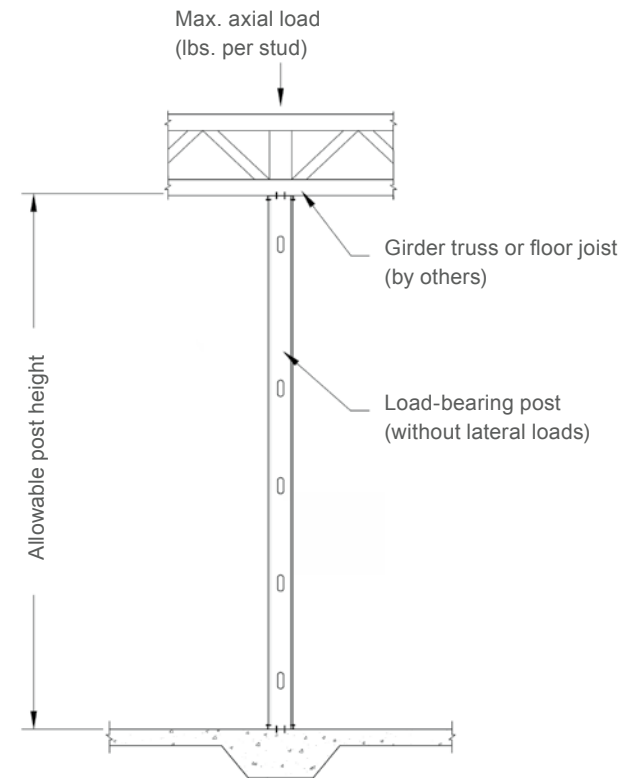
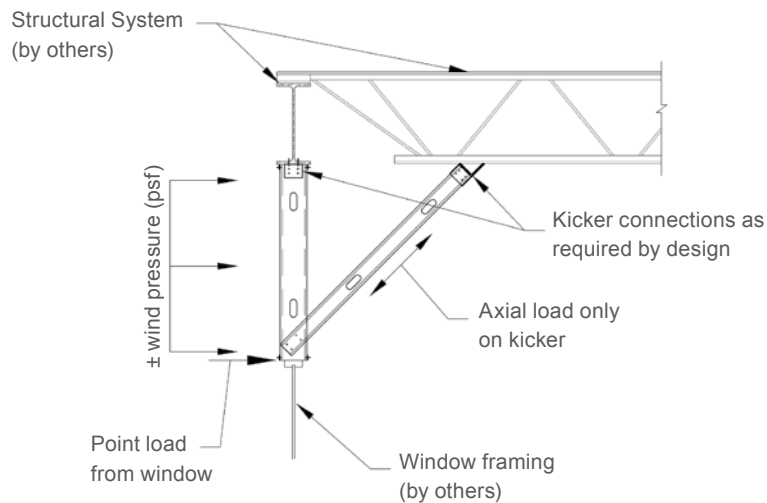


Allowable Unbraced Axial Loads

General Notes:

- 1 Allowable axial loads listed in kips (1 kip=1000 pounds).
- 2 Allowable axial loads do not include a 1/3 allowable stress increase.
- 3 Allowable axial loads are based on punched webs. Punchout is a 4" long by 1-1/2" high oval.
- 4 Allowable axial loads are based on concentric axial loading condition only.
- 5 The lengths indicated are for unbraced lengths. The addition of intermediate bracing may increase the allowable axial loads.
- 6 Listed axial loads marked with " * " indicates the $KL/r > 300$.
- 7 Listed axial loads marked with " ws " indicates that $h/t > 200$. This indicates that web stiffeners are required to prevent web crippling at points of concentrated loads.
- 8 Listed capacities are calculated per AISI S100-16 (2020) w/S2-20.



Complies with AISI S100-16 (2020) w/S2-20 • IBC 2021

ALLOWABLE UNBRACED AXIAL LOADS

Based on length (Kips)

| Member | F _y (ksi) | Unbraced Length (ft) | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|----------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| 3-5/8" Stud | 362S137-33 | 33 | 2.66 | 2.59 | 2.49 | 2.38 | 2.21 | 2.02 | 1.82 | 1.44 | 1.09 | 0.86 | 0.70 | 0.56 | 0.46 | 0.38 | 0.32 | 0.27 * | 0.23 * | 0.2 * | 0.18 * | 0.16 * | 0.14 * | 0.13 * | 0.11 * |
| | 362S137-43 | 33 | 3.81 | 3.67 | 3.49 | 3.27 | 3.03 | 2.78 | 2.52 | 2.02 | 1.57 | 1.18 | 0.90 | 0.71 | 0.58 | 0.48 | 0.40 | 0.34 * | 0.3 * | 0.26 * | 0.23 * | 0.2 * | 0.18 * | 0.16 * | 0.14 * |
| | 362S137-54 | 50 | 6.88 | 6.62 | 6.22 | 5.66 | 5.06 | 4.46 | 3.89 | 2.79 | 1.93 | 1.42 | 1.09 | 0.86 | 0.70 | 0.58 | 0.48 | 0.41 * | 0.36 * | 0.31 * | 0.27 * | 0.24 * | 0.21 * | 0.19 * | 0.17 * |
| | 362S137-68 | 50 | 9.28 | 8.78 | 8.14 | 7.43 | 6.67 | 5.83 | 4.93 | 3.31 | 2.30 | 1.69 | 1.29 | 1.02 | 0.83 | 0.68 | 0.57 | 0.49 * | 0.42 * | 0.37 * | 0.32 * | 0.29 * | 0.26 * | 0.23 * | 0.21 * |
| | 362S137-97 | 50 | 13.07 | 12.32 | 11.32 | 10.14 | 8.87 | 7.57 | 6.31 | 4.15 | 2.88 | 2.12 | 1.62 | 1.28 | 1.04 | 0.86 | 0.72 * | 0.61 * | 0.53 * | 0.46 * | 0.4 * | 0.36 * | 0.32 * | 0.29 * | 0.26 * |
| | 362S162-33 | 33 | 3.12 | 3.05 | 2.96 | 2.84 | 2.69 | 2.50 | 2.29 | 1.87 | 1.47 | 1.14 | 0.91 | 0.75 | 0.63 | 0.53 | 0.46 | 0.41 | 0.37 | 0.33 | 0.3 * | 0.27 * | 0.24 * | 0.22 * | 0.2 * |
| | 362S162-43 | 33 | 4.43 | 4.30 | 4.12 | 3.91 | 3.67 | 3.40 | 3.13 | 2.58 | 2.06 | 1.60 | 1.28 | 1.05 | 0.89 | 0.77 | 0.68 | 0.59 | 0.51 | 0.44 | 0.39 * | 0.35 * | 0.31 * | 0.28 * | 0.25 * |
| | 362S162-54 | 50 | 7.99 | 7.74 | 7.44 | 6.87 | 6.24 | 5.60 | 4.96 | 3.76 | 2.75 | 2.13 | 1.73 | 1.45 | 1.21 | 1.00 | 0.84 | 0.72 | 0.62 | 0.54 | 0.47 * | 0.42 * | 0.37 * | 0.34 * | 0.3 * |
| | 362S162-68 | 50 | 10.79 | 10.31 | 9.68 | 8.95 | 8.16 | 7.31 | 6.46 | 4.92 | 3.70 | 2.94 | 2.28 | 1.80 | 1.46 | 1.20 | 1.01 | 0.86 | 0.74 | 0.65 * | 0.57 * | 0.5 * | 0.45 * | 0.4 * | 0.36 * |
| | 362S162-97 | 50 | 15.24 | 14.50 | 13.58 | 12.55 | 11.48 | 10.43 | 9.43 | 7.30 | 5.21 | 3.83 | 2.93 | 2.32 | 1.88 | 1.55 | 1.30 | 1.11 | 0.96 | 0.83 * | 0.73 * | 0.65 * | 0.58 * | 0.52 * | 0.47 * |
| | 362S200-33 | 33 | 3.41 | 3.35 | 3.26 | 3.15 | 3.02 | 2.88 | 2.72 | 2.35 | 1.96 | 1.53 | 1.21 | 0.99 | 0.82 | 0.69 | 0.59 | 0.52 | 0.46 | 0.41 | 0.37 | 0.33 | 0.30 | 0.28 | 0.26 * |
| | 362S200-43 | 33 | 5.12 | 5.03 | 4.88 | 4.70 | 4.47 | 4.20 | 3.90 | 3.28 | 2.68 | 2.12 | 1.66 | 1.35 | 1.13 | 0.96 | 0.83 | 0.73 | 0.66 | 0.59 | 0.54 | 0.50 | 0.46 | 0.43 | 0.4 * |
| | 362S200-54 | 50 | 8.79 | 8.62 | 8.41 | 8.12 | 7.70 | 7.02 | 6.30 | 4.90 | 3.62 | 2.75 | 2.18 | 1.79 | 1.51 | 1.31 | 1.15 | 1.03 | 0.93 | 0.85 | 0.78 | 0.72 | 0.68 | 0.62 | 0.56 * |
| | 362S200-68 | 50 | 12.43 | 12.11 | 11.64 | 10.87 | 10.02 | 9.12 | 8.15 | 6.30 | 4.72 | 3.64 | 2.94 | 2.46 | 2.11 | 1.85 | 1.65 | 1.50 | 1.37 | 1.21 | 1.06 | 0.94 | 0.84 | 0.75 * | 0.68 * |
| | 362S200-97 | 50 | 18.07 | 17.33 | 16.37 | 15.26 | 14.06 | 12.82 | 11.61 | 9.35 | 7.44 | 5.96 | 4.98 | 4.30 | 3.58 | 2.96 | 2.49 | 2.12 | 1.83 | 1.59 | 1.40 | 1.24 | 1.11 | 0.99 * | 0.9 * |
| | 362S250-43 | 33 | 5.25 | 5.16 | 5.04 | 4.89 | 4.71 | 4.51 | 4.29 | 3.80 | 3.15 | 2.49 | 1.95 | 1.57 | 1.30 | 1.09 | 0.94 | 0.82 | 0.73 | 0.65 | 0.59 | 0.53 | 0.49 | 0.45 | 0.42 |
| | 362S250-54 | 50 | 9.00 | 8.77 | 8.46 | 8.08 | 7.63 | 7.13 | 6.64 | 5.67 | 4.25 | 3.20 | 2.51 | 2.04 | 1.70 | 1.45 | 1.26 | 1.11 | 0.99 | 0.90 | 0.82 | 0.75 | 0.70 | 0.65 | 0.61 |
| | 362S250-68 | 50 | 12.44 | 12.16 | 11.78 | 11.32 | 10.80 | 10.00 | 9.13 | 7.36 | 5.46 | 4.15 | 3.30 | 2.72 | 2.30 | 1.99 | 1.75 | 1.57 | 1.42 | 1.30 | 1.19 | 1.11 | 1.04 | 0.98 | 0.92 |
| 362S250-97 | 50 | 19.64 | 18.98 | 18.14 | 17.19 | 16.24 | 14.88 | 13.43 | 10.69 | 8.30 | 6.50 | 5.32 | 4.50 | 3.91 | 3.47 | 3.12 | 2.84 | 2.62 | 2.43 | 2.27 | 2.13 | 1.96 | 1.76 | 1.59 | |
| 4" Stud | 400S137-33 | 33 | 2.69 | 2.62 | 2.53 | 2.42 | 2.27 | 2.09 | 1.90 | 1.52 | 1.18 | 0.91 | 0.72 | 0.58 | 0.48 | 0.39 | 0.33 | 0.28 * | 0.24 * | 0.21 * | 0.19 * | 0.17 * | 0.15 * | 0.13 * | 0.12 * |
| | 400S137-43 | 33 | 3.86 | 3.73 | 3.56 | 3.36 | 3.13 | 2.88 | 2.63 | 2.13 | 1.62 | 1.23 | 0.95 | 0.75 | 0.61 | 0.50 | 0.42 | 0.36 * | 0.31 * | 0.27 * | 0.24 * | 0.21 * | 0.19 * | 0.17 * | 0.15 * |
| | 400S137-54 | 50 | 6.99 | 6.74 | 6.39 | 5.85 | 5.28 | 4.68 | 4.04 | 2.85 | 2.03 | 1.49 | 1.14 | 0.90 | 0.73 | 0.60 | 0.51 | 0.43 * | 0.37 * | 0.32 * | 0.28 * | 0.25 * | 0.23 * | 0.2 * | 0.18 * |
| | 400S137-68 | 50 | 9.51 | 9.04 | 8.44 | 7.70 | 6.89 | 6.04 | 5.18 | 3.47 | 2.41 | 1.77 | 1.35 | 1.07 | 0.87 | 0.72 | 0.6 * | 0.51 * | 0.44 * | 0.39 * | 0.34 * | 0.3 * | 0.27 * | 0.24 * | 0.22 * |
| | 400S137-97 | 50 | 14.09 | 13.24 | 12.13 | 10.84 | 9.45 | 8.03 | 6.66 | 4.35 | 3.02 | 2.22 | 1.70 | 1.34 | 1.09 | 0.90 | 0.76 * | 0.64 * | 0.56 * | 0.48 * | 0.42 * | 0.38 * | 0.34 * | 0.3 * | 0.27 * |
| | 400S162-33 | 33 | 3.15 | 3.08 | 3.00 | 2.89 | 2.75 | 2.58 | 2.39 | 1.99 | 1.60 | 1.25 | 1.01 | 0.83 | 0.70 | 0.61 | 0.53 | 0.46 | 0.41 | 0.36 | 0.32 * | 0.28 * | 0.25 * | 0.23 * | 0.21 * |
| | 400S162-43 | 33 | 4.49 | 4.37 | 4.20 | 4.01 | 3.78 | 3.54 | 3.28 | 2.75 | 2.24 | 1.78 | 1.45 | 1.20 | 1.01 | 0.86 | 0.73 | 0.62 | 0.53 | 0.47 | 0.41 * | 0.36 * | 0.32 * | 0.29 * | 0.26 * |
| | 400S162-54 | 50 | 8.10 | 7.88 | 7.59 | 7.10 | 6.51 | 5.90 | 5.28 | 4.10 | 3.10 | 2.43 | 1.96 | 1.57 | 1.27 | 1.05 | 0.88 | 0.75 | 0.65 | 0.56 * | 0.5 * | 0.44 * | 0.39 * | 0.35 * | 0.32 * |
| | 400S162-68 | 50 | 11.03 | 10.58 | 10.00 | 9.32 | 8.58 | 7.80 | 7.03 | 5.56 | 4.21 | 3.11 | 2.38 | 1.88 | 1.53 | 1.26 | 1.06 | 0.90 | 0.78 | 0.68 * | 0.6 * | 0.53 * | 0.47 * | 0.42 * | 0.38 * |
| | 400S162-97 | 50 | 16.31 | 15.59 | 14.68 | 13.64 | 12.55 | 11.45 | 10.21 | 7.69 | 5.47 | 4.02 | 3.07 | 2.43 | 1.97 | 1.63 | 1.37 | 1.16 | 1.00 | 0.87 * | 0.77 * | 0.68 * | 0.61 * | 0.55 * | 0.49 * |
| | 400S200-33 | 33 | 3.44 | 3.38 | 3.30 | 3.20 | 3.09 | 2.96 | 2.81 | 2.48 | 2.12 | 1.71 | 1.36 | 1.11 | 0.93 | 0.80 | 0.69 | 0.60 | 0.53 | 0.47 | 0.42 | 0.38 | 0.35 | 0.32 | 0.3 * |
| | 400S200-43 | 33 | 5.17 | 5.09 | 4.96 | 4.80 | 4.60 | 4.35 | 4.08 | 3.50 | 2.92 | 2.38 | 1.91 | 1.57 | 1.31 | 1.11 | 0.96 | 0.84 | 0.75 | 0.68 | 0.62 | 0.56 | 0.52 | 0.48 | 0.45 * |
| | 400S200-54 | 50 | 8.89 | 8.75 | 8.55 | 8.32 | 7.93 | 7.40 | 6.72 | 5.37 | 4.13 | 3.20 | 2.53 | 2.07 | 1.75 | 1.50 | 1.32 | 1.17 | 1.06 | 0.96 | 0.88 | 0.81 | 0.72 | 0.65 * | 0.59 * |
| | 400S200-68 | 50 | 12.66 | 12.37 | 12.00 | 11.30 | 10.52 | 9.68 | 8.82 | 7.12 | 5.50 | 4.22 | 3.39 | 2.83 | 2.42 | 2.11 | 1.88 | 1.69 | 1.45 | 1.27 | 1.11 | 0.99 | 0.88 | 0.79 * | 0.71 * |
| | 400S200-97 | 50 | 19.17 | 18.46 | 17.55 | 16.47 | 15.29 | 14.07 | 12.84 | 10.51 | 8.49 | 6.83 | 5.68 | 4.63 | 3.75 | 3.10 | 2.61 | 2.22 | 1.91 | 1.67 | 1.47 | 1.30 | 1.16 | 1.04 * | 0.94 * |
| | 400S250-43 | 33 | 5.30 | 5.22 | 5.12 | 4.99 | 4.83 | 4.66 | 4.46 | 4.01 | 3.47 | 2.84 | 2.27 | 1.85 | 1.54 | 1.29 | 1.11 | 0.97 | 0.85 | 0.76 | 0.69 | 0.62 | 0.57 | 0.53 | 0.49 |
| | 400S250-54 | 50 | 9.12 | 8.92 | 8.65 | 8.31 | 7.91 | 7.47 | 6.98 | 6.15 | 4.94 | 3.78 | 2.98 | 2.41 | 2.01 | 1.71 | 1.48 | 1.30 | 1.16 | 1.04 | 0.95 | 0.87 | 0.80 | 0.75 | 0.70 |
| | 400S250-68 | 50 | 12.67 | 12.42 | 12.09 | 11.69 | 11.22 | 10.59 | 9.82 | 8.37 | 6.49 | 4.92 | 3.90 | 3.20 | 2.69 | 2.32 | 2.03 | 1.81 | 1.63 | 1.49 | 1.37 | 1.27 | 1.19 | 1.11 | 1.05 |
| 400S250-97 | 50 | 20.74 | 20.13 | 19.33 | 18.41 | 17.45 | 16.34 | 14.92 | 12.15 | 9.68 | 7.61 | 6.20 | 5.22 | 4.51 | 3.98 | 3.58 | 3.25 | 2.99 | 2.77 | 2.59 | 2.30 | 2.05 | 1.84 | 1.66 | |

Notes:

- For additional general notes, see page 56.
- Listed axial loads marked with "*" indicate the KL/r > 300.
- Listed axial loads marked with "ws" indicate that h/t > 200.
This indicates that web stiffeners are required to prevent web crippling at points of concentrated loads.
- Listed capacities are calculated per AISI S100-16 (2020) w/S2-20.

Complies with AISI S100-16 (2020) w/S2-20 • IBC 2021

ALLOWABLE UNBRACED AXIAL LOADS

Based on length (Kips)

| Member | F _y (ksi) | Unbraced Length (ft) | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|----------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| 5-1/2" Stud | 550S137-33 | 33 | 2.73 | 2.66 | 2.56 | 2.46 | 2.30 | 2.11 | 1.91 | 1.50 | 1.13 | 0.87 | 0.70 | 0.57 | 0.48 | 0.41 | 0.35 * | 0.31 * | 0.27 * | 0.24 * | 0.21 * | 0.19 * | 0.17 * | 0.15 * | 0.14 * |
| | 550S137-43 | 33 | 3.95 | 3.82 | 3.64 | 3.43 | 3.19 | 2.92 | 2.64 | 2.09 | 1.57 | 1.21 | 0.97 | 0.80 | 0.67 | 0.57 | 0.48 * | 0.41 * | 0.35 * | 0.31 * | 0.27 * | 0.24 * | 0.21 * | 0.19 * | 0.17 * |
| | 550S137-54 | 50 | 7.17 | 6.91 | 6.52 | 5.93 | 5.29 | 4.63 | 3.97 | 2.79 | 2.06 | 1.59 | 1.27 | 1.03 | 0.84 | 0.69 | 0.58 * | 0.49 * | 0.43 * | 0.37 * | 0.33 * | 0.29 * | 0.26 * | 0.23 * | 0.21 * |
| | 550S137-68 | 50 | 9.87 | 9.36 | 8.68 | 7.88 | 7.01 | 6.10 | 5.20 | 3.64 | 2.67 | 2.03 | 1.55 | 1.23 | 0.99 | 0.82 | 0.69 * | 0.59 * | 0.51 * | 0.44 * | 0.39 * | 0.34 * | 0.31 * | 0.28 * | 0.25 * |
| | 550S137-97 | 50 | 15.46 | 14.59 | 13.45 | 12.10 | 10.64 | 9.13 | 7.65 | 5.02 | 3.48 | 2.56 | 1.96 | 1.55 | 1.25 | 1.04 * | 0.87 * | 0.74 * | 0.64 * | 0.56 * | 0.49 * | 0.43 * | 0.39 * | 0.35 * | 0.31 * |
| | 550S162-33 | 33 | 3.20 | 3.15 | 3.07 | 2.99 | 2.87 | 2.74 | 2.57 | 2.20 | 1.81 | 1.45 | 1.15 | 0.94 | 0.78 | 0.67 | 0.58 | 0.50 | 0.44 | 0.39 * | 0.35 * | 0.32 * | 0.29 * | 0.26 * | 0.23 * |
| | 550S162-43 | 33 | 4.60 | 4.50 | 4.36 | 4.19 | 3.99 | 3.77 | 3.53 | 3.02 | 2.50 | 1.99 | 1.59 | 1.30 | 1.09 | 0.92 | 0.80 | 0.69 | 0.61 | 0.53 * | 0.47 * | 0.41 * | 0.37 * | 0.33 * | 0.3 * |
| | 550S162-54 | 50 | 8.32 | 8.13 | 7.87 | 7.50 | 6.96 | 6.38 | 5.76 | 4.53 | 3.39 | 2.61 | 2.08 | 1.70 | 1.42 | 1.20 | 1.01 | 0.86 | 0.74 | 0.65 * | 0.57 * | 0.5 * | 0.45 * | 0.4 * | 0.36 * |
| | 550S162-68 | 50 | 11.47 | 11.08 | 10.56 | 9.92 | 9.20 | 8.41 | 7.59 | 5.93 | 4.43 | 3.40 | 2.70 | 2.16 | 1.75 | 1.45 | 1.22 | 1.04 | 0.89 | 0.78 * | 0.68 * | 0.61 * | 0.54 * | 0.49 * | 0.44 * |
| | 550S162-97 | 50 | 17.79 | 17.15 | 16.29 | 15.26 | 14.07 | 12.80 | 11.46 | 8.78 | 6.30 | 4.63 | 3.54 | 2.80 | 2.27 | 1.87 | 1.57 | 1.34 | 1.16 * | 1.01 * | 0.89 * | 0.78 * | 0.7 * | 0.63 * | 0.57 * |
| | 550S200-33 | 33 | 3.49 | 3.45 | 3.39 | 3.32 | 3.23 | 3.13 | 3.02 | 2.76 | 2.46 | 2.15 | 1.80 | 1.48 | 1.24 | 1.06 | 0.92 | 0.81 | 0.72 | 0.65 | 0.59 | 0.54 | 0.49 | 0.45 * | 0.41 * |
| | 550S200-43 | 33 | 5.28 | 5.22 | 5.13 | 5.01 | 4.86 | 4.69 | 4.48 | 4.00 | 3.50 | 3.00 | 2.53 | 2.09 | 1.77 | 1.52 | 1.33 | 1.18 | 1.05 | 0.94 | 0.84 | 0.75 | 0.68 | 0.61 * | 0.55 * |
| | 550S200-54 | 50 | 9.11 | 9.00 | 8.85 | 8.67 | 8.46 | 8.12 | 7.67 | 6.50 | 5.34 | 4.27 | 3.45 | 2.87 | 2.45 | 2.09 | 1.80 | 1.56 | 1.37 | 1.20 | 1.05 | 0.93 | 0.83 | 0.75 * | 0.67 * |
| | 550S200-68 | 50 | 13.11 | 12.90 | 12.62 | 12.20 | 11.58 | 10.90 | 10.18 | 8.68 | 7.22 | 5.87 | 4.74 | 3.86 | 3.21 | 2.70 | 2.27 | 1.94 | 1.67 | 1.45 | 1.28 | 1.13 | 1.01 | 0.91 * | 0.82 * |
| | 550S200-97 | 50 | 20.73 | 20.24 | 19.57 | 18.77 | 17.85 | 16.86 | 15.82 | 13.54 | 11.12 | 8.78 | 6.75 | 5.33 | 4.32 | 3.57 | 3.00 | 2.56 | 2.20 | 1.92 | 1.69 | 1.49 | 1.33 * | 1.2 * | 1.08 * |
| | 550S250-43 | 33 | 5.41 | 5.36 | 5.29 | 5.20 | 5.09 | 4.96 | 4.82 | 4.50 | 4.14 | 3.72 | 3.19 | 2.69 | 2.25 | 1.92 | 1.67 | 1.47 | 1.30 | 1.17 | 1.06 | 0.97 | 0.89 | 0.82 | 0.76 |
| | 550S250-54 | 50 | 9.36 | 9.22 | 9.03 | 8.80 | 8.52 | 8.20 | 7.85 | 7.06 | 6.41 | 5.46 | 4.39 | 3.61 | 3.05 | 2.62 | 2.29 | 2.02 | 1.81 | 1.63 | 1.49 | 1.35 | 1.24 | 1.14 | 1.06 |
| | 550S250-68 | 50 | 13.13 | 12.96 | 12.73 | 12.44 | 12.11 | 11.73 | 11.31 | 10.04 | 8.87 | 7.35 | 5.97 | 4.96 | 4.21 | 3.65 | 3.21 | 2.84 | 2.53 | 2.28 | 2.08 | 1.91 | 1.76 | 1.58 | 1.43 |
| 550S250-97 | 50 | 22.32 | 21.92 | 21.39 | 20.75 | 20.04 | 19.28 | 18.54 | 16.26 | 13.97 | 11.82 | 9.86 | 8.20 | 6.98 | 6.07 | 5.30 | 4.52 | 3.89 | 3.39 | 2.98 | 2.64 | 2.36 | 2.11 | 1.91 | |
| 6" Stud | 600S137-33 | 33 | 2.73 | 2.66 | 2.56 | 2.45 | 2.29 | 2.09 | 1.89 | 1.48 | 1.11 | 0.86 | 0.69 | 0.57 | 0.48 | 0.41 | 0.35 * | 0.31 * | 0.27 * | 0.24 * | 0.22 * | 0.2 * | 0.17 * | 0.16 * | 0.14 * |
| | 600S137-43 | 33 | 3.96 | 3.83 | 3.65 | 3.43 | 3.18 | 2.91 | 2.62 | 2.05 | 1.54 | 1.20 | 0.96 | 0.79 | 0.67 | 0.57 | 0.49 * | 0.42 * | 0.37 * | 0.32 * | 0.28 * | 0.25 * | 0.22 * | 0.2 * | 0.18 * |
| | 600S137-54 | 50 | 7.20 | 6.93 | 6.51 | 5.91 | 5.26 | 4.58 | 3.91 | 2.75 | 2.03 | 1.58 | 1.27 | 1.04 | 0.86 | 0.71 | 0.6 * | 0.51 * | 0.44 * | 0.38 * | 0.34 * | 0.3 * | 0.27 * | 0.24 * | 0.22 * |
| | 600S137-68 | 50 | 9.92 | 9.39 | 8.69 | 7.87 | 6.98 | 6.06 | 5.15 | 3.60 | 2.66 | 2.06 | 1.61 | 1.27 | 1.03 | 0.85 | 0.71 * | 0.61 * | 0.53 * | 0.46 * | 0.4 * | 0.36 * | 0.32 * | 0.29 * | 0.26 * |
| | 600S137-97 | 50 | 15.65 | 14.74 | 13.56 | 12.19 | 10.69 | 9.15 | 7.64 | 5.19 | 3.61 | 2.65 | 2.03 | 1.60 | 1.30 | 1.07 * | 0.9 * | 0.77 * | 0.66 * | 0.58 * | 0.51 * | 0.45 * | 0.4 * | 0.36 * | 0.32 * |
| | 600S162-33 | 33 | 3.20 | 3.15 | 3.08 | 2.99 | 2.87 | 2.73 | 2.56 | 2.18 | 1.79 | 1.42 | 1.13 | 0.93 | 0.77 | 0.66 | 0.57 | 0.50 | 0.44 | 0.39 * | 0.35 * | 0.32 * | 0.29 * | 0.26 * | 0.24 * |
| | 600S162-43 | 33 | 4.61 | 4.51 | 4.37 | 4.19 | 3.99 | 3.77 | 3.52 | 3.00 | 2.47 | 1.97 | 1.57 | 1.29 | 1.08 | 0.92 | 0.79 | 0.69 | 0.61 | 0.54 * | 0.48 * | 0.43 * | 0.38 * | 0.34 * | 0.31 * |
| | 600S162-54 | 50 | 8.35 | 8.15 | 7.89 | 7.49 | 6.95 | 6.35 | 5.73 | 4.48 | 3.35 | 2.58 | 2.06 | 1.69 | 1.42 | 1.20 | 1.04 | 0.89 | 0.77 | 0.67 * | 0.59 * | 0.52 * | 0.47 * | 0.42 * | 0.38 * |
| | 600S162-68 | 50 | 11.53 | 11.13 | 10.59 | 9.94 | 9.20 | 8.40 | 7.56 | 5.89 | 4.39 | 3.39 | 2.70 | 2.21 | 1.81 | 1.50 | 1.26 | 1.07 | 0.93 | 0.81 * | 0.71 * | 0.63 * | 0.56 * | 0.5 * | 0.45 * |
| | 600S162-97 | 50 | 17.99 | 17.33 | 16.45 | 15.38 | 14.18 | 12.87 | 11.51 | 8.80 | 6.47 | 4.79 | 3.67 | 2.90 | 2.35 | 1.94 | 1.63 | 1.39 | 1.2 * | 1.04 * | 0.92 * | 0.81 * | 0.73 * | 0.65 * | 0.59 * |
| | 600S200-33 | 33 | 3.50 | 3.46 | 3.41 | 3.34 | 3.25 | 3.16 | 3.05 | 2.81 | 2.53 | 2.23 | 1.90 | 1.57 | 1.31 | 1.12 | 0.97 | 0.86 | 0.76 | 0.68 | 0.60 | 0.54 | 0.49 | 0.45 * | 0.41 * |
| | 600S200-43 | 33 | 5.30 | 5.24 | 5.16 | 5.04 | 4.90 | 4.75 | 4.55 | 4.09 | 3.61 | 3.12 | 2.65 | 2.21 | 1.87 | 1.59 | 1.37 | 1.20 | 1.05 | 0.94 | 0.84 | 0.75 | 0.68 | 0.62 * | 0.57 * |
| | 600S200-54 | 50 | 9.15 | 9.05 | 8.91 | 8.74 | 8.54 | 8.22 | 7.84 | 6.71 | 5.57 | 4.51 | 3.61 | 2.95 | 2.46 | 2.09 | 1.80 | 1.57 | 1.38 | 1.22 | 1.09 | 0.96 | 0.86 | 0.77 * | 0.7 * |
| | 600S200-68 | 50 | 13.19 | 12.99 | 12.72 | 12.35 | 11.76 | 11.11 | 10.42 | 8.96 | 7.44 | 5.95 | 4.73 | 3.86 | 3.22 | 2.73 | 2.34 | 2.01 | 1.73 | 1.51 | 1.32 | 1.17 | 1.05 | 0.94 * | 0.85 * |
| | 600S200-97 | 50 | 20.97 | 20.50 | 19.87 | 19.08 | 18.16 | 17.13 | 16.02 | 13.63 | 11.18 | 8.82 | 6.98 | 5.53 | 4.48 | 3.70 | 3.11 | 2.65 | 2.28 | 1.99 | 1.75 | 1.55 | 1.38 * | 1.24 * | 1.12 * |
| | 600S250-43 | 33 | 5.43 | 5.38 | 5.32 | 5.23 | 5.14 | 5.02 | 4.89 | 4.59 | 4.25 | 3.88 | 3.39 | 2.89 | 2.44 | 2.08 | 1.80 | 1.59 | 1.41 | 1.27 | 1.15 | 1.05 | 0.96 | 0.89 | 0.82 |
| | 600S250-54 | 50 | 9.40 | 9.27 | 9.10 | 8.89 | 8.63 | 8.33 | 8.00 | 7.27 | 6.62 | 5.82 | 4.75 | 3.91 | 3.30 | 2.83 | 2.47 | 2.19 | 1.96 | 1.77 | 1.61 | 1.48 | 1.36 | 1.27 | 1.18 |
| | 600S250-68 | 50 | 13.21 | 13.05 | 12.84 | 12.58 | 12.27 | 11.91 | 11.53 | 10.38 | 9.22 | 7.86 | 6.46 | 5.36 | 4.55 | 3.94 | 3.47 | 3.09 | 2.78 | 2.53 | 2.30 | 2.05 | 1.83 | 1.64 | 1.48 |
| 600S250-97 | 50 | 22.56 | 22.19 | 21.70 | 21.11 | 20.44 | 19.72 | 19.00 | 16.96 | 14.74 | 12.62 | 10.67 | 9.00 | 7.76 | 6.54 | 5.49 | 4.68 | 4.04 | 3.52 | 3.09 | 2.74 | 2.44 | 2.19 | 1.98 | |
| 600S300-54 | 50 | 9.56 | 9.45 | 9.30 | 9.11 | 8.88 | 8.62 | 8.33 | 7.67 | 6.93 | 6.14 | 5.40 | 4.68 | 3.98 | 3.39 | 2.94 | 2.59 | 2.30 | 2.06 | 1.87 | 1.70 | 1.56 | 1.44 | 1.34 | |
| 600S300-68 | 50 | 13.52 | 13.36 | 13.14 | 12.86 | 12.52 | 12.13 | 11.71 | 10.76 | 9.85 | 8.83 | 7.56 | 6.41 | 5.40 | 4.64 | 4.05 | 3.58 | 3.20 | 2.88 | 2.61 | 2.38 | 2.18 | 2.01 | 1.86 | |
| 600S300-97 | 50 | 23.94 | 23.66 | 23.29 | 22.82 | 22.26 | 21.47 | 20.51 | 18.45 | 16.38 | 14.49 | 12.46 | 10.44 | 8.90 | 7.67 | 6.69 | 5.93 | 5.32 | 4.82 | 4.42 | 4.08 | 3.80 | 3.49 | 3.15 | |

Notes:

- 1 For additional general notes, see page 56.
- 2 Listed axial loads marked with " * " indicate the KL/r > 300.
- 3 Listed axial loads marked with "ws" indicate that h/t > 200. This indicates that web stiffeners are required to prevent web crippling at points of concentrated loads.

4 Listed capacities are calculated per AISI S100-16 (2020) w/S2-20.

Complies with AISI S100-16 (2020) w/S2-20 • IBC 2021

ALLOWABLE UNBRACED AXIAL LOADS

Based on length (Kips)

| Member | Fy (ksi) | Unbraced Length (ft) | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|-------------|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| 8" Stud | 800S137-33 | 33 | 2.74 ws | 2.66 ws | 2.55 ws | 2.43 ws | 2.23 ws | 2.01 ws | 1.79 ws | 1.36 ws | 1.01 ws | 0.79 ws | 0.63 ws | 0.52 ws | 0.44 ws | 0.38 * ws | 0.33 * ws | 0.29 * ws | 0.26 * ws | 0.23 * ws | 0.21 * ws | 0.19 * ws | 0.18 * ws | 0.16 * ws | 0.15 * ws |
| | 800S137-43 | 33 | 3.98 | 3.83 | 3.63 | 3.38 | 3.11 | 2.81 | 2.51 | 1.91 | 1.42 | 1.11 | 0.90 | 0.75 | 0.63 | 0.55 * | 0.48 * | 0.42 * | 0.37 * | 0.33 * | 0.3 * | 0.27 * | 0.24 * | 0.22 * | 0.2 * |
| | 800S137-54 | 50 | 7.24 | 6.94 | 6.43 | 5.77 | 5.06 | 4.33 | 3.63 | 2.54 | 1.90 | 1.49 | 1.21 | 1.01 | 0.85 | 0.73 * | 0.64 * | 0.56 * | 0.49 * | 0.43 * | 0.37 * | 0.33 * | 0.3 * | 0.26 * | 0.24 * |
| | 800S137-68 | 50 | 10.02 | 9.42 | 8.63 | 7.73 | 6.75 | 5.77 | 4.81 | 3.38 | 2.54 | 1.99 | 1.61 | 1.33 | 1.12 | 0.94 * | 0.79 * | 0.67 * | 0.58 * | 0.51 * | 0.45 * | 0.39 * | 0.35 * | 0.32 * | 0.28 * |
| | 800S137-97 | 50 | 16.03 | 15.00 | 13.67 | 12.14 | 10.51 | 8.87 | 7.29 | 5.13 | 3.83 | 2.94 | 2.25 | 1.78 | 1.44 * | 1.19 * | 1 * | 0.85 * | 0.73 * | 0.64 * | 0.56 * | 0.5 * | 0.44 * | 0.4 * | 0.36 * |
| | 800S162-33 | 33 | 3.21 ws | 3.16 ws | 3.08 ws | 2.98 ws | 2.84 ws | 2.68 ws | 2.49 ws | 2.09 ws | 1.68 ws | 1.31 ws | 1.05 ws | 0.86 ws | 0.72 ws | 0.62 ws | 0.54 ws | 0.47 ws | 0.42 * ws | 0.37 * ws | 0.34 * ws | 0.31 * ws | 0.28 * ws | 0.26 * ws | 0.24 * ws |
| | 800S162-43 | 33 | 4.64 | 4.52 | 4.37 | 4.18 | 3.96 | 3.71 | 3.45 | 2.89 | 2.34 | 1.83 | 1.47 | 1.21 | 1.02 | 0.88 | 0.76 | 0.67 | 0.59 * | 0.53 * | 0.48 * | 0.43 * | 0.4 * | 0.36 * | 0.33 * |
| | 800S162-54 | 50 | 8.41 | 8.19 | 7.90 | 7.42 | 6.82 | 6.18 | 5.52 | 4.22 | 3.13 | 2.43 | 1.96 | 1.62 | 1.37 | 1.17 | 1.02 | 0.90 | 0.79 * | 0.71 * | 0.64 * | 0.58 * | 0.52 * | 0.46 * | 0.42 * |
| | 800S162-68 | 50 | 11.65 | 11.20 | 10.61 | 9.89 | 9.09 | 8.22 | 7.33 | 5.58 | 4.15 | 3.24 | 2.61 | 2.16 | 1.82 | 1.56 | 1.35 | 1.18 | 1.03 * | 0.9 * | 0.79 * | 0.7 * | 0.62 * | 0.56 * | 0.5 * |
| | 800S162-97 | 50 | 18.41 | 17.68 | 16.70 | 15.53 | 14.21 | 12.80 | 11.35 | 8.50 | 6.33 | 4.93 | 3.96 | 3.23 | 2.61 | 2.16 | 1.81 | 1.55 * | 1.33 * | 1.16 * | 1.02 * | 0.9 * | 0.81 * | 0.72 * | 0.65 * |
| | 800S200-33 | 33 | 3.52 ws | 3.48 ws | 3.42 ws | 3.35 ws | 3.27 ws | 3.18 ws | 3.07 ws | 2.83 ws | 2.54 ws | 2.23 ws | 1.88 ws | 1.54 ws | 1.29 ws | 1.09 ws | 0.94 ws | 0.82 ws | 0.72 ws | 0.65 ws | 0.58 ws | 0.52 ws | 0.48 * ws | 0.44 * ws | 0.4 * ws |
| | 800S200-43 | 33 | 5.34 | 5.28 | 5.20 | 5.08 | 4.94 | 4.78 | 4.58 | 4.11 | 3.61 | 3.09 | 2.59 | 2.13 | 1.78 | 1.52 | 1.31 | 1.15 | 1.02 | 0.91 | 0.82 | 0.74 | 0.67 * | 0.61 * | 0.56 * |
| | 800S200-54 | 50 | 9.23 | 9.12 | 8.98 | 8.81 | 8.61 | 8.27 | 7.85 | 6.66 | 5.45 | 4.30 | 3.43 | 2.82 | 2.36 | 2.02 | 1.75 | 1.53 | 1.36 | 1.21 | 1.09 | 0.98 | 0.89 * | 0.82 * | 0.75 * |
| | 800S200-68 | 50 | 13.34 | 13.13 | 12.86 | 12.45 | 11.83 | 11.13 | 10.38 | 8.79 | 7.19 | 5.68 | 4.54 | 3.74 | 3.14 | 2.68 | 2.33 | 2.04 | 1.80 | 1.60 | 1.44 | 1.30 | 1.17 * | 1.05 * | 0.94 * |
| | 800S200-97 | 50 | 21.43 | 20.92 | 20.23 | 19.37 | 18.38 | 17.27 | 16.08 | 13.55 | 11.00 | 8.64 | 6.93 | 5.70 | 4.78 | 4.07 | 3.47 | 2.96 | 2.55 | 2.22 | 1.95 | 1.73 * | 1.54 * | 1.38 * | 1.25 * |
| | 800S250-43 | 33 | 5.48 | 5.44 | 5.39 | 5.32 | 5.24 | 5.15 | 5.04 | 4.79 | 4.51 | 4.19 | 3.85 | 3.39 | 2.94 | 2.52 | 2.18 | 1.90 | 1.68 | 1.49 | 1.34 | 1.21 | 1.09 | 1.00 | 0.92 |
| | 800S250-54 | 50 | 9.50 | 9.40 | 9.26 | 9.08 | 8.87 | 8.63 | 8.36 | 7.74 | 7.07 | 6.51 | 5.71 | 4.72 | 3.93 | 3.34 | 2.88 | 2.51 | 2.22 | 1.97 | 1.77 | 1.60 | 1.45 | 1.33 | 1.22 |
| | 800S250-68 | 50 | 13.39 | 13.27 | 13.09 | 12.88 | 12.63 | 12.33 | 12.01 | 11.16 | 10.05 | 8.97 | 7.53 | 6.20 | 5.18 | 4.41 | 3.81 | 3.33 | 2.94 | 2.62 | 2.35 | 2.12 | 1.92 | 1.75 | 1.61 |
| | 800S250-97 | 50 | 23.10 | 22.80 | 22.40 | 21.89 | 21.30 | 20.65 | 19.96 | 18.24 | 15.99 | 13.69 | 11.45 | 9.41 | 7.88 | 6.71 | 5.79 | 5.05 | 4.45 | 3.93 | 3.45 | 3.06 | 2.73 | 2.45 | 2.21 |
| | 800S300-54 | 50 | 9.66 | 9.58 | 9.46 | 9.32 | 9.15 | 8.95 | 8.72 | 8.20 | 7.61 | 6.97 | 6.28 | 5.60 | 5.00 | 4.38 | 3.80 | 3.33 | 2.95 | 2.65 | 2.39 | 2.18 | 2.00 | 1.84 | 1.71 |
| 800S300-68 | 50 | 13.72 | 13.59 | 13.43 | 13.21 | 12.96 | 12.66 | 12.33 | 11.57 | 10.75 | 9.95 | 9.08 | 7.95 | 6.96 | 5.97 | 5.20 | 4.59 | 4.09 | 3.69 | 3.35 | 3.07 | 2.83 | 2.62 | 2.41 | |
| 800S300-97 | 50 | 24.49 | 24.28 | 24.00 | 23.64 | 23.21 | 22.72 | 22.03 | 20.33 | 18.51 | 16.71 | 15.04 | 13.27 | 11.41 | 9.90 | 8.72 | 7.66 | 6.74 | 5.98 | 5.35 | 4.81 | 4.35 | 3.90 | 3.52 | |
| 10" Stud | 1000S162-43 | 33 | 4.65 ws | 4.52 ws | 4.35 ws | 4.14 ws | 3.9 ws | 3.63 ws | 3.35 ws | 2.76 ws | 2.18 ws | 1.7 ws | 1.37 ws | 1.13 ws | 0.96 ws | 0.82 ws | 0.72 ws | 0.64 * ws | 0.57 * ws | 0.51 * ws | 0.46 * ws | 0.42 * ws | 0.38 * ws | 0.35 * ws | 0.32 * ws |
| | 1000S162-54 | 50 | 8.43 | 8.18 | 7.88 | 7.30 | 6.66 | 5.97 | 5.27 | 3.91 | 2.91 | 2.27 | 1.84 | 1.53 | 1.30 | 1.12 | 0.98 | 0.86 * | 0.77 * | 0.69 * | 0.62 * | 0.57 * | 0.52 * | 0.47 * | 0.44 * |
| | 1000S162-68 | 50 | 11.69 | 11.20 | 10.54 | 9.76 | 8.88 | 7.96 | 7.01 | 5.19 | 3.89 | 3.05 | 2.48 | 2.06 | 1.75 | 1.51 | 1.32 | 1.16 * | 1.03 * | 0.92 * | 0.83 * | 0.75 * | 0.67 * | 0.6 * | 0.54 * |
| | 1000S162-97 | 50 | 18.59 | 17.77 | 16.69 | 15.41 | 13.98 | 12.46 | 10.93 | 8.01 | 6.04 | 4.75 | 3.85 | 3.20 | 2.70 | 2.31 | 1.95 | 1.66 * | 1.43 * | 1.25 * | 1.1 * | 0.97 * | 0.87 * | 0.78 * | 0.7 * |
| | 1000S200-43 | 33 | 5.35 ws | 5.29 ws | 5.2 ws | 5.07 ws | 4.92 ws | 4.75 ws | 4.52 ws | 4.02 ws | 3.49 ws | 2.95 ws | 2.44 ws | 2 ws | 1.68 ws | 1.43 ws | 1.24 ws | 1.09 ws | 0.97 ws | 0.86 ws | 0.78 ws | 0.71 * ws | 0.64 * ws | 0.59 * ws | 0.55 * ws |
| | 1000S200-54 | 50 | 9.26 | 9.14 | 8.99 | 8.80 | 8.56 | 8.20 | 7.68 | 6.42 | 5.17 | 4.03 | 3.23 | 2.66 | 2.24 | 1.92 | 1.66 | 1.46 | 1.30 | 1.16 | 1.05 | 0.95 * | 0.87 * | 0.8 * | 0.74 * |
| | 1000S200-68 | 50 | 13.41 | 13.18 | 12.88 | 12.40 | 11.72 | 10.98 | 10.18 | 8.50 | 6.84 | 5.35 | 4.30 | 3.55 | 3.00 | 2.57 | 2.24 | 1.97 | 1.75 | 1.57 | 1.41 | 1.28 * | 1.17 * | 1.07 * | 0.98 * |
| | 1000S200-97 | 50 | 21.64 | 21.08 | 20.33 | 19.40 | 18.32 | 17.13 | 15.86 | 13.19 | 10.55 | 8.26 | 6.67 | 5.53 | 4.67 | 4.01 | 3.48 | 3.05 | 2.70 | 2.39 | 2.10 | 1.86 * | 1.66 * | 1.49 * | 1.35 * |
| | 1000S250-43 | 33 | 5.5 ws | 5.46 ws | 5.4 ws | 5.33 ws | 5.25 ws | 5.16 ws | 5.05 ws | 4.79 ws | 4.5 ws | 4.16 ws | 3.79 ws | 3.3 ws | 2.83 ws | 2.4 ws | 2.07 ws | 1.81 ws | 1.59 ws | 1.42 ws | 1.27 ws | 1.15 ws | 1.05 ws | 0.96 ws | 0.88 ws |
| | 1000S250-54 | 50 | 9.53 | 9.43 | 9.29 | 9.11 | 8.89 | 8.63 | 8.35 | 7.70 | 7.02 | 6.37 | 5.46 | 4.46 | 3.73 | 3.17 | 2.74 | 2.40 | 2.12 | 1.89 | 1.70 | 1.54 | 1.40 | 1.29 | 1.18 |
| | 1000S250-68 | 50 | 13.47 | 13.34 | 13.15 | 12.93 | 12.66 | 12.35 | 12.00 | 11.04 | 9.88 | 8.66 | 7.19 | 5.90 | 4.94 | 4.22 | 3.66 | 3.21 | 2.84 | 2.54 | 2.28 | 2.07 | 1.88 | 1.73 | 1.59 |
| | 1000S250-97 | 50 | 23.33 | 23.01 | 22.57 | 22.03 | 21.40 | 20.71 | 19.99 | 18.05 | 15.69 | 13.31 | 11.00 | 9.07 | 7.63 | 6.53 | 5.67 | 4.97 | 4.40 | 3.93 | 3.53 | 3.19 | 2.90 | 2.64 | 2.39 |
| | 1000S300-54 | 50 | 9.71 | 9.64 | 9.54 | 9.42 | 9.27 | 9.09 | 8.90 | 8.44 | 7.92 | 7.34 | 6.71 | 6.05 | 5.45 | 4.83 | 4.22 | 3.68 | 3.24 | 2.88 | 2.58 | 2.33 | 2.12 | 1.93 | 1.77 |
| 1000S300-68 | 50 | 13.81 | 13.71 | 13.56 | 13.38 | 13.15 | 12.89 | 12.60 | 11.92 | 11.13 | 10.38 | 9.59 | 8.54 | 7.48 | 6.46 | 5.57 | 4.87 | 4.30 | 3.83 | 3.43 | 3.10 | 2.82 | 2.58 | 2.37 | |
| 1000S300-97 | 50 | 24.75 | 24.57 | 24.31 | 23.99 | 23.60 | 23.15 | 22.59 | 20.96 | 19.17 | 17.32 | 15.54 | 13.68 | 11.60 | 9.89 | 8.56 | 7.49 | 6.62 | 5.91 | 5.31 | 4.80 | 4.36 | 3.98 | 3.65 | |

Notes:

- 1 For additional general notes, see page 56.
- 2 Listed axial loads marked with "*" indicate the KL/r > 300.
- 3 Listed axial loads marked with "ws" indicate that h/t > 200.
This indicates that web stiffeners are required to prevent web crippling at points of concentrated loads.
- 4 Listed capacities are calculated per AISI S100-16 (2020) w/S2-20.

Complies with AISI S100-16 (2020) w/S2-20 • IBC 2021

ALLOWABLE UNBRACED AXIAL LOADS

Based on length (Kips)

| Member | Fy (ksi) | Unbraced Length (ft) | | | | | | | | | | | | | | | | | | | | | | | |
|----------|-------------|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| 12" Stud | 1200S162-54 | 50 | 8.43 ws | 8.16 ws | 7.8 ws | 7.17 ws | 6.47 ws | 5.74 ws | 5.01 ws | 3.63 ws | 2.71 ws | 2.12 ws | 1.72 ws | 1.44 ws | 1.22 ws | 1.06 ws | 0.93 ws | 0.82 * ws | 0.73 * ws | 0.66 * ws | 0.6 * ws | 0.55 * ws | 0.5 * ws | 0.46 * ws | 0.43 * ws |
| | 1200S162-68 | 50 | 11.70 | 11.15 | 10.44 | 9.59 | 8.65 | 7.67 | 6.68 | 4.84 | 3.64 | 2.87 | 2.34 | 1.96 | 1.67 | 1.44 | 1.27 * | 1.12 * | 1 * | 0.9 * | 0.81 * | 0.74 * | 0.68 * | 0.62 * | 0.57 * |
| | 1200S162-97 | 50 | 18.66 | 17.77 | 16.59 | 15.19 | 13.65 | 12.04 | 10.43 | 7.54 | 5.72 | 4.53 | 3.70 | 3.09 | 2.63 | 2.27 | 1.98 * | 1.74 * | 1.51 * | 1.31 * | 1.15 * | 1.02 * | 0.91 * | 0.82 * | 0.74 * |
| | 1200S200-54 | 50 | 9.27 ws | 9.15 ws | 8.98 ws | 8.78 ws | 8.49 ws | 8.11 ws | 7.49 ws | 6.17 ws | 4.88 ws | 3.78 ws | 3.03 ws | 2.5 ws | 2.11 ws | 1.81 ws | 1.58 ws | 1.39 ws | 1.24 ws | 1.11 ws | 1.01 ws | 0.91 * ws | 0.84 * ws | 0.77 * ws | 0.71 * ws |
| | 1200S200-68 | 50 | 13.44 | 13.19 | 12.88 | 12.30 | 11.58 | 10.79 | 9.94 | 8.18 | 6.47 | 5.03 | 4.06 | 3.36 | 2.85 | 2.45 | 2.14 | 1.89 | 1.68 | 1.51 | 1.37 * | 1.25 * | 1.14 * | 1.05 * | 0.97 * |
| | 1200S200-97 | 50 | 21.74 | 21.14 | 20.32 | 19.31 | 18.15 | 16.88 | 15.53 | 12.73 | 10.00 | 7.84 | 6.36 | 5.30 | 4.50 | 3.88 | 3.38 | 2.99 | 2.66 | 2.38 | 2.14 * | 1.94 * | 1.76 * | 1.58 * | 1.42 * |
| | 1200S250-54 | 50 | 9.55 ws | 9.44 ws | 9.29 ws | 9.09 ws | 8.86 ws | 8.59 ws | 8.28 ws | 7.59 ws | 6.92 ws | 6.18 ws | 5.15 ws | 4.21 ws | 3.53 ws | 3.01 ws | 2.6 ws | 2.28 ws | 2.02 ws | 1.81 ws | 1.63 ws | 1.48 ws | 1.35 ws | 1.23 ws | 1.14 ws |
| | 1200S250-68 | 50 | 13.51 | 13.37 | 13.17 | 12.93 | 12.64 | 12.31 | 11.94 | 10.86 | 9.67 | 8.31 | 6.80 | 5.59 | 4.70 | 4.02 | 3.49 | 3.06 | 2.72 | 2.44 | 2.20 | 2.00 | 1.82 | 1.67 | 1.54 |
| | 1200S250-97 | 50 | 23.46 | 23.11 | 22.64 | 22.06 | 21.39 | 20.66 | 19.91 | 17.75 | 15.28 | 12.82 | 10.48 | 8.66 | 7.32 | 6.28 | 5.47 | 4.82 | 4.28 | 3.84 | 3.46 | 3.14 | 2.87 | 2.63 | 2.42 * |
| | 1200S300-54 | 50 | 9.73 ws | 9.65 ws | 9.55 ws | 9.42 ws | 9.26 ws | 9.08 ws | 8.87 ws | 8.4 ws | 7.84 ws | 7.22 ws | 6.57 ws | 5.88 ws | 5.3 ws | 4.66 ws | 4.02 ws | 3.5 ws | 3.09 ws | 2.75 ws | 2.47 ws | 2.23 ws | 2.03 ws | 1.86 ws | 1.71 ws |
| | 1200S300-68 | 50 | 13.85 | 13.74 | 13.59 | 13.39 | 13.15 | 12.88 | 12.57 | 11.84 | 11.03 | 10.25 | 9.43 | 8.27 | 7.22 | 6.16 | 5.32 | 4.66 | 4.12 | 3.67 | 3.30 | 2.99 | 2.72 | 2.49 | 2.29 |
| | 1200S300-97 | 50 | 24.89 | 24.69 | 24.42 | 24.08 | 23.66 | 23.18 | 22.53 | 20.82 | 18.95 | 17.04 | 15.25 | 13.19 | 11.12 | 9.51 | 8.25 | 7.24 | 6.42 | 5.74 | 5.17 | 4.69 | 4.27 | 3.91 | 3.60 |
| 14" Stud | 1400S162-54 | 50 | 8.42 ws | 8.14 ws | 7.7 ws | 7.03 ws | 6.29 ws | 5.52 ws | 4.75 ws | 3.38 ws | 2.53 ws | 1.99 ws | 1.62 ws | 1.36 ws | 1.16 ws | 1 ws | 0.88 * ws | 0.78 * ws | 0.7 * ws | 0.63 * ws | 0.58 * ws | 0.53 * ws | 0.48 * ws | 0.45 * ws | 0.41 * ws |
| | 1400S162-68 | 50 | 11.69 | 11.09 | 10.32 | 9.40 | 8.41 | 7.37 | 6.34 | 4.53 | 3.42 | 2.70 | 2.21 | 1.86 | 1.59 | 1.38 | 1.21 * | 1.08 * | 0.96 * | 0.87 * | 0.79 * | 0.72 * | 0.66 * | 0.61 * | 0.56 * |
| | 1400S162-97 | 50 | 18.69 | 17.71 | 16.43 | 14.92 | 13.28 | 11.59 | 9.91 | 7.11 | 5.42 | 4.31 | 3.54 | 2.98 | 2.54 | 2.2 * | 1.93 * | 1.71 * | 1.52 * | 1.36 * | 1.2 * | 1.06 * | 0.95 * | 0.85 * | 0.77 * |
| | 1400S200-54 | 50 | 9.28 ws | 9.15 ws | 8.97 ws | 8.75 ws | 8.42 ws | 7.96 ws | 7.29 ws | 5.91 ws | 4.58 ws | 3.55 ws | 2.85 ws | 2.36 ws | 1.99 ws | 1.71 ws | 1.5 ws | 1.32 ws | 1.18 ws | 1.06 ws | 0.96 * ws | 0.88 * ws | 0.8 * ws | 0.74 * ws | 0.68 * ws |
| | 1400S200-68 | 50 | 13.46 | 13.19 | 12.85 | 12.19 | 11.42 | 10.58 | 9.68 | 7.85 | 6.08 | 4.74 | 3.83 | 3.18 | 2.70 | 2.33 | 2.04 | 1.81 | 1.61 | 1.45 | 1.32 * | 1.2 * | 1.1 * | 1.01 * | 0.94 * |
| | 1400S200-97 | 50 | 21.80 | 21.14 | 20.26 | 19.17 | 17.94 | 16.58 | 15.15 | 12.23 | 9.45 | 7.44 | 6.06 | 5.06 | 4.31 | 3.73 | 3.27 | 2.89 | 2.58 | 2.32 * | 2.1 * | 1.91 * | 1.75 * | 1.6 * | 1.47 * |
| | 1400S250-54 | 50 | 9.56 ws | 9.44 ws | 9.28 ws | 9.07 ws | 8.82 ws | 8.53 ws | 8.21 ws | 7.47 ws | 6.8 ws | 5.98 ws | 4.86 ws | 3.98 ws | 3.34 ws | 2.85 ws | 2.47 ws | 2.17 ws | 1.92 ws | 1.72 ws | 1.55 ws | 1.41 ws | 1.29 ws | 1.18 ws | 1.09 * ws |
| | 1400S250-68 | 50 | 13.53 | 13.38 | 13.17 | 12.91 | 12.60 | 12.25 | 11.86 | 10.67 | 9.46 | 7.94 | 6.43 | 5.29 | 4.46 | 3.82 | 3.32 | 2.92 | 2.60 | 2.33 | 2.11 | 1.92 | 1.75 | 1.61 | 1.49 * * |
| | 1400S250-97 | 50 | 23.54 | 23.16 | 22.65 | 22.04 | 21.33 | 20.56 | 19.79 | 17.38 | 14.81 | 12.28 | 9.97 | 8.26 | 6.99 | 6.02 | 5.26 | 4.64 | 4.14 | 3.72 | 3.36 | 3.06 | 2.80 | 2.57 | 2.37 * |
| | 1400S300-54 | 50 | 9.74 ws | 9.66 ws | 9.55 ws | 9.41 ws | 9.25 ws | 9.05 ws | 8.83 ws | 8.33 ws | 7.74 ws | 7.09 ws | 6.41 ws | 5.7 ws | 5.08 ws | 4.44 ws | 3.82 ws | 3.34 ws | 2.95 ws | 2.62 ws | 2.36 ws | 2.13 ws | 1.94 ws | 1.78 ws | 1.63 ws |
| | 1400S300-68 | 50 | 13.88 | 13.76 | 13.60 | 13.39 | 13.14 | 12.84 | 12.51 | 11.75 | 10.91 | 10.10 | 9.16 | 7.97 | 6.89 | 5.87 | 5.08 | 4.45 | 3.94 | 3.52 | 3.17 | 2.87 | 2.62 | 2.40 | 2.21 |
| | 1400S300-97 | 50 | 24.98 | 24.77 | 24.48 | 24.11 | 23.67 | 23.16 | 22.42 | 20.61 | 18.66 | 16.70 | 14.90 | 12.64 | 10.64 | 9.11 | 7.91 | 6.96 | 6.18 | 5.54 | 5.00 | 4.54 | 4.15 | 3.81 | 3.51 |

Notes:

- 1 For additional general notes, see page 56.
- 2 Listed axial loads marked with " * " indicate the KL/r > 300.
- 3 Listed axial loads marked with "ws" indicate that h/t > 200. This indicates that web stiffeners are required to prevent web crippling at points of concentrated loads.
- 4 Listed capacities are calculated per AISI S100-16 (2020) w/S2-20.

Complies with AISI S100-16 (2020) w/S2-20 • IBC 2021