5</sup></b>
<b>2x8</b>	<b>No.2<sup>3</sup></b>	<b>1200</b>	<b>1,600,000</b>	<b>12-5</b>
2x8	<b>M-36<sup>4</sup></b>	1200	1,600,000	12-5
2x8	<b>1200f-1.6E<sup>4</sup></b>	1200	1,600,000	12-5
2x8	<b>No.1<sup>2</sup></b>	1250	1,600,000	12-5
2x8	<b>M-12<sup>4</sup></b>	1600	1,600,000	12-5
2x8	<b>M-29<sup>4</sup></b>	1550	1,700,000	12-8
2x8	<b>1650f-1.7E<sup>4</sup></b>	1650	1,700,000	12-8
2x8	<b>Select Structural<sup>2</sup></b>	1950	1,800,000	12-11
2x8	<b>2100f-1.8E<sup>4</sup></b>	2100	1,800,000	12-11
2x8	<b>M-23<sup>4</sup></b>	2400	1,800,000	12-11
2x8	<b>2400f-2.0E<sup>4</sup></b>	2400	2,000,000	13-4

<sup>1</sup>This table includes a sample of the Southern Pine visual, Machine Stress Rated (MSR) and Machine Evaluated Lumber (MEL) grades that meet or exceed the maximum span based on old design values for a selected size of No.2 Southern Pine. There are many other Southern Pine grades that meet or exceed this span, but not all of the possible Southern Pine grades will be produced. The marketplace will eventually determine the most common grades.

<sup>2</sup>The Southern Pine Inspection Bureau published new design values for all sizes and grades of visually graded Southern Pine dimension lumber in *Supplement No. 13 to the 2002 Standard Grading Rules for Southern Pine Lumber*. That includes the visual grades of Select Structural, No.1, No.2 and No.3. The maximum spans for the Select Structural and No.1 visual grades in this table were calculated using those new design values. The new design values became effective June 1, 2013.

<sup>3</sup>The maximum span for the No.2 visual grade in this table was calculated using the old design values prior to June 1, 2013. The maximum span for No.2 calculated using the new design values is lower.

<sup>4</sup>Design values and spans for mechanically graded lumber (MSR and MEL) did not change.

SFPA does not test lumber or establish design values. Accordingly, neither SFPA, nor its members, warrant that the design values on which the span tables are based are correct, and disclaim responsibility for injury or damage resulting from the use of such span tables. The conditions under which lumber is used in construction may vary widely, as does the quality of workmanship. Neither SFPA, nor its members, have knowledge of the quality of materials, workmanship or construction methods used on any construction project, and accordingly, do not warrant the technical data, design or performance of the lumber in completed structures.

**Sample Alternate Southern Pine Grades<sup>1</sup>  
Based on Maintaining the Old Maximum Span<sup>3</sup>  
for a No.2 Grade of a Selected Size**

<sup>5</sup>Maximum spans in feet-inches, spacing 16 inches on center

<b>Table 15 CEILING JOISTS – 10 psf Live Load, 5 psf Dead Load, 240 Deflection</b>				
<b>Size</b>	<b>Grade</b>	<b>Bending F<sub>b</sub> (psi)</b>	<b>Modulus of Elasticity E (psi)</b>	<b>Maximum Span<sup>5</sup></b>
2x6	<b>No. 2<sup>3</sup></b>	<b>1250</b>	<b>1,600,000</b>	<b>17-8</b>
2x6	<b>M-37<sup>4</sup></b>	1250	1,600,000	17-8
2x6	<b>1250f-1.6E<sup>4</sup></b>	1250	1,600,000	17-8
2x6	<b>M-36<sup>4</sup></b>	1200	1,600,000	17-8
2x6	<b>1200f-1.6E<sup>4</sup></b>	1200	1,600,000	17-8
2x6	<b>No.1<sup>2</sup></b>	1350	1,600,000	17-8
2x6	<b>M-12<sup>4</sup></b>	1600	1,600,000	17-8
2x6	<b>1650f-1.7E<sup>4</sup></b>	1650	1,700,000	18-1
2x6	<b>M-14<sup>4</sup></b>	1800	1,700,000	18-1
2x6	<b>Select Structural<sup>2</sup></b>	2100	1,800,000	18-5
2x6	<b>2400f-2.0E<sup>4</sup></b>	2400	2,000,000	19-1

<sup>1</sup>This table includes a sample of the Southern Pine visual, Machine Stress Rated (MSR) and Machine Evaluated Lumber (MEL) grades that meet or exceed the maximum span based on old design values for a selected size of No.2 Southern Pine. There are many other Southern Pine grades that meet or exceed this span, but not all of the possible Southern Pine grades will be produced. The marketplace will eventually determine the most common grades.

<sup>2</sup>The Southern Pine Inspection Bureau published new design values for all sizes and grades of visually graded Southern Pine dimension lumber in *Supplement No. 13 to the 2002 Standard Grading Rules for Southern Pine Lumber*. That includes the visual grades of Select Structural, No.1, No.2 and No.3. The maximum spans for the Select Structural and No.1 visual grades in this table were calculated using those new design values. The new design values became effective June 1, 2013.

<sup>3</sup>The maximum span for the No.2 visual grade in this table was calculated using the old design values prior to June 1, 2013. The maximum span for No.2 calculated using the new design values is lower.

<sup>4</sup>Design values and spans for mechanically graded lumber (MSR and MEL) did not change.

SFPA does not test lumber or establish design values. Accordingly, neither SFPA, nor its members, warrant that the design values on which the span tables are based are correct, and disclaim responsibility for injury or damage resulting from the use of such span tables. The conditions under which lumber is used in construction may vary widely, as does the quality of workmanship. Neither SFPA, nor its members, have knowledge of the quality of materials, workmanship or construction methods used on any construction project, and accordingly, do not warrant the technical data, design or performance of the lumber in completed structures.

**Sample Alternate Southern Pine Grades<sup>1</sup>  
Based on Maintaining the Old Maximum Span<sup>3</sup>  
for a No.2 Grade of a Selected Size**

<sup>5</sup>Maximum spans in feet-inches, spacing 16 inches on center

<b>Table 16 CEILING JOISTS – 20 psf Live Load, 10 psf Dead Load, 240 Deflection</b>				
<b>Size</b>	<b>Grade<sup>2</sup></b>	<b>Bending F<sub>b</sub> (psi)</b>	<b>Modulus of Elasticity E (psi)</b>	<b>Maximum Span<sup>5</sup></b>
<b>2x8</b>	<b>No. 2<sup>3</sup></b>	<b>1200</b>	<b>1,600,000</b>	<b>17-5</b>
2x8	<b>M-36<sup>4</sup></b>	1200	1,600,000	17-5
2x8	<b>1200f-1.6E<sup>4</sup></b>	1200	1,600,000	17-5
2x8	<b>No.1<sup>2</sup></b>	1250	1,600,000	17-9
2x8	<b>1650f-1.5E<sup>4</sup></b>	1650	1,500,000	18-2
2x8	<b>M-12<sup>4</sup></b>	1600	1,600,000	18-6
2x8	<b>M-29<sup>4</sup></b>	1550	1,700,000	18-11
2x8	<b>Select Structural<sup>2</sup></b>	1950	1,800,000	19-3
2x8	<b>2100f-1.8E<sup>4</sup></b>	2100	1,800,000	19-3
2x8	<b>M-23<sup>4</sup></b>	2400	1,800,000	19-3
2x8	<b>2400f-2.0E<sup>4</sup></b>	2400	2,000,000	19-11

<sup>1</sup>This table includes a sample of the Southern Pine visual, Machine Stress Rated (MSR) and Machine Evaluated Lumber (MEL) grades that meet or exceed the maximum span based on old design values for a selected size of No.2 Southern Pine. There are many other Southern Pine grades that meet or exceed this span, but not all of the possible Southern Pine grades will be produced. The marketplace will eventually determine the most common grades.

<sup>2</sup>The Southern Pine Inspection Bureau published new design values for all sizes and grades of visually graded Southern Pine dimension lumber in *Supplement No. 13 to the 2002 Standard Grading Rules for Southern Pine Lumber*. That includes the visual grades of Select Structural, No.1, No.2 and No.3. The maximum spans for the Select Structural and No.1 visual grades in this table were calculated using those new design values. The new design values became effective June 1, 2013.

<sup>3</sup>The maximum span for the No.2 visual grade in this table was calculated using the old design values prior to June 1, 2013. The maximum span for No.2 calculated using the new design values is lower.

<sup>4</sup>Design values and spans for mechanically graded lumber (MSR and MEL) did not change.

SFPA does not test lumber or establish design values. Accordingly, neither SFPA, nor its members, warrant that the design values on which the span tables are based are correct, and disclaim responsibility for injury or damage resulting from the use of such span tables. The conditions under which lumber is used in construction may vary widely, as does the quality of workmanship. Neither SFPA, nor its members, have knowledge of the quality of materials, workmanship or construction methods used on any construction project, and accordingly, do not warrant the technical data, design or performance of the lumber in completed structures.

**Sample Alternate Southern Pine Grades<sup>1</sup>  
Based on Maintaining the Old Maximum Span<sup>3</sup>  
for a No.2 Grade of a Selected Size**

<sup>5</sup>Maximum spans in feet-inches, spacing 16 inches on center

<b>Table 17 RAFTERS – 20 psf Live Load, 10 psf Dead Load, 240 Deflection <math>C_D = 1.15</math></b>				
Size	Grade	Bending $F_b$ (psi)	Modulus of Elasticity $E$ (psi)	Maximum Span <sup>5</sup>
<b>2x8</b>	<b>No. 2<sup>3</sup></b>	<b>1200</b>	<b>1,600,000</b>	<b>18-6</b>
2x8	<b>M-36<sup>4</sup></b>	1200	1,600,000	18-6
2x8	<b>1200f-1.6E<sup>4</sup></b>	1200	1,600,000	18-6
2x8	<b>No.1<sup>2</sup></b>	1250	1,600,000	18-6
2x8	<b>M-12<sup>4</sup></b>	1600	1,600,000	18-6
2x8	<b>M-29<sup>4</sup></b>	1550	1,700,000	18-11
2x8	<b>1850f-1.7E<sup>4</sup></b>	1850	1,700,000	18-11
2x8	<b>Select Structural<sup>2</sup></b>	1950	1,800,000	19-3
2x8	<b>2100f-1.8E<sup>4</sup></b>	2100	1,800,000	19-3
2x8	<b>M-23<sup>4</sup></b>	2400	1,800,000	19-3
2x8	<b>2400f-2.0E<sup>4</sup></b>	2400	2,000,000	19-11

<sup>1</sup>This table includes a sample of the Southern Pine visual, Machine Stress Rated (MSR) and Machine Evaluated Lumber (MEL) grades that meet or exceed the maximum span based on old design values for a selected size of No.2 Southern Pine. There are many other Southern Pine grades that meet or exceed this span, but not all of the possible Southern Pine grades will be produced. The marketplace will eventually determine the most common grades.

<sup>2</sup>The Southern Pine Inspection Bureau published new design values for all sizes and grades of visually graded Southern Pine dimension lumber in *Supplement No. 13 to the 2002 Standard Grading Rules for Southern Pine Lumber*. That includes the visual grades of Select Structural, No.1, No.2 and No.3. The maximum spans for the Select Structural and No.1 visual grades in this table were calculated using those new design values. The new design values became effective June 1, 2013.

<sup>3</sup>The maximum span for the No.2 visual grade in this table was calculated using the old design values prior to June 1, 2013. The maximum span for No.2 calculated using the new design values is lower.

<sup>4</sup>Design values and spans for mechanically graded lumber (MSR and MEL) did not change.

SFPA does not test lumber or establish design values. Accordingly, neither SFPA, nor its members, warrant that the design values on which the span tables are based are correct, and disclaim responsibility for injury or damage resulting from the use of such span tables. The conditions under which lumber is used in construction may vary widely, as does the quality of workmanship. Neither SFPA, nor its members, have knowledge of the quality of materials, workmanship or construction methods used on any construction project, and accordingly, do not warrant the technical data, design or performance of the lumber in completed structures.

**Sample Alternate Southern Pine Grades<sup>1</sup>  
Based on Maintaining the Old Maximum Span<sup>3</sup>  
for a No.2 Grade of a Selected Size**

<sup>5</sup>Maximum spans in feet-inches, spacing 16 inches on center

<b>Table 41 RAFTERS – 20 psf Live Load, 10 psf Dead Load, 240 Deflection <math>C_D = 1.25</math></b>				
<b>Size</b>	<b>Grade</b>	<b>Bending <math>F_b</math> (psi)</b>	<b>Modulus of Elasticity E (psi)</b>	<b>Maximum Span<sup>5</sup></b>
<b>2x6</b>	<b>No. 2<sup>3</sup></b>	<b>1250</b>	<b>1,600,000</b>	<b>14-1</b>
2x6	<b>M-37<sup>4</sup></b>	1250	1,600,000	14-1
2x6	<b>1250f-1.6E<sup>4</sup></b>	1250	1,600,000	14-1
2x6	<b>M-36<sup>4</sup></b>	1200	1,600,000	14-1
2x6	<b>1200f-1.6E<sup>4</sup></b>	1200	1,600,000	14-1
2x6	<b>No.1<sup>2</sup></b>	1350	1,600,000	14-1
2x6	<b>M-12<sup>4</sup></b>	1600	1,600,000	14-1
2x6	<b>1650f-1.7E<sup>4</sup></b>	1650	1,700,000	14-4
2x6	<b>M-14<sup>4</sup></b>	1800	1,700,000	14-4
2x6	<b>Select Structural<sup>2</sup></b>	2100	1,800,000	14-7
2x6	<b>2400f-2.0E<sup>4</sup></b>	2400	2,000,000	15-2

<sup>1</sup>This table includes a sample of the Southern Pine visual, Machine Stress Rated (MSR) and Machine Evaluated Lumber (MEL) grades that meet or exceed the maximum span based on old design values for a selected size of No.2 Southern Pine. There are many other Southern Pine grades that meet or exceed this span, but not all of the possible Southern Pine grades will be produced. The marketplace will eventually determine the most common grades.

<sup>2</sup>The Southern Pine Inspection Bureau published new design values for all sizes and grades of visually graded Southern Pine dimension lumber in *Supplement No. 13 to the 2002 Standard Grading Rules for Southern Pine Lumber*. That includes the visual grades of Select Structural, No.1, No.2 and No.3. The maximum spans for the Select Structural and No.1 visual grades in this table were calculated using those new design values. The new design values became effective June 1, 2013.

<sup>3</sup>The maximum span for the No.2 visual grade in this table was calculated using the old design values prior to June 1, 2013. The maximum span for No.2 calculated using the new design values is lower.

<sup>4</sup>Design values and spans for mechanically graded lumber (MSR and MEL) did not change.

SFPA does not test lumber or establish design values. Accordingly, neither SFPA, nor its members, warrant that the design values on which the span tables are based are correct, and disclaim responsibility for injury or damage resulting from the use of such span tables. The conditions under which lumber is used in construction may vary widely, as does the quality of workmanship. Neither SFPA, nor its members, have knowledge of the quality of materials, workmanship or construction methods used on any construction project, and accordingly, do not warrant the technical data, design or performance of the lumber in completed structures.