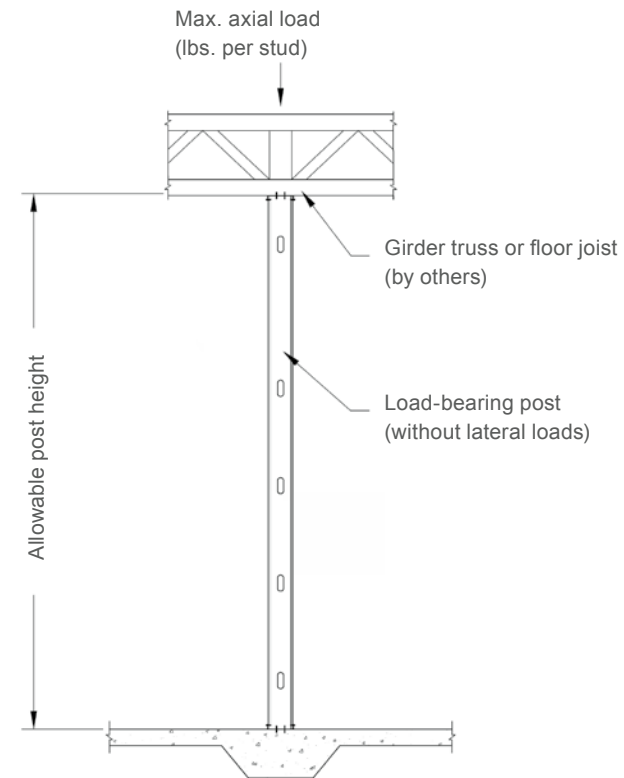
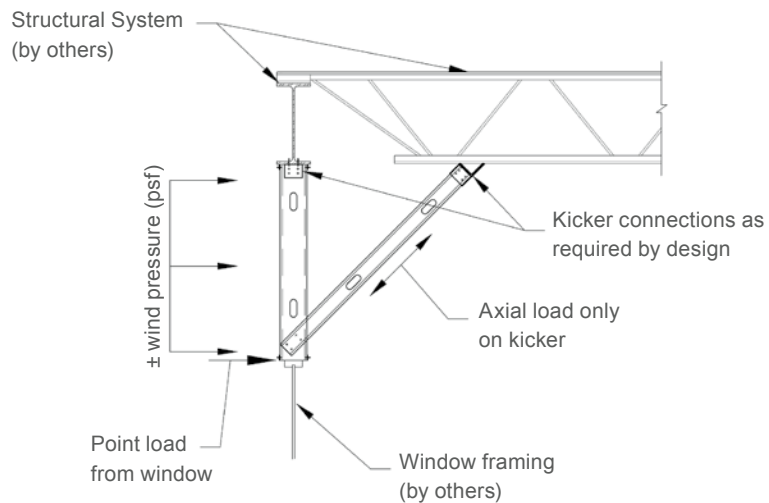


Allowable Unbraced Axial Loads

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 2024

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 *
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 2024

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 2024

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:

- 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 2024

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 2024