|  | Member |  |  | 5psf |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Member | Spacing (in) o.c. | L/120 | L/240 | L/360 |
| 皆 | 250S137-33 | 12 | $17{ }^{\prime \prime}{ }^{\prime \prime}$ | 13'10" | $12^{\prime \prime} 1{ }^{\prime \prime}$ |
|  |  | 16 | 15' 10" | $12^{\prime} 7$ " | 11' 0 " |
|  |  | 24 | $13^{\prime} 10 "$ | 11' 0" | $9^{\prime} 7{ }^{\prime \prime}$ |
|  | 250S137-43 | 12 | 19'0" | $15^{\prime \prime} 1{ }^{\prime \prime}$ | $13^{\prime \prime}{ }^{\prime \prime}$ |
|  |  | 16 | 17'3" | $13^{\prime \prime} 8^{\prime \prime}$ | 11' 11" |
|  |  | 24 | $15^{\prime \prime} 1{ }^{\prime \prime}$ | 11' 11" | $10^{\prime \prime}{ }^{\prime \prime}$ |
|  | 250S137-54 | 12 | 20'3" | $16^{\prime \prime} 1^{\prime \prime}$ | $14^{\prime \prime} 1{ }^{\prime \prime}$ |
|  |  | 16 | $18^{\prime \prime} 5$ | $14^{\prime \prime} 8$ | $12^{\prime \prime} 9$ |
|  |  | 24 | $16^{\prime \prime} 1$ | $12^{\prime \prime} 9$ | 11' 2 " |
|  | 250S137-68 | 12 | 21 ' ${ }^{\prime \prime}$ | 17' 2 " | $15^{\prime \prime} 0^{\prime \prime}$ |
|  |  | 16 | 19'8" | $15^{\prime} 7{ }^{\prime \prime}$ | $13^{\prime \prime} 8^{\prime \prime}$ |
|  |  | 24 | 17' 2 " | $13^{\prime \prime} 8$ | 11' 11" |
|  | 250S137-97 | 12 | 23' "' $^{\prime \prime}$ | 18' 10" | $16^{\prime} 5 "$ |
|  |  | 16 | 21' 6 " | $17^{\prime \prime} 1$ | $14^{\prime} 11{ }^{\prime \prime}$ |
|  |  | 24 | $18^{\prime} 10 "$ | 14' 11" | $13^{\prime} 0$ |
|  |  |  |  |  |  |
|  | 250S162-33 | 12 | $18^{\prime \prime} \mathbf{4 '}^{\prime \prime}$ | 14'7" | 12'9" |
|  |  | 16 | $16^{\prime \prime} 8^{\prime \prime}$ | $13^{\prime} 3^{\prime \prime}$ | 11'7" |
|  |  | 24 | $14^{\prime \prime} 7$ | 11'7" | $10^{\prime \prime} 1{ }^{\prime \prime}$ |
|  | 250S162-43 | 12 | 19'11" | 15' 10" | $13^{\prime} 10^{\prime \prime}$ |
|  |  | 16 | 18'1" | $14^{\prime \prime} 4$ | $12^{\prime \prime} 7$ |
|  |  | 24 | 15' 10" | $12^{\prime \prime} 7$ | $11^{\prime} 0$ " |
|  | 250S162-54 | 12 | 21'4" | 16' 11" | $14^{\prime \prime}{ }^{\prime \prime}$ |
|  |  | 16 | 19'4" | $15^{\prime} 5$ | $13^{\prime \prime}{ }^{\prime \prime}$ |
|  |  | 24 | 16' 11" | $13^{\prime \prime} 5^{\prime \prime}$ | 11' 9" |
|  | 250S162-68 | 12 | 22' 9" | $18^{\prime \prime} 1$ | $15^{\prime \prime}{ }^{\prime \prime}$ |
|  |  | 16 | $20^{\prime \prime} 8^{\prime \prime}$ | $16^{\prime \prime} 5^{\prime \prime}$ | $14^{\prime \prime} 4^{\prime \prime}$ |
|  |  | 24 | $18^{\prime \prime} 1$ | $14^{\prime \prime} 4^{\prime \prime}$ | $12^{\prime} 6^{\prime \prime}$ |
|  | 250S162-97 | 12 | 25'0" | 19' 10" | $17{ }^{\prime \prime}$ |
|  |  | 16 | 22' 9" | 18'0" | 15' 9" |
|  |  | 24 | 19' 10 " | $15^{\prime \prime} 9$ | $13^{\prime \prime}{ }^{\prime \prime}$ |



## Notes:

1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section and shear moment interaction through the perforated section 10" away from the end bearing.
$2 \mathrm{~A} 1 / 3$ stress increase is not used.
3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

4 Listed limiting heights are based on steel properties only.
5 End reactions must be checked for web crippling separately.
6 Web crippling check based on 1 -inch end bearing. Where limiting heights are followed by "e", web stiffeners are required.
7 Allowable moment is the lesser of local and distortional buckling. Stud distortional buckling based on an assumed $K \phi=0$.

8 Members marked with an 'have $h / t>200$, and thus require end stiffeners.
9 Capacities are calculated according to the AISI S100-16 (2020) w/S2-20. A 1-1/2" by $4^{\prime \prime}$ knockout spaced no closer than $24^{\prime \prime}$ o.c. is assumed. (3/4" for 2-1/2" studs).
10 All values are based on Fy=33ksi for 33 mil and 43 mil Studs, and $\mathrm{Fy}=50 \mathrm{ksi}$ for 54 mil, 68 mil and 97 mil Studs.
11 For deflection calculations, interior wall loads have been multiplied by 1.0 per AISI S240.

|  | Member | Spacing (in) o.c. | 5psf |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | L/120 | L/240 | L/360 |
|  | 350S137-33 | 12 | 22' 7" | 17' 11" | 15' 8 " |
|  |  | 16 | 20'7" | $16^{\prime \prime} 4^{\prime \prime}$ | $14^{\prime \prime} 3^{\prime \prime}$ |
|  |  | 24 | 17' ${ }^{\prime \prime}$ | $14^{\prime} 3$ " | 12' ${ }^{\prime \prime}$ |
|  |  | 12 | 24'7" | 19' 6" | 17' 1" |
|  | 350S137-43 | 16 | 22'4" | 17' 9" | 15'6" |
|  |  | 24 | 19'6" | $15{ }^{\prime \prime}$ | $13^{\prime} 6^{\prime \prime}$ |
|  |  | 12 | $26^{\prime \prime} 4^{\prime \prime}$ | 20' 11" | $18^{\prime \prime} 3^{\prime \prime}$ |
|  | 350S137-54 | 16 | 23'11" | 19'0" | $16^{\prime \prime} 7$ |
|  |  | 24 | 20'11" | $16^{\prime} 7$ " | $14^{\prime} 6^{\prime \prime}$ |
|  |  | 12 | 28' ${ }^{\prime \prime}$ | 22'4" | 19'6" |
|  | 350S137-68 | 16 | 25'7" | 20'3" | 17' 9" |
|  |  | 24 | 22'4" | 17' 9" | 15' $6^{\prime \prime}$ |
|  |  | 12 | 30' 11" | 24'7" | 21'5" |
|  | 350S137-97 | 16 | 28'1" | 22' 4" | 19'6" |
|  |  | 24 | $24^{\prime} 7{ }^{\prime \prime}$ | $19^{\prime \prime}$ " | $17{ }^{\prime \prime} 0$ |
|  |  |  |  |  |  |
|  |  | 12 | 23' 9" | 18' 10" | 16' $5^{\prime \prime}$ |
|  | 350S162-33 | 16 | 21'7" | $17^{\prime \prime} 1{ }^{\prime \prime}$ | 14' 11" |
|  |  | 24 | 18' 5 " | 14' 11" | 13'1" |
|  |  | 12 | 25' 10" | $20^{\prime \prime}{ }^{\prime \prime}$ | 17' 11" |
|  | 350S162-43 | 16 | 23' ${ }^{\prime \prime}$ | 18'7" | $16^{\prime \prime} 3^{\prime \prime}$ |
|  |  | 24 | 20' ${ }^{\prime \prime}$ | $16^{\prime} 3^{\prime \prime}$ | 14'2" |
|  |  | 12 | 27' $8^{\prime \prime}$ | 21' 11" | 19'2" |
|  | 350S162-54 | 16 | 25'1" | 19'11" | 17' 5" |
|  |  | 24 | 21'11" | 17' 5" | 15' ${ }^{\prime \prime}$ |
|  |  | 12 | 29'7" | 23' 6 " | 20' 6 " |
|  | 350S162-68 | 16 | 26'10" | 21'4" | 18' 7 " |
|  |  | 24 | $23^{\prime} 6^{\prime \prime}$ | 18'7" | $16^{\prime} 3^{\prime \prime}$ |
|  |  | 12 | 32' 7 " | 25'10" | 22' 7 " |
|  | 350S162-97 | 16 | 29'7" | 23' 6" | 20' 6" |
|  |  | 24 | 25' 10 " | $20^{\prime \prime}$ " | 17' 11" |


|  | Member | Spacing (in) o.c. | 5psf |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | L/120 | L/240 | L/360 |
| 3-1/2" Structural Framing | 350S200-33 | 12 | 24' 11" | 19'10" | $17^{\prime \prime} 4^{\prime \prime}$ |
|  |  | 16 | 22' 8" | 18' 0 " | 15' 9" |
|  |  | 24 | 19'4" | 15'9" | 13' ${ }^{\prime \prime}$ |
|  | 350S200-43 | 12 | $27{ }^{\prime \prime}$ | 21'8" | 18' 11" |
|  |  | 16 | 24' 9" | 19' 8" | 17' $2^{\prime \prime}$ |
|  |  | 24 | 21' 8" | $17^{\prime \prime}{ }^{\prime \prime}$ | $15^{\prime} 0$ " |
|  | 350S200-54 | 12 | 29'3" | 23' 2 " | 20'3" |
|  |  | 16 | 26' 6 " | 21' 1" | $18^{\prime \prime} 5^{\prime \prime}$ |
|  |  | 24 | 23' 2 " | $18^{\prime \prime} 5$ | 16'1" |
|  | 350S200-68 | 12 | 31 ' ${ }^{\prime \prime}$ | $24^{\prime} 10$ " | 21'8" |
|  |  | 16 | 28' 5 " | 22'7" | $19^{\prime \prime} 8^{\prime \prime}$ |
|  |  | 24 | $24^{\prime \prime} 10$ | 19'8" | $17^{\prime \prime} 3^{\prime \prime}$ |
|  | 350S200-97 | 12 | 34'7" | $27^{\prime \prime} 5^{\prime \prime}$ | 24'0" |
|  |  | 16 | $31^{\prime \prime} 5$ | 24'11" | 21'9" |
|  |  | 24 | $27^{\prime \prime}{ }^{\prime \prime}$ | 21'9" | $19^{\prime \prime} 0^{\prime \prime}$ |
|  |  |  |  |  |  |
|  | 350S250-43 | 12 | 28' 9" | 22'10" | 19'11" |
|  |  | 16 | $26^{\prime \prime} 1{ }^{\prime \prime}$ | 20'9" | 18'1" |
|  |  | 24 | 22'10" | 18'1" | 15' 10" |
|  | 350S250-54 | 12 | 30' 9" | $24^{\prime \prime}{ }^{\prime \prime}$ | 21'4" |
|  |  | 16 | $27^{\prime \prime} 11{ }^{\prime \prime}$ | 22' 2 " | $19^{\prime \prime} 4^{\prime \prime}$ |
|  |  | 24 | 24'5" | 19'4" | 16' 11" |
|  | 350S250-68 | 12 | $33^{\prime \prime} 1{ }^{\prime \prime}$ | 26'3" | 22' 11" |
|  |  | 16 | 30' 0 " | 23'10" | 20' 10" |
|  |  | 24 | 26' ${ }^{\prime \prime}$ | 20'10" | 18'2" |
|  | 350S250-97 | 12 | 36' 7 " | 29'1" | 25' $5^{\prime \prime}$ |
|  |  | 16 | 33' $3^{\prime \prime}$ | 26' 5" | 23' 1" |
|  |  | 24 | $29^{\prime \prime} 1$ | $23^{\prime \prime} 1$ | $20^{\prime \prime}{ }^{\prime \prime}$ |

## Notes:

1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section and shear moment interaction through the perforated section 10" away from the end bearing.
$2 \mathrm{~A} 1 / 3$ stress increase is not used.
3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

4 Listed limiting heights are based on steel properties only.
5 End reactions must be checked for web crippling separately.
6 Web crippling check based on 1 -inch end bearing. Where limiting heights Web crippling check based on 1 -inch end bearing.
are followed by e ", web stiffeners are required.
7 Allowable moment is the lesser of local and distortional buckling. Stud distortional buckling based on an assumed $K \phi=0$.

8 Members marked with an 'have $\mathrm{h} / \mathrm{t}>200$, and thus require end stiffeners.
9 Capacities are calculated according to the AISI S100-16 (2020) w/S2-20. A $1-1 / 2^{\prime \prime}$ by 4 " knockout spaced no closer than 24 " o.c. is assumed. (3/4" for 2-1/2" studs).
10 All values are based on Fy=33ksi for 33 mil and 43 mil Studs, and $\mathrm{Fy}=50 \mathrm{ksi}$ for 54 mil, 68 mil and 97 mil Studs.

11 For deflection calculations, interior wall loads have been multiplied by 1.0 per AISI S240.

|  |  |  |  | ppsf |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Member | Spacing (in) o.c. | L/120 | L/240 | L/360 |
|  | 362S137-33 | 12 | 23' 3 " | 18'5" | $16^{\prime \prime} 1{ }^{\prime \prime}$ |
|  |  | 16 | 21'1" | 16' 9" | $14^{\prime} 8{ }^{\prime \prime}$ |
|  |  | 24 | $17^{\prime \prime} 6^{\prime \prime}$ | $14^{\prime \prime} 8$ | $12^{\prime} 10^{\prime \prime}$ |
|  | 362S137-43 | 12 | 25' ${ }^{\prime \prime}$ | 20'1" | 17' 6" |
|  |  | 16 | $23^{\prime \prime} 0$ | 18'3" | 15'11" |
|  |  | 24 | 20'1" | 15' 11" | 13'11" |
|  | 362S137-54 | 12 | 27'1" | 21'6" | 18'9" |
|  |  | 16 | 24'7" | 19' 6" | 17' 1" |
|  |  | 24 | 21'6" | $17^{\prime \prime} 1$ | 14'11" |
|  | 362S137-68 | 12 | $28^{\prime \prime} 11{ }^{\prime \prime}$ | 22'11" | 20'1" |
|  |  | 16 | 26'3" | 20'10" | 18'3" |
|  |  | 24 | 22'11" | $18^{\prime \prime} 3^{\prime \prime}$ | $15^{\prime} 11{ }^{\prime \prime}$ |
|  | 362S137-97 | 12 | 31' 10" | 25' ${ }^{\prime \prime}$ | 22'1" |
|  |  | 16 | 28'11" | 22'11" | 20'1" |
|  |  | 24 | $25^{\prime} 3^{\prime \prime}$ | 20'1" | $17^{\prime} 6^{\prime \prime}$ |
|  |  |  |  |  |  |
|  | 362S162-33 | 12 | 24'4" | 19'4" | 16' 11" |
|  |  | 16 | 22' 2 " | 17' 7 " | 15'4" |
|  |  | 24 | $18^{\prime \prime} 9$ | $15^{\prime \prime} 4^{\prime \prime}$ | $13^{\prime \prime}{ }^{\prime \prime}$ |
|  | 362S162-43 | 12 | $26^{\prime \prime} 6^{\prime \prime}$ | 21' 0" | 18'5" |
|  |  | 16 | 24'1" | 19'1" | 16' 8" |
|  |  | 24 | 21'0" | $16^{\prime \prime} 8$ | $14^{\prime} 7$ " |
|  | 362S162-54 | 12 | $28^{\prime \prime} 5^{\prime \prime}$ | 22'6" | 19'8" |
|  |  | 16 | 25' 10" | 20' 6" | 17' 11" |
|  |  | 24 | 22'6" | $17^{\prime \prime} 11{ }^{\prime \prime}$ | 15'7" |
|  | 362S162-68 | 12 | $30^{\prime \prime}{ }^{\prime \prime}$ | 24'1" | 21'1" |
|  |  | 16 | $27^{\prime \prime} 7$ | 21'11" | 19'2" |
|  |  | 24 | 24'1" | 19'2" | 16' 9" |
|  | 362S162-97 | 12 | $33^{\prime \prime} 6^{\prime \prime}$ | 26'7" | 23' ${ }^{\prime \prime}$ |
|  |  | 16 | $30^{\prime \prime} 5^{\prime \prime}$ | 24' ${ }^{\prime \prime}$ | 21'1" |
|  |  | 24 | $26^{\prime} 7$ " | 21'1" | 18' 5" |


|  | Member | Spacing (in) o.c. | 5 psf |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | L/120 | L/240 | L/360 |
| - | 362S200-33 | 12 | 25' 8" | 20' 4 " | 17' 9" |
|  |  | 16 | 23' 3" | 18' 6" | 16' 2 " |
|  |  | 24 | $19^{\prime \prime} 8$ | $16^{\prime} 2$ | $14^{\prime \prime} 1^{\prime \prime}$ |
|  | 362S200-43 | 12 | 28' 0 " | 22' 3" | 19' ${ }^{\prime \prime}$ |
|  |  | 16 | 25' 5" | 20' 2 " | 17' 8" |
|  |  | 24 | $22^{\prime \prime}$ | 17' 8" | 15' $5^{\prime \prime}$ |
|  | 362S200-54 | 12 | 30' 0 " | 23' 10" | 20' 10" |
|  |  | 16 | $27^{\prime \prime}{ }^{\prime \prime}$ | 21' 8" | 18' 11" |
|  |  | 24 | 23' 10" | 18' 11" | 16' 6 " |
|  | 362S200-68 | 12 | 32' 2 " | 25' 6" | 22'3" |
|  |  | 16 | 29' 2 " | 23' ${ }^{\prime \prime}$ | 20'3" |
|  |  | 24 | 25' 6" | 20' 3" | $17^{\prime \prime} 8^{\prime \prime}$ |
|  | 362S200-97 | 12 | $35^{\prime \prime}$ " | 28' $\mathbf{3 \prime}^{\prime \prime}$ | 24' " $^{\prime \prime}$ |
|  |  | 16 | 32' 3" | 25' 8 " | 22' ${ }^{\prime \prime}$ |
|  |  | 24 | $28^{\prime \prime}{ }^{\prime \prime}$ | 22' 5" | 19'7" |
|  |  |  |  |  |  |
|  | 362S250-43 | 12 | 29' 6" | 23' 5" | 20' ${ }^{\prime \prime}$ |
|  |  | 16 | 26'10" | $21^{\prime \prime} 3^{\prime \prime}$ | 18' 7 " |
|  |  | 24 | 23' 5" | $18^{\prime \prime} 7$ | $16^{\prime \prime}{ }^{\prime \prime}$ |
|  | 362S250-54 | 12 | 31' 7 " | 25' 1" | 21' 11" |
|  |  | 16 | 28' 8" | 22' 9" | 19' 11" |
|  |  | 24 | $25^{\prime \prime} 1$ | 19'11" | 17' 4" |
|  | 362S250-68 | 12 | $33^{\prime} 11{ }^{\prime \prime}$ | 26' 11" | 23' ${ }^{\prime \prime}$ |
|  |  | 16 | 30' 10" | 24'6" | 21'5" |
|  |  | 24 | 26' 11" | 21' 5" | $18^{\prime \prime} 8^{\prime \prime}$ |
|  | 362S250-97 | 12 | 37' 7 " | 29' 10" | 26'1" |
|  |  | 16 | $34^{\prime} 2$ " | 27' 1" | $23^{\prime \prime} 8^{\prime \prime}$ |
|  |  | 24 | $29^{\prime} 10$ " | 23' 8" | 20' $8^{\prime \prime}$ |

## Notes:

1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section and shear moment interaction through the perforated section 10" away from the end bearing.
2 A $1 / 3$ stress increase is not used.
3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

4 Listed limiting heights are based on steel properties only.
5 End reactions must be checked for web crippling separately.
6 Web crippling check based on 1 -inch end bearing. Where limiting heights are followed by "e", web stiffeners are required.
7 Allowable moment is the lesser of local and distortional buckling. Stud distortional buckling based on an assumed $K \phi=0$.

8 Members marked with an 'have $\mathrm{h} / \mathrm{t}>200$, and thus require end stiffeners.
9 Capacities are calculated according to the AISI S100-16 (2020) w/S2-20. A 1-1/2" by $4^{\prime \prime}$ knockout spaced no closer than $24^{\prime \prime}$ o.c. is assumed. (3/4" for 2-1/2" studs).
10 All values are based on Fy=33ksi for 33 mil and 43 mil Studs, and $\mathrm{Fy}=50 \mathrm{ksi}$ for 54 mil, 68 mil and 97 mil Studs.
11 For deflection calculations, interior wall loads have been multiplied by 1.0 per AISI S240.

INTERIOR WALL HEIGHTS
With structural framing

|  | Member | Spacing (in) o.c. | 5psf |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | L/120 | L/240 | L/360 |
|  | 400S137-33 | 12 | $25^{\prime \prime} 1$ | 19'11" | $17^{\prime \prime} 5^{\prime \prime}$ |
|  |  | 16 | 22'7" | 18' 1" | 15' 10" |
|  |  | 24 | 18'6" | 15' 10" | 13' 10 " |
|  | 400S137-43 | 12 | $27^{\prime \prime}{ }^{\prime \prime}$ | 21'8" | 18' 11" |
|  |  | 16 | 24'10" | 19' 8" | 17' $2^{\prime \prime}$ |
|  |  | 24 | 21'8" | $17{ }^{17}$ | $15^{\prime} 0{ }^{\prime \prime}$ |
|  | 400S137-54 | 12 | 29'3" | 23' 2 " | 20'3" |
|  |  | 16 | $26^{\prime \prime} 7$ | 21'1" | 18'5" |
|  |  | 24 | 23' 2 " | 18' 5 " | 16' 1" |
|  | 400S137-68 | 12 | $31^{\prime \prime}{ }^{\prime \prime}$ | $24^{\prime} 10{ }^{\prime \prime}$ | 21' ${ }^{\prime \prime}$ |
|  |  | 16 | $28^{\prime \prime}{ }^{\prime \prime}$ | 22'7" | $19^{\prime \prime} 8^{\prime \prime}$ |
|  |  | 24 | 24' 10" | 19' ${ }^{\prime \prime}$ | 17' $2^{\prime \prime}$ |
|  | 400S137-97 | 12 | $34^{\prime \prime} 5$ | $27^{\prime \prime} \mathbf{4}^{\prime \prime}$ | 23'11" |
|  |  | 16 | $31^{\prime \prime \prime}$ | 24' 10" | 21'8" |
|  |  | 24 | $27^{\prime \prime} \mathbf{4}^{\prime \prime}$ | 21' 8 " | 18' 11" |
|  |  |  |  |  |  |
|  | 400S162-33 | 12 | 26'3" | 20'10" | $18^{\prime \prime}{ }^{\prime \prime}$ |
|  |  | 16 | 23' 11" | 18'11" | 16' 7" |
|  |  | 24 | 19'10" | 16'7" | $14{ }^{\prime} 6{ }^{\prime \prime}$ |
|  | 400S162-43 | 12 | $28^{\prime 7}$ | 22' ${ }^{\prime \prime}$ | 19'10" |
|  |  | 16 | $26^{\prime \prime} 0$ | 20'7" | $18^{\prime \prime} 0$ |
|  |  | 24 | 22' 8" | $18^{\prime \prime} 0$ | 15'9" |
|  | 400S162-54 | 12 | $30^{\prime \prime} 8$ | 24' 4 " | 21'3" |
|  |  | 16 | $27^{\prime \prime} 10$ | 22'1" | $19^{\prime \prime} 4^{\prime \prime}$ |
|  |  | 24 | $24^{\prime \prime} \mathbf{4}^{\prime \prime}$ | 19'4" | $16^{\prime} 10{ }^{\prime \prime}$ |
|  | 400S162-68 | 12 | 32' 10" | 26'0" | 22'9" |
|  |  | 16 | 29'10" | $23^{\prime \prime} 8$ | 20' $8^{\prime \prime}$ |
|  |  | 24 | $26^{\prime \prime} 0$ | 20' 8" | $18^{\prime \prime} 1$ |
|  | 400S162-97 | 12 | $36^{\prime \prime}{ }^{\prime \prime}$ | $28{ }^{\prime \prime}$ | 25'1" |
|  |  | 16 | 32'11" | $26^{\prime \prime} 1$ | 22' 10" |
|  |  | 24 | 28' 9 " | 22' 10" | 19' 11" |


|  | Member | Spacing (in) o.c. | 5psf |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | L/120 | L/240 | L/360 |
|  | 400S200-33 | 12 | 27' 8" | 21' 11" | 19' 2 " |
|  |  | 16 | 25' 1" | 19'11" | 17' 5" |
|  |  | 24 | 20'10" | $17^{\prime \prime} 5$ | 15' ${ }^{\prime \prime}$ |
|  | 400S200-43 | 12 | 30' 2 " | 23'11" | 20' 11" |
|  |  | 16 | 27' 5" | 21'9" | 19' 0 " |
|  |  | 24 | 23'11" | 19'0" | 16' 7 " |
|  | 400S200-54 | 12 | 32' 4" | 25' 8" | 22' 5" |
|  |  | 16 | 29'5" | $23^{\prime \prime}{ }^{\prime \prime}$ | $20^{\prime \prime} 5^{\prime \prime}$ |
|  |  | 24 | 25' 8" | 20'5" | 17' 10" |
|  | 400S200-68 | 12 | $34^{\prime \prime} 8{ }^{\prime \prime}$ | $27^{\prime \prime} 6^{\prime \prime}$ | $24^{\prime \prime} 0$ |
|  |  | 16 | $31{ }^{\prime \prime}$ | $25^{\prime \prime} 0$ | 21' 10" |
|  |  | 24 | $27^{\prime \prime} 6^{\prime \prime}$ | 21'10" | 19'1" |
|  | 400S200-97 | 12 | $38^{\prime \prime} 5$ | 30' 6" | 26' 7 " |
|  |  | 16 | $34{ }^{\prime} 10{ }^{\prime \prime}$ | $27^{\prime \prime} 8$ | 24' ${ }^{\prime \prime}$ |
|  |  | 24 | $30^{\prime \prime}$ "' | 24' 2 " | 21'1" |
|  |  |  |  |  |  |
|  | 400S250-43 | 12 | 31' 9" | 25'3" | $22^{\prime \prime} 0$ |
|  |  | 16 | 28'10" | 22'11" | 20' 0 " |
|  |  | 24 | $25^{\prime \prime}{ }^{\prime \prime}$ | 20'0" | $17{ }^{\prime \prime}{ }^{\prime \prime}$ |
|  | 400S250-54 | 12 | $34^{\prime \prime} 0$ | 27'0" | 23' 7 " |
|  |  | 16 | 30'10" | 24' 6" | 21' 5" |
|  |  | 24 | 27' 0 " | $21^{\prime \prime}$ | $18^{\prime \prime} 8$ |
|  | 400S250-68 | 12 | 36'7" | 29'0" | 25' 4" |
|  |  | 16 | $33^{\prime \prime}{ }^{\prime \prime}$ | $26^{\prime \prime}{ }^{\prime \prime}$ | $23^{\prime \prime} 0$ |
|  |  | 24 | 29'0" | $23^{\prime \prime} 0$ | 20'1" |
|  | 400S250-97 | 12 | 40'7" | 32' 2 " | 28'1" |
|  |  | 16 | 36' 10" | 29'3" | 25' 7 " |
|  |  | 24 | 32' 2 " | $25^{\prime \prime}$ | 22'4" |

Notes:
1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section and shear moment interaction through the perforated section 10 away from the end bearing.
2 A $1 / 3$ stress increase is not used.
3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

4 Listed limiting heights are based on steel properties only.
5 End reactions must be checked for web crippling separately
6 Web crippling check based on 1 -inch end bearing. Where limiting heights are followed by "e", web stiffeners are required.
7 Allowable moment is the lesser of local and distortional buckling. Stud distortional buckling based on an assumed $K \phi=0$.

8 Members marked with an ' have $\mathrm{h} / \mathrm{t}>200$, and thus require end stiffeners.
9 Capacities are calculated according to the AISI S100-16 (2020) w/S2-20. A $1-1 / 2^{\prime \prime}$ by $4^{\prime \prime}$ knockout spaced no closer than $24^{\prime \prime}$ o.c. is assumed. (3/4" for 2-1/2" studs).
10 All values are based on Fy=33ksi for 33 mil and 43 mil Studs, and $F y=50$ ksi for 54 mil, 68 mil and 97 mil Studs.
11 For deflection calculations, interior wall loads have been multiplied by 1.0 per AISI S240.

|  | Member | Spacing (in) o.c. | 5 psf |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | L/120 | L/240 | L/360 |
|  | 550S137-33 | 12 | 31' 7 " | 25' 7 " | 22' 5" |
|  |  | 16 | $27{ }^{\prime \prime}$ | 23' 3" | 20'4" |
|  |  | 24 | 22'4" | $20^{\prime \prime} 4^{\prime \prime}$ | $17^{\prime \prime}{ }^{\prime \prime}$ |
|  |  | 12 | 35' 2 " | 27'11" | 24'4" |
|  | 550S137-43 | 16 | 31' 11" | 25'4" | 22' ${ }^{\prime \prime}$ |
|  |  | 24 | 26'9" | 22' 2 " | 19'4" |
|  |  | 12 | $37{ }^{\prime \prime} 8$ | 29'11" | 26'1" |
|  | 550S137-54 | 16 | 34' ${ }^{\prime \prime}$ | 27' ${ }^{\prime \prime}$ | 23'9" |
|  |  | 24 | $29^{\prime \prime} 11{ }^{\prime \prime}$ | 23' 9 " | 20'9" |
|  |  | 12 | 40'4" | $32^{\prime \prime} 0$ | $28^{\prime \prime} 0$ |
|  | 550S137-68 | 16 | $36^{\prime \prime} 8$ | 29'1" | 25'5" |
|  |  | 24 | $32^{\prime \prime} 0$ | 25' 5" | 22' ${ }^{\prime \prime}$ |
|  |  | 12 | $44^{\prime} 7$ " | 35' 5" | 30'11" |
|  | 550S137-97 | 16 | 40' 6" | 32' 2 " | 28'1" |
|  |  | 24 | $35^{\prime \prime} 5^{\prime \prime}$ | $28^{\prime \prime} 1{ }^{\prime \prime}$ | $24^{\prime} 6$ " |
|  |  |  |  |  |  |
|  |  | 12 | 33' 8" | 26' 9" | 23'4" |
|  | 550S162-33 | 16 | 29'5" | 24'4" | 21'3" |
|  |  | 24 | $24^{\prime \prime} 0$ | 21'3" | 18'6" |
|  |  | 12 | $36{ }^{\prime \prime}$ | 29'1" | 25' 5" |
|  | 550S162-43 | 16 | $33^{\prime \prime}$ " $^{\prime}$ | 26'5" | 23'1" |
|  |  | 24 | 29'1" | 23'1" | 20' ${ }^{\prime \prime}$ |
|  |  | 12 | 39'4" | $31^{\prime \prime}{ }^{\prime \prime}$ | 27'3" |
|  | 550S162-54 | 16 | 35' 9" | 28'5" | 24'9" |
|  |  | 24 | 31'3" | 24'9" | 21'8" |
|  |  | 12 | 42' 2 " | 33' ${ }^{\prime \prime}$ | 29'3" |
|  | 550S162-68 | 16 | 38'4" | 30' 5' | 26'7" |
|  |  | 24 | 33' 6 " | $26^{\prime \prime} 7$ | 23' ${ }^{\prime \prime}$ |
|  |  | 12 | 46' 9" | 37'1" | 32' 5" |
|  | 550S162-97 | 16 | 42'5" | 33' 8" | 29'5" |
|  |  | 24 | 37' 1" | $29^{\prime \prime}{ }^{\prime \prime}$ | 25' 8" |


|  | Member | Spacing (in) o.c. | 5psf |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | L/120 | L/240 | L/360 |
| 5-1/2" Structural Framing | 550S200-33 | 12 | $35{ }^{\prime \prime}$ | 28'0" | 24' 6" |
|  |  | 16 | $31{ }^{\prime \prime}$ | 25' 5" | 22'3" |
|  |  | 24 | 25' 7 " | 22'3" | $19^{\prime \prime} 5^{\prime \prime}$ |
|  | 550S200-43 | 12 | 38'7" | 30'7" | 26' 9 " |
|  |  | 16 | 35' 1" | 27' 10" | $24^{\prime \prime} 4^{\prime \prime}$ |
|  |  | 24 | 30' $6^{\prime \prime}$ | $24^{\prime \prime}{ }^{\prime \prime}$ | 21'3" |
|  | 550S200-54 | 12 | 41' 5" | 32'10" | 28' 8" |
|  |  | 16 | 37' 7 " | 29'10" | $26^{\prime \prime} 1$ |
|  |  | 24 | 32' 10" | 26'1" | 22'9" |
|  | 550S200-68 | 12 | 44'5" | 35' 3" | 30' 10" |
|  |  | 16 | 40' ${ }^{\prime \prime}$ | 32 0" | 28' 0 " |
|  |  | 24 | $35^{\prime \prime} 3^{\prime \prime}$ | $28^{\prime \prime} 0$ | $24^{\prime \prime}{ }^{\prime \prime}$ |
|  | 550S200-97 | 12 | $49^{\prime \prime} 3^{\prime \prime}$ | 39'1" | 34' ${ }^{\prime \prime}$ |
|  |  | 16 | $44{ }^{\prime \prime}{ }^{\prime \prime}$ | $35^{\prime}$ 6" | 31' 1" |
|  |  | 24 | $39^{\prime \prime} 1{ }^{\prime \prime}$ | $31^{\prime \prime} 1$ | $27^{\prime \prime} 1$ |
|  |  |  |  |  |  |
|  | 550S250-43 | 12 | 40' 5" | $32^{\prime \prime} 1$ | 28'1" |
|  |  | 16 | 36' 9" | 29' 2 " | 25' 6" |
|  |  | 24 | $31{ }^{\prime \prime}$ | 25'6" | $22^{\prime \prime} 3^{\prime \prime}$ |
|  | 550S250-54 | 12 | $43^{\prime \prime}{ }^{\prime \prime}$ | $34^{\prime \prime} 4^{\prime \prime}$ | $30^{\prime \prime} 0$ |
|  |  | 16 | 39' 3 " | 31' ${ }^{\prime \prime}$ | $27^{\prime \prime}{ }^{\prime \prime}$ |
|  |  | 24 | $34^{\prime \prime} 4^{\prime \prime}$ | 27'3" | $23^{\prime} 10$ " |
|  | 550S250-68 | 12 | 46' 7 " | 37' 0" | 32' 4" |
|  |  | 16 | 42' 4 " | 33' 7 " | 29'4" |
|  |  | 24 | $37{ }^{\prime \prime}$ | 29'4" | $25^{\prime \prime} 8^{\prime \prime}$ |
|  | 550S250-97 | 12 | 51' 10" | 41' ${ }^{\prime \prime}$ | 35' 11" |
|  |  | 16 | 47'1" | $37^{\prime} 4^{\prime \prime}$ | 32' 8" |
|  |  | 24 | 41' 2 " | 32 8" | $28^{\prime \prime} 6^{\prime \prime}$ |

## Notes:

1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section and shear moment interaction through the perforated section 10" away from the end bearing.
$2 \mathrm{~A} 1 / 3$ stress increase is not used.
3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

4 Listed limiting heights are based on steel properties only.
5 End reactions must be checked for web crippling separately.
6 Web crippling check based on 1 -inch end bearing. Where limiting heights Web crippling check based on 1 -inch end bearin
are followed by "e", web stiffeners are required.
7 Allowable moment is the lesser of local and distortional buckling. Stud distortional buckling based on an assumed $K \phi=0$.

8 Members marked with an 'have $\mathrm{h} / \mathrm{t}>200$, and thus require end stiffeners.
9 Capacities are calculated according to the AISI S100-16 (2020) w/S2-20. A 1-1/2" by $4^{\prime \prime}$ knockout spaced no closer than $24^{\prime \prime}$ o.c. is assumed. (3/4" for 2-1/2" studs).
10 All values are based on Fy=33ksi for 33 mil and 43 mil Studs, and $\mathrm{Fy}=50 \mathrm{ksi}$ for 54 mil, 68 mil and 97 mil Studs.

11 For deflection calculations, interior wall loads have been multiplied by 1.0 per AISI S240.



Notes:
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8 Members marked with an 'have $h / t>200$, and thus require end stiffeners.
9 Capacities are calculated according to the AISI S100-16 (2020) w/S2-20. A 1-1/2" by 4 " knockout spaced no closer than $24^{\prime \prime}$ o.c. is assumed. ( $3 / 4^{\prime \prime}$ for 2-1/2" studs).
10 All values are based on Fy=33ksi for 33 mil and 43 mil Studs, and $\mathrm{Fy}=50 \mathrm{ksi}$ for 54 mil, 68 mil and 97 mil Studs.

11 For deflection calculations, interior wall loads have been multiplied by 1.0 per AISI S240.

|  |  |  |  | 5psf |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Member | Spacing (in) o.c. | L/120 | L/240 | L/360 |
|  | 800S137-33 ${ }^{1}$ | 12 | 37' 10" | $34^{\prime \prime} 0$ | 29' 8" |
|  |  | 16 | 32'9" | 30'11" | $27{ }^{\prime \prime}$ |
|  |  | 24 | 26'9" | 26'9" | $23^{\prime \prime} 7$ |
|  | 800S137-43 | 12 | 45' 11" | 37' 5" | 32 8" |
|  |  | 16 | 39' 9" | $34{ }^{\prime \prime}$ | 29' 9" |
|  |  | 24 | 32' 5" | 29'9" | $25^{\prime \prime} 11{ }^{\prime \prime}$ |
|  | 800S137-54 | 12 | 50' 9" | 40'3" | 35' ${ }^{\prime \prime}$ |
|  |  | 16 | 46' 1" | 36' 7 " | 31' 11" |
|  |  | 24 | 40'3" | 31' 11" | $27^{\prime \prime 11}$ |
|  | 800S137-68 | 12 | $54{ }^{\prime} 10$ | $43^{\prime} 6{ }^{\prime \prime}$ | $38^{\prime \prime} 0$ |
|  |  | 16 | $49^{\prime} 10$ " | $39^{\prime \prime}$ " | $34^{\prime \prime} 6^{\prime \prime}$ |
|  |  | 24 | 43' 6" | $34^{\prime \prime} 6^{\prime \prime}$ | 30' 2 " |
|  | 800S137-97 | 12 | 60' 10" | 48' 4 " | 42' 2 " |
|  |  | 16 | 55' 4 " | 43'11" | 38' ' $^{\prime \prime}$ |
|  |  | 24 | 48'4" | $38^{\prime \prime} 4^{\prime \prime}$ | $33^{\prime \prime} 6^{\prime \prime}$ |
|  |  |  |  |  |  |
|  | 800S162-33 ${ }^{1}$ | 12 | $41^{\prime} 0$ " | 35' $5^{\prime \prime}$ | 30'11" |
|  |  | 16 | 35' 6" | 32' 2 " | 28'1" |
|  |  | 24 | 29'0" e | 28'1" | 24'7" |
|  | 800S162-43 | 12 | 49'1" | 38'11" | $34^{\prime} 0$ " |
|  |  | 16 | 42' 10" | $35{ }^{\prime \prime}$ | 30' 11" |
|  |  | 24 | 35' 0 " | 30'11" | 27' 0 " |
|  | 800S162-54 | 12 | 52' 9" | 41'10" | 36' 7 " |
|  |  | 16 | 47' 11" | 38'1" | $33^{\prime} 3^{\prime \prime}$ |
|  |  | 24 | 41' 10" | $33^{\prime} 3$ " | 29'0" |
|  | 800S162-68 | 12 | $57{ }^{\prime \prime} 0$ | 45' ${ }^{\prime \prime}$ | $39^{\prime \prime}$ " |
|  |  | 16 | 51' 10" | 41' 1" | 35' 11" |
|  |  | 24 | 45' ${ }^{\prime \prime}$ | 35' 11" | 31'5" |
|  | 800S162-97 | 12 | 63' 5" | 50' 4" | $43^{\prime} 11{ }^{\prime \prime}$ |
|  |  | 16 | 57' 7" | 45' 9" | 39' 11" |
|  |  | 24 | 50' $\mathbf{4}^{\prime \prime}$ | 39'11" | $34^{\prime \prime} 11{ }^{\prime \prime}$ |


|  | Member | Spacing (in) o.c. | 5 psf |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | L/120 | L/240 | L/360 |
| 皆 | 800S200-33 ${ }^{1}$ | 12 | $44^{\prime \prime} 0$ | 37' 9' | $33^{\prime \prime} 0$ |
|  |  | 16 | 38'1" | $34^{\prime \prime}{ }^{\prime \prime}$ | 29' 11" |
|  |  | 24 | 31'1" e | 29'11" e | $26^{\prime \prime} 2^{\prime \prime}$ |
|  | 800S200-43 | 12 | 51' 10" | 41'1" | 35' 11" |
|  |  | 16 | 45' 10" | $37^{\prime \prime}{ }^{\prime \prime}$ | $32{ }^{\prime \prime}$ |
|  |  | 24 | 37' 5" | 32 8" | 28' 6 " |
|  | 800S200-54 | 12 | $55{ }^{\prime \prime}$ | $44^{\prime \prime} 2^{\prime \prime}$ | 38' 7 " |
|  |  | 16 | $50^{\prime} 7$ " | $40^{\prime \prime} 2^{\prime \prime}$ | $35^{\prime \prime} 1{ }^{\prime \prime}$ |
|  |  | 24 | 44' 2 " | 35'1" | 30' 8" |
|  | 800S200-68 | 12 | 59' 9" | 47' 5" | 41' 5" |
|  |  | 16 | $54^{\prime \prime} \mathbf{4 "}^{\prime \prime}$ | $43^{\prime \prime} 1{ }^{\prime \prime}$ | 37' 8" |
|  |  | 24 | 47' 5" | 371 8" | 32' 11" |
|  | 800S200-97 | 12 | $66^{\prime \prime} 6^{\prime \prime}$ | 52 9" | $46^{\prime \prime} 1{ }^{\prime \prime}$ |
|  |  | 16 | $60^{\prime \prime} 5^{\prime \prime}$ | 47' 11" | 41' 11" |
|  |  | 24 | $52^{\prime \prime} 9$ | 41' 11" | 36' 7 " |
|  |  |  |  |  |  |
|  | 800S250-43 | 12 | $54^{\prime \prime} 0$ | 42' 11" | $37{ }^{\prime \prime} 6^{\prime \prime}$ |
|  |  | 16 | $47^{\prime \prime} 0$ | $39^{\prime \prime} 0^{\prime \prime}$ | $34^{\prime \prime} 0$ |
|  |  | 24 | 38' 4 " | $34^{\prime \prime} 0^{\prime \prime}$ | 29' 9" |
|  | 800S250-54 | 12 | $57{ }^{\prime} 10$ | 45' 11" | $40^{\prime \prime} 1{ }^{\prime \prime}$ |
|  |  | 16 | $52^{\prime \prime} 7$ | $41^{\prime \prime} 8$ | $36^{\prime \prime} 5^{\prime \prime}$ |
|  |  | 24 | 45' 11" | $36^{\prime \prime} 5^{\prime \prime}$ | 31' 10" |
|  | 800S250-68 | 12 | $62^{\prime \prime}$ | $49^{\prime} 6$ " | 43' ${ }^{\prime \prime}$ |
|  |  | 16 | $56{ }^{\prime \prime}$ | 44' 11" | 39' ${ }^{\prime \prime}$ |
|  |  | 24 | $49^{\prime \prime} \mathbf{6}^{\prime \prime}$ | 39' 3" | $34^{\prime \prime} 4^{\prime \prime}$ |
|  | 800S250-97 | 12 | 69 ' 6" | $55^{\prime \prime} 2^{\prime \prime}$ | 48' 2 " |
|  |  | 16 | $63^{\prime \prime} 2$ | $50^{\prime \prime} 1{ }^{\prime \prime}$ | $43^{\prime \prime} 9$ |
|  |  | 24 | $55 ' 2$ | $43^{\prime \prime} 9$ | $38{ }^{\prime \prime}$ |

## Notes:

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