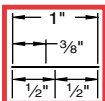


TECHNICAL DATA



TECHNICAL DATA

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BEAM DIAGRAMMS AND FORMULAS (Nomenclature)

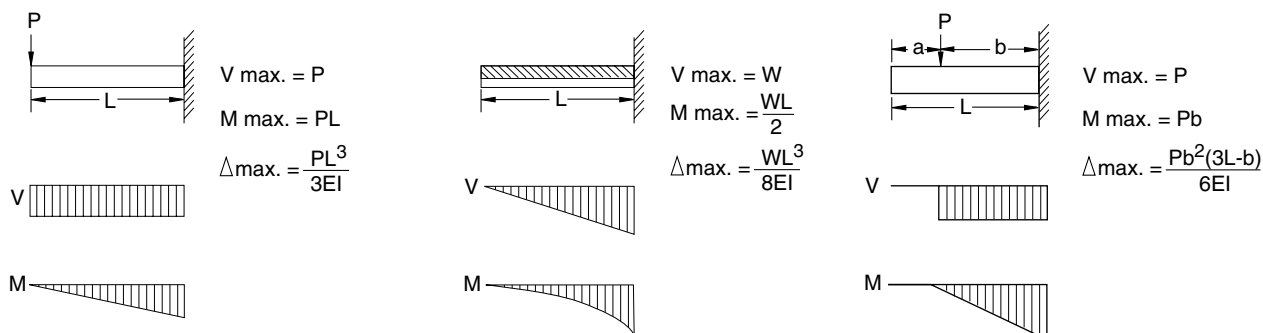
E	Modulus of Elasticity of steel at 29,000 ksi.
I	Moment of Inertia of Beam (inch ⁴).
M _{max}	Maximum Moment (kip inch)
M ₁	Maximum moment in left section of beam (kip inch)
M ₂	Maximum moment in right section of beam (kip inch)
M _x	Moment at distance x from end of beam (kip inch)
P	Concentrated Load (kips)
R	End beam reaction for any condition of symmetrical loading (kips)
R ₁	Left end beam reaction (kips)
R ₂	Right end or intermediate beam reaction (kips)
V	Maximum vertical shear for any condition of symmetrical loading (kips)
V ₁	Maximum vertical shear in left section of beam (kips)
V ₂	Vertical shear at right reaction point, or to left of intermediate reaction point of beam (kips)
V _x	Vertical shear at distance x from end of beam (kips)
a	Measured distance along beam (inch)
b	Measured distance along beam which may be greater or less than "a" (inch)
L	Total length of beam between reaction points (inch)
W	Uniformly distributed load per unit of length (kips per in.)
x	Any distance measured along beam from left reaction (inch)
x ₁	Any distance measured along overhang section of beam from nearest reaction point (in).
Δ _{max}	Maximum deflection (inch)
Δ _a	Deflection at point of load (inch)
Δ _x	Deflection at point x distance from left reaction (inch)

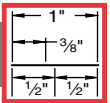
LATERAL BRACING

Long spanning strut, when loaded, has a tendency to twist or bend laterally. This occurrence results in reductions in the allowable beam loads shown in the tables. It's recommended that long spans be laterally braced properly. Many systems inherently provide such bracing. Pipes, conduits, and cable tray do so when attached to the strut with straps, clamps and other fittings. Direct all questions regarding laterally bracing issues to the factory.

Beam Diagrams and Formulas (Cantilever Beams)

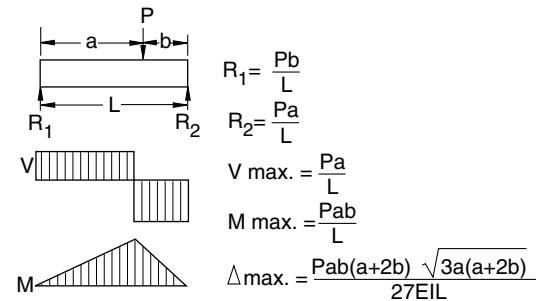
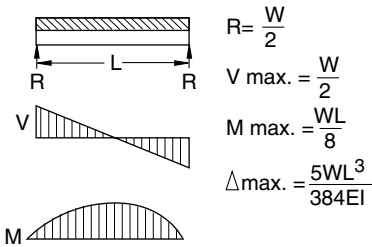
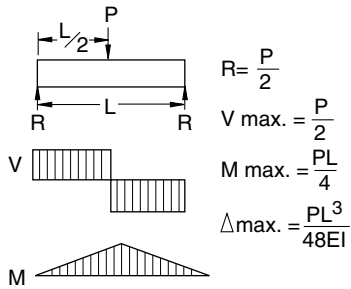
CANTILEVER BEAMS



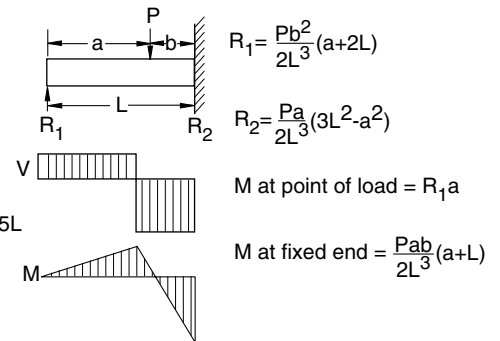
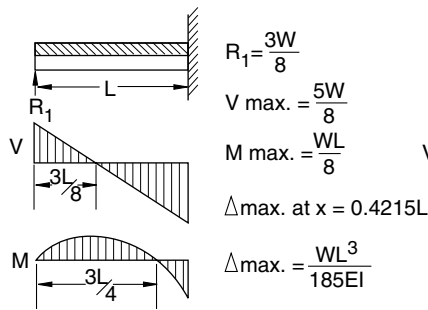
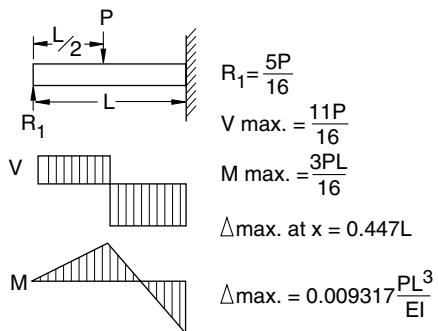


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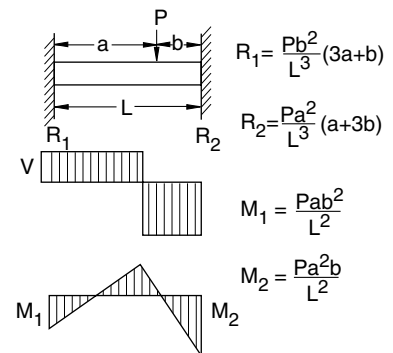
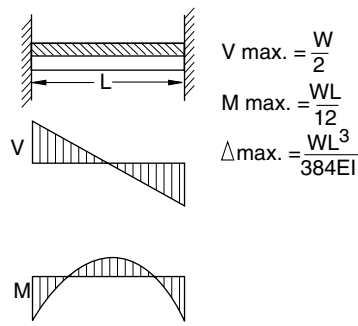
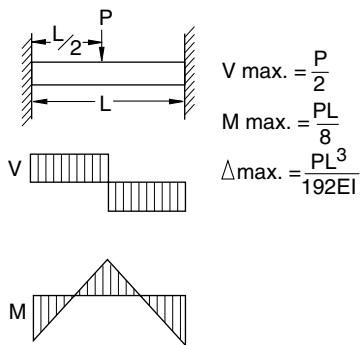
Beam Diagrams and Formulas (Simple Beams)

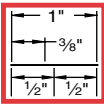


Beam Diagrams and Formulas (Beams fixed at one end, supported at other)



Beam Diagrams (Beams fixed at both ends)



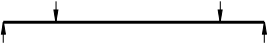
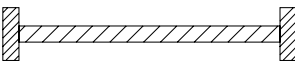
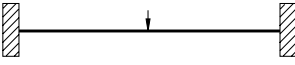
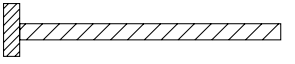
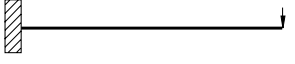
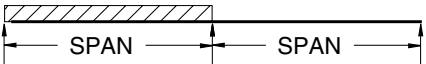
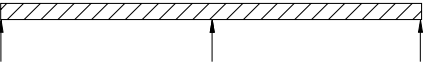

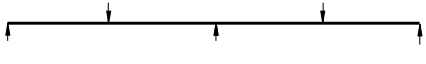




TECHNICAL DATA

Beam Load (Static) Conversion Factors

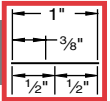
Power-Strut beam loads shown for various channels throughout this catalog are for single span, simple beams, with uniform loads. Loading or other support conditions can be calculated by multiplying the channel beam load by the appropriate factor listed below.

LOAD AND SUPPORT CONDITION	LOAD FACTOR	DEFLECTION FACTOR
1. Simple Beam, Uniform Load 	1.00	1.00
2. Simple Beam, Concentrated Load at Center 	0.50	0.80
3. Simple Beam, Two Equal Concentrated Loads at 1/4 pts 	1.00	1.10
4. Beam Fixed at Both Ends, Uniform Load 	1.50	0.30
5. Beam Fixed at Both Ends, Concentrated Load at Center 	1.00	0.40
6. Cantilever Beam, Uniform Load 	0.25	2.40
7. Cantilever Beam, Concentrated Load at End 	0.12	3.20
8. Continuous Beam, Two Equal Spans, Uniform Load on One Span 	1.30	0.92
9. Continuous Beam, Two Equal Spans, Uniform Load on Both Ends 	1.00	0.42
10. Continuous Beam, Two Equal Spans, Concentrated Load at Center of One Span 	0.62	0.71
11. Continuous Beam, Two Equal Spans, Concentrated Load at Center of Each Span 	0.67	0.48

Example solutions

- To determine the load and deflection of a PS-200 simple beam 72" long, with a concentrated load at the center of span:
From the PS-200 Beam Load Chart (page 29), the maximum uniform load for a 72" span is 560# with a deflection of .50".
Multiply the above factors: Load = 560 x .50 = 280#
Defl. = .50 x .80 = .40"

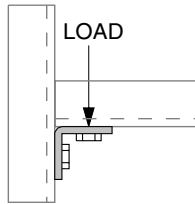
- To determine the load and deflection of a PS-200-2T3 cantilever beam 24" long with a concentrated load at end:
From the PS-200-2T3 Beam Load Chart (page 30), the maximum uniform load for a 24" span is 3130# with a deflection of .03".
Multiply the above factors: Load = 3130# x .12 = 376#
Defl. = .03 x 3.20 = .096"



DESIGN LOAD DATA FOR POWER-STRUT CHANNEL CONNECTIONS

PS 603 –PS-200 1500#, PS-210 1000#

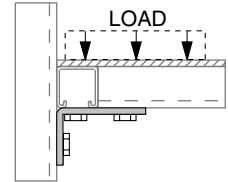
Channel	Load (lbs)
PS 200	1,500
PS 210	1,000



Both Ends Supported

PS 605 –PS-200 1500, #PS-210 1000#

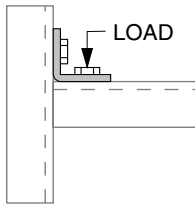
Channel	Load (lbs)
PS 200	1,500
PS 210	1,000



Both Ends Supported

PS 603 –PS-200 1000#, PS-210 650#

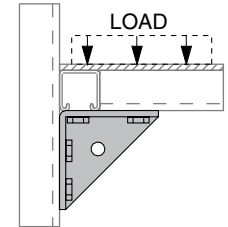
Channel	Load (lbs)
PS 200	1,000
PS 210	650



Both Ends Supported

PS 3373 –PS-200 3000#, PS-210 2000#

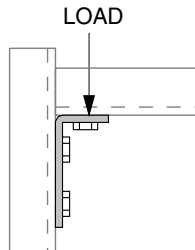
Channel	Load (lbs)
PS 200	3,000
PS 210	2,000



Both Ends Supported

PS 745 –PS-200 2000#, PS-210 1500#

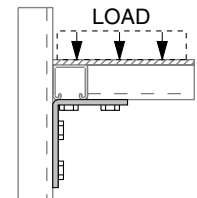
Channel	Load (lbs)
PS 200	2,000
PS 210	1,500



Both Ends Supported

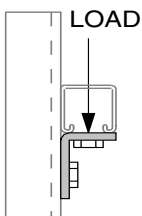
PS 607 –PS-200 2000#, PS-210 2000#

Channel	Load (lbs)
PS 200	2,000
PS 210	2,000

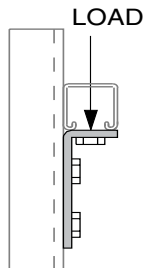


Both Ends Supported

PS 604 – 500#

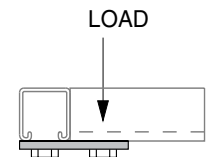


PS 606 – 500#



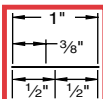
PS-601 PS-210 1000#, PS-210 800#

Channel	Load (lbs)
PS 200	1,000
PS 210	800



Both Ends Supported

- 1.) Safety Factor = 2-1/2 based on ultimate strength of connection.
- 2.) Load Diagrams indicate design loads for 12 ga. (listed as PS-200) and for 14 ga. (listed as PS-210) channels.



TECHNICAL DATA

Tables of Pipe Spacing

This chart, developed by Julius Getlan of Seelye Stevenson Value & Knecht, consulting engineers, New York City, enables one to quickly determine the centerline-to-centerline dimension between any two size pipes on a rack. Select the smaller pipe size at top and select the other at the side of the table. Where the appropriate columns intersect, the dimension is given.

These factors are included in the dimensions given:

- O.D. of flanges and fittings.
- 1" insulation over flanges and fittings.
- All fractional dimensions less than 1/4" were increased to the next larger 1/4".

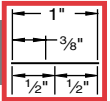
• Clear space between fittings as follows:

1. 1" between piping 3" and smaller.
2. 1 1/2" between a pipe 3" and smaller and a pipe 4" or larger.
3. 2" between piping 4" and larger.

Centerline to Centerline Dimensions, Inches

Normal Pipe Dia. (In.)	Normal Pipe Diameter, Inches										
	3/4"		1"			1 1/4"			1 1/2"		
	T	S	T	F	S	T	F	S	T	F	S
3/4	T	4 3/4	—	—	—	—	—	—	—	—	—
	S	4 1/2	4 1/4	—	—	—	—	—	—	—	—
1	T	5	4 3/4	5 1/4	—	—	—	—	—	—	—
	F	6	5 3/4	6 1/4	7 1/4	—	—	—	—	—	—
	S	4 3/4	4 1/2	5	6	4 1/2	—	—	—	—	—
1 1/4	T	5 1/4	5	5 1/2	6 1/2	5	5 1/2	—	—	—	—
	F	6 1/4	6	6 1/2	7 1/2	6 1/4	6 3/4	7 3/4	—	—	—
	S	4 3/4	4 1/2	5	6	4 1/2	5 1/4	6 1/4	4 3/4	—	—
1 1/2	T	5 1/4	5	5 1/2	6 1/2	5 1/4	5 3/4	6 3/4	5 1/4	5 3/4	—
	F	6 1/2	6 1/4	6 3/4	7 3/4	6 1/4	6 3/4	8	6 1/2	7	8
	S	5	4 3/4	5 1/4	6 1/4	4 3/4	5 1/4	6	5	5 1/2	6 1/2
2	T	5 3/4	5 1/2	6	7	5 1/2	6	7 1/4	5 3/4	6 1/4	7 1/4
	F	7	6 3/4	7 1/4	8 1/4	6 3/4	7 1/4	8 1/2	7	7 1/2	8 1/2
	S	5 1/4	5	5 1/2	6 1/2	5	5 1/2	6 3/4	5 1/4	5 3/4	6 3/4
2 1/2	T	6	5 3/4	6 1/4	7 1/4	6	6 1/2	7 1/2	6	6 1/2	7 3/4
	F	7 1/2	7 1/4	7 3/4	8 3/4	7 1/4	7 3/4	9	7 1/2	8	9
	S	5 1/2	5 1/4	5 3/4	6 3/4	5 1/4	5 3/4	7	5 1/2	6	7
3	T	6 1/4	6	6 1/2	7 1/2	6 1/4	6 3/4	7 3/4	6 1/4	6 3/4	8
	F	7 3/4	7 1/2	8	9	7 1/2	8	9 1/4	7 3/4	8 1/4	9 1/4
	S	5 3/4	5 1/2	6	7	5 1/2	6	7 1/4	5 3/4	6 1/4	7 1/4
4	T	7 1/2	7 1/4	7 3/4	8 3/4	7 1/4	7 3/4	9	7 1/2	8	9
	F	9	8 3/4	9 1/4	10 1/4	8 3/4	9 1/4	10 1/2	9	9 1/2	10 1/2
	S	6 3/4	6 1/2	7	8	6 1/2	7	8 1/4	6 3/4	7 1/4	8 1/4
5	T	8	7 3/4	8 1/4	9 1/4	7 3/4	8 1/4	9 1/2	8	8 1/2	9 1/2
	F	9 1/2	9 1/4	9 3/4	10 3/4	9 1/4	9 3/4	11	9 1/2	10	11
	S	7 1/4	7	7 1/2	8 1/4	7	7 1/2	8 3/4	7 1/4	7 3/4	8 3/4
6	T	8 3/4	8 1/2	9	10	8 1/2	9	10 1/4	8 3/4	9 1/4	10 1/4
	F	10	9 3/4	10 1/4	11 1/4	9 3/4	10 1/4	11 1/2	10	10 1/2	11 1/2
	S	7 3/4	7 1/2	8	9	7 1/2	8	9 1/4	7 3/4	8 1/4	9 1/4
8	T	8 3/4	9 1/2	10	11	9 3/4	10 1/2	11 1/4	9 3/4	10 1/4	11 1/2
	F	11 1/4	11	11 1/2	12 1/2	11	11 1/2	12 3/4	11 1/4	11 3/4	12 3/4
10	T	11 1/4	11	11 1/2	12 1/2	11	11 1/2	12 3/4	11 1/4	11 3/4	12 3/4
	F	12 1/2	12 1/4	12 3/4	13 3/4	12 1/4	12 3/4	14	12 1/2	13	14
12	T	12 1/4	12	12 1/2	13 1/2	12	12 1/2	13 3/4	12 1/4	12 3/4	13 3/4
	F	14	13 3/4	14 1/4	15 1/4	13 3/4	14 1/4	15 1/2	14	14 1/2	15 1/2

T – denotes threaded IPS pipe. F – denotes flanged fittings on pipe. S – denotes soldered or brazed tubing.

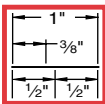


Centerline to Centerline Dimensions, Inches

Nominal Pipe Dia. (In.)	Nominal Pipe Diameter, Inches												
	2"			2½"			3"			4"			
	T	F	S	T	F	S	T	F	S	T	F	S	
2	T	6½	–	–	–	–	–	–	–	–	–	–	
	F	7¾	9	–	–	–	–	–	–	–	–	–	
	S	6	7¼	5½	–	–	–	–	–	–	–	–	
2½	T	7	8¼	6½	7¼	–	–	–	–	–	–	–	
	F	8¼	9½	7¾	8¾	10	–	–	–	–	–	–	
	S	6¼	7½	5¾	6¾	8	6	–	–	–	–	–	
3	T	7¼	8½	6¾	7½	9	7	7¾	–	–	–	–	
	F	8½	9¾	8	9	10¼	8¼	9¼	10½	–	–	–	
	S	6½	7¾	6	7	8¼	6¼	7¼	8½	6½	–	–	
4	T	8¼	9½	7¾	8¾	10	8	9	10¼	8¼	10	–	
	F	9¾	11	9¼	10¼	11½	9½	10½	11¾	9¾	11½	13	
	S	7½	8¾	7	8	9¼	7¼	8¼	9½	7½	9¼	10¾	8½
5	T	8¾	10	8¼	9¼	10½	8½	9½	10¾	8¾	10¼	12	9¾
	F	10¼	11½	9¾	10¾	12	10	11	12¼	10¼	12	13½	11¼
	S	8	9¼	7½	8½	9¾	7¾	8¾	10	8	9¾	11¼	9
6	T	9½	10¾	9	10	11¼	9¼	10¼	11½	9½	11¼	12¾	10½
	F	10¾	12	10¼	11¼	12½	10½	11½	12¼	10¾	12½	14	11¾
	S	8½	9¾	8	9	10¼	8¼	9¼	10½	8½	10¼	11¾	9½
8	T	10¾	12	10½	11	12½	10½	11¼	12¾	10¾	12½	14	11¾
	F	12	13¼	11½	12½	13¾	11¾	12¾	14	12	13¾	15¼	13
10	T	12	13¼	11½	12½	13¾	11¾	12¾	14	12	13¾	15¼	13
	F	13¼	14½	12¾	13¾	15	13	14	15¼	13¼	15	16½	14¼
12	T	13	14¼	12½	13½	14¾	12¾	13¾	15	13	14¾	16¼	14
	F	14¾	16	14¼	15¼	16½	14½	15½	16¾	14¾	16½	18	15¾




Nominal Pipe Dia. (In.)	Nominal Pipe Diameter, Inches												
	5"			6"			8"		10"		12"		
	T	F	S	T	F	S	T	F	T	F	T	F	
5	T	11	–	–	–	–	–	–	–	–	–	–	
	F	12½	14	–	–	–	–	–	–	–	–	–	
	S	10¼	11¾	9½	–	–	–	–	–	–	–	–	
6	T	11¾	13¼	11	12½	–	–	–	–	–	–	–	
	F	13	14½	12¼	13¼	15	–	–	–	–	–	–	
	S	10¾	12¼	10	11½	12¾	10½	–	–	–	–	–	
8	T	13	14½	12¼	13¾	15	12¾	14¾	–	–	–	–	
	F	14¼	15¾	13½	15	16¼	14	16¼	17 ½	–	–	–	
10	T	14¼	15¾	13½	15	16¼	14	16¼	17½	17½	–	–	
	F	15½	17	14¾	16¼	17½	15¼	17½	18¾	18¾	20	–	
12	T	15¼	16¾	14½	16	17¼	15	17¼	18½	18½	19¾	19½	–
	F	17	18¼	16¼	17¾	19	16¾	14	20¼	20¼	21½	21¼	29



T – denotes threaded IPS pipe. F – denotes flanged fittings on pipe.
S – denotes soldered or brazed tubing.



TECHNICAL DATA

Minimum Size Power-Strut Channel - To Comply with NFPA 13 Table 2-6.1 5(a) 1996 Edition

Channel Size	Sect. Mod. (in ³)
 PS-200 1 ⁵ / ₈ " x 1 ⁵ / ₈ " x 12 ga.	.202
 PS-150 1 ⁵ / ₈ " x 2 ⁷ / ₁₆ " x 12 ga.	.391
 PS-100 1 ⁵ / ₈ " x 3 ¹ / ₄ " x 12 ga.	.628

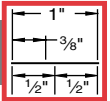
Channel Size	Sect. Mod. (in ³)
 PS-150 2T3 1 ⁵ / ₈ " x 4 ⁷ / ₈ " x 12 ga.	1.153
 PS-100 2T3 1 ⁵ / ₈ " x 6 ¹ / ₂ " x 12 ga.	1.716

Section Modulus Required for Trapeze Members (in.³)

Span of Trapeze	Pipe Size											
	1"	1 ¹ / ₄ "	1 ¹ / ₂ "	2"	2 ¹ / ₂ "	3"	3 ¹ / ₂ "	4"	5"	6"	8"	10"
1 ft. 6 in.	0.08	0.09	0.09	0.09	0.10	0.11	0.12	0.13	0.15	0.18	0.24	0.32
	0.08	0.09	0.09	0.10	0.11	0.12	0.13	0.15	0.18	0.22	0.30	0.41
2 ft. 0 in.	0.11	0.12	0.12	0.13	0.13	0.15	0.16	0.17	0.20	0.24	0.32	0.43
	0.11	0.12	0.12	0.13	0.15	0.16	0.18	0.20	0.24	0.29	0.40	0.55
2 ft. 6 in.	0.14	0.14	0.15	0.16	0.17	0.18	0.20	0.21	0.25	0.30	0.40	0.54
	0.14	0.15	0.15	0.16	0.18	0.21	0.22	0.25	0.30	0.36	0.50	0.68
3 ft. 0 in.	0.17	0.17	0.18	0.19	0.20	0.22	0.24	0.26	0.31	0.36	0.48	0.65
	0.17	0.18	0.18	0.20	0.22	0.25	0.27	0.30	0.36	0.43	0.60	0.82
4 ft. 0 in.	0.22	0.23	0.24	0.25	0.27	0.29	0.32	0.34	0.41	0.48	0.64	0.87
	0.22	0.24	0.24	0.26	0.29	0.33	0.36	0.40	0.48	0.58	0.80	1.09
5 ft. 0 in.	0.28	0.29	0.30	0.31	0.34	0.37	0.40	0.43	0.51	0.59	0.80	1.08
	0.28	0.29	0.30	0.33	0.37	0.41	0.45	0.49	0.60	0.72	1.00	1.37
6 ft. 0 in.	0.33	0.35	0.36	0.38	0.41	0.44	0.48	0.51	0.61	0.71	0.97	1.30
	0.34	0.35	0.36	0.39	0.44	0.49	0.54	0.59	0.72	0.87	1.20	1.64
7 ft. 0 in.	0.39	0.40	0.41	0.44	0.47	0.52	0.55	0.60	0.71	0.83	1.13	1.52
	0.39	0.41	0.43	0.46	0.51	0.58	0.63	0.69	0.84	1.01	1.41	1.92
8 ft. 0 in.	0.44	0.46	0.47	0.50	0.54	0.59	0.63	0.68	0.81	0.95	1.29	1.73
	0.45	0.47	0.49	0.52	0.59	0.66	0.72	0.79	0.96	1.16	1.61	2.19
9 ft. 0 in.	0.50	0.52	0.53	0.56	0.61	0.66	0.71	0.77	0.92	1.07	1.45	1.95
	0.50	0.53	0.55	0.59	0.66	0.74	0.81	0.89	1.08	1.30	1.81	2.46
10 ft. 0 in.	0.56	0.58	0.59	0.63	0.68	0.74	0.79	0.85	1.02	1.19	1.61	2.17
	0.56	0.59	0.61	0.65	0.74	0.82	0.90	0.99	1.20	1.44	2.01	2.74

Exceeds Section Modulus for Channel Shown Above

Top values are for Schedule 10 pipe; bottom values are for Schedule 40 Pipe.



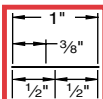
Electrical Metallic Tubing Data

Nom. Size EMT Conduit	OD Conduit	Conduit Wt. lbs./ft	Approx. Max Wt. (lbs.ft.) Conduit and Conductor Not Lead Covered
1/2	0.706	0.29	0.54
3/4	0.922	0.45	1.16
1	1.163	0.65	1.83
1 1/4	1.510	0.96	2.96
1 1/2	1.740	1.11	3.68
2	2.197	1.41	4.45
2 1/2	2.875	2.15	6.41
3	3.500	2.60	9.30
3 1/2	4.000	3.25	12.15
4	4.500	3.90	15.40

Application Engineering Data - Conduit Spacings

Spacings in inches between centers of conduits. The light face figures are the minimum dimensions to provide clearance between locknuts. The more liberal spacings printed in bold face type should be used whenever possible.

Size	Size												
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	6"
1/2"	1 3/16 1 3/8	-	-	-	-	-	-	-	-	-	-	-	-
3/4"	1 5/16 1 1/2	1 7/16 1 5/8	-	-	-	-	-	-	-	-	-	-	-
1"	1 1/2 1 3/4	1 5/8 1 7/8	1 3/4 2	-	-	-	-	-	-	-	-	-	-
1 1/4"	1 3/4 2	1 7/8 1 1/8	2 2 1/4	2 1/4 2 1/2	-	-	-	-	-	-	-	-	-
1 1/2"	1 15/16 2 1/8	2 1/16 2 1/4	2 3/16 2 3/8	2 7/16 2 5/8	2 9/16 2 3/4	-	-	-	-	-	-	-	-
2"	2 3/16 2 3/8	2 5/16 2 1/2	2 1/2 2 3/4	2 3/4 3	2 7/8 3 1/8	3 1/8 3 3/8	-	-	-	-	-	-	-
2 1/2"	2 7/16 2 5/8	2 9/16 2 3/4	2 3/4 3	3 3 1/4	3 1/8 3 3/8	3 3/8 3 5/8	3 5/8 4	-	-	-	-	-	-
3"	2 13/16 3	2 15/16 3 1/8	3 1/16 3 3/8	3 5/16 3 5/8	3 7/16 3 3/4	3 3/4 4	4 4 3/8	4 5/16 4 3/4	-	-	-	-	-
3 1/2"	3 1/8 3 3/8	3 1/4 3 1/2	3 3/8 3 5/8	3 5/8 3 3/8	3 3/4 4	4 1/16 4 3/8	4 5/16 4 5/8	4 5/8 5	4 15/16 5 3/8	-	-	-	-
4"	3 7/16 3 3/4	3 9/16 3 3/8	3 11/16 4	3 15/16 4 1/4	4 1/16 4 3/8	4 3/8 4 3/4	4 5/8 5	4 15/16 5 3/8	5 1/4 5 5/8	5 9/16 6	-	-	-
4 1/2"	3 3/4 4	3 7/8 4 1/8	4 4 1/4	4 1/4 4 1/2	4 3/8 4 3/4	4 5/8 5	4 7/8 5 1/4	5 1/4 5 5/8	5 9/16 6	5 7/8 6 1/4	6 1/8 6 1/2	-	-
5"	4 1/8 4 3/8	4 1/4 4 1/2	4 3/8 4 5/8	4 5/8 4 7/8	4 3/4 5	5 5 3/8	5 1/4 5 5/8	5 9/16 6	5 7/8 6 1/4	6 3/16 6 5/8	6 1/2 7	6 13/16 7 1/4	-
6"	4 3/4 5	4 7/8 5 1/8	5 5 1/4	5 1/4 5 1/2	5 3/8 5 5/8	5 5/8 6	5 7/8 6 1/4	6 3/16 6 5/8	6 1/2 7	6 13/16 7 1/4	7 1/8 7 5/8	7 7/16 8	8 1/8 8 5/8



TECHNICAL DATA

Steel Rigid Conduit Data

Nom. Size Rigid Conduit	OD Conduit	OD Coupling	Wt. Conduit W/C Pkg. lbs./ft	Approx. Max Wt. (lbs./ft.) Conduit and Conductor	
				Lead Covered	Not Lead Covered
1/2"	0.840	1.010	0.80	1.17	1.04
3/4"	1.050	1.250	1.09	1.75	1.40
1"	1.315	1.525	1.65	2.62	2.35
1 1/4"	1.660	1.869	2.15	4.31	3.58
1 1/2"	1.900	2.155	2.58	5.89	4.55
2"	2.375	2.650	3.52	8.53	7.21
2 1/2"	2.875	3.250	5.67	11.51	10.22
3"	3.500	3.870	7.14	16.51	14.51
3 1/2"	4.000	4.500	8.60	19.05	17.49
4"	4.500	4.875	10.00	24.75	21.48
5"	5.563	6.000	13.20	35.87	30.83
6"	6.625	7.200	17.85	50.69	43.43

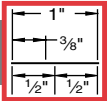
Maximum weight equals weight of rigid conduit plus weight of heaviest conductor combination as specified by the 1996 edition of the "National Electric Code Handbook."

Intermediate Metal Conduit Data

Nom. Size Rigid Conduit	OD Conduit	OD Coupling	Weight Conduit W/C Pkg. lbs./ft	Approx. Max Wt. (lbs./ft.) Conduit and Conductor	
				Lead Covered	Not Lead Covered
1/2"	0.815	1.010	0.60	0.97	0.84
3/4"	1.029	1.250	0.82	1.48	1.13
1"	1.290	1.525	1.16	2.13	1.86
1 1/4"	1.638	1.869	1.50	3.66	2.93
1 1/2"	1.883	2.115	1.82	5.13	3.79
2"	2.360	2.650	2.42	7.43	6.11
2 1/2"	2.857	3.250	4.28	10.12	8.83
3"	3.476	3.870	5.26	14.63	12.63
3 1/2"	3.971	4.500	6.12	16.57	15.01
4"	4.466	4.875	6.82	21.57	18.30

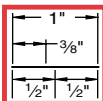
1 Cubic ft. of water weighs 62.35 lbs.

1 Gallon US weighs 8.335 lbs.



Steel Pipe Data – Schedule 40 & 80

Nominal Pipe Size	Sch. No.	O.D.	Wall Thick	Wt./Ft.	Wt. of Water/Ft
3/8"	40	0.675	0.091	0.567	0.083
	80		0.126	0.738	0.061
1/2"	40	0.840	0.109	0.850	0.132
	80		0.147	1.087	0.101
3/4"	40	1.050	0.133	1.130	0.230
	80		0.154	1.473	0.186
1"	40	1.315	0.133	1.678	0.374
	80		0.179	2.171	0.311
1 1/4"	40	1.660	0.140	2.272	0.647
	80		0.199	2.996	0.555
1 1/2"	40	1.900	0.145	2.717	0.882
	80		0.200	3.631	0.765
2"	40	2.375	0.154	3.652	1.452
	80		0.218	5.022	1.279
2 1/2"	40	2.875	0.203	5.790	2.072
	80		0.276	7.660	1.834
3"	40	3.500	0.216	7.570	3.200
	80		0.300	10.250	2.860
3 1/2"	40	4.000	0.226	9.110	4.280
	80		0.318	12.510	3.850
4"	40	4.500	0.237	10.790	5.510
	80		0.337	14.980	4.980
5"	40	5.563	0.258	14.620	8.660
	80		0.375	20.780	7.870
6"	40	6.625	0.280	18.970	12.510
	80		0.432	28.570	11.290
8"	40	8.625	0.322	28.550	21.600
	80		0.500	43.390	19.800
10"	40	10.750	0.365	40.480	34.100
	80		0.593	64.400	31.100
12"	40	12.750	0.406	53.600	48.500
	80		0.687	88.600	44.000
14"	40	14.000	0.437	63.000	58.500
	80		0.750	107.000	51.200
16"	40	16.000	0.500	83.000	76.500
	80		0.843	137.000	69.700
18"	40	18.000	0.563	105.000	97.200
	80		0.937	171.000	88.500
20"	40	20.000	0.593	123.000	120.400
	80		1.031	209.000	109.400
24"	40	24.000	0.687	171.000	174.200
	80		1.218	297.000	158.200
30"	20	30.000	0.500	158.000	286.000
36"	API	36.000	0.500	190.000	417.000



TECHNICAL DATA

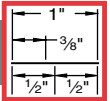
Copper Tube Data

Type L

Tube Size	Nom. O.D. Tubing	O.D.	Wall Thick	Wt./Ft. Lbs.	Wt. of Water/Ft Lbs.
1/4"	3/8"	0.375	0.030	0.126	0.034
3/8"	1/2"	0.500	0.035	0.198	0.062
1/2"	5/8"	0.625	0.040	0.285	0.100
5/8"	3/4"	0.750	0.042	0.362	0.151
3/4"	7/8"	0.875	0.045	0.455	0.209
1"	1 1/8"	1.125	0.050	0.655	0.357
1 1/4"	1 3/8"	1.375	0.055	0.884	0.546
1 1/2"	1 5/8"	1.625	0.060	1.140	0.767
2"	2 1/8"	2.125	0.070	1.750	1.341
2 1/2"	2 5/8"	2.625	0.080	2.480	2.064
3"	3 1/8"	3.125	0.090	3.330	2.949
3 1/2"	3 5/8"	3.625	0.100	4.290	3.989
4"	4 1/8"	4.125	0.110	5.380	5.188
5"	5 1/8"	5.125	0.125	7.610	8.081
6"	6 1/8"	6.125	0.140	10.200	11.616
8"	8 1/8"	8.125	0.200	19.290	20.289
10"	10 1/8"	10.125	0.250	30.100	31.590
12"	12 1/8"	12.125	0.280	40.400	45.426

Type K

Nom. Tube Size	O.D. Tubing	O.D.	Wall Thick	Wt./Ft. Lbs.	Wt. of Water/Ft. Lbs.
1/4"	3/8"	0.375	0.035	0.145	0.032
3/8"	1/2"	0.500	0.005	0.269	0.055
1/2"	5/8"	0.625	0.049	0.344	0.094
5/8"	3/4"	0.750	0.049	0.418	0.144
3/4"	7/8"	0.875	0.065	0.641	0.188
1"	1 1/8"	1.125	0.065	0.839	0.337
1 1/4"	1 3/8"	1.375	0.065	1.040	0.527
1 1/2"	1 5/8"	1.625	0.072	1.360	0.743
2"	2 1/8"	2.125	0.083	2.060	1.310
2 1/2"	2 5/8"	2.625	0.095	2.920	2.000
3"	3 1/8"	3.125	0.109	4.000	2.960
3 1/2"	3 5/8"	3.625	0.120	5.120	3.900
4"	4 1/8"	4.125	0.134	6.510	5.060
5"	5 1/8"	5.125	0.160	9.670	8.000
6"	6 1/8"	6.125	0.192	13.870	11.200
8"	8 1/8"	8.125	0.271	25.900	19.500
10"	10 1/8"	10.125	0.338	40.300	30.423
12"	12 1/8"	12.125	0.405	57.800	43.675



■ Spacing of Hangers for Copper Tubing

Tubing Size	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6	8	10	12
Span in Ft.	6	8	8	10	10	10	12	12	12	12	12	14	14	18	19

■ Spacing of Hangers for Steel Pipe

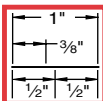
Nominal Pipe Size, Inches	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6	8	10	12	14	16	18	20	24
Maximum Span, Ft.*	5	6	7	7	9	10	11	12	13	14	16	17	19	2	23	25	27	28	30	32
Recommended Hanger Rod Sizes	⅜	⅜	⅜	⅜	⅜	⅜	½	½	½	⅝	⅝	¾	⅞	⅞	⅞	1	1	1¼	1½	or Trapeze

The above spacing and capacities are based on pipe filled with water.

Additional valves and fittings increase the load and therefore closer hanger spacing is required.

* Many codes and specifications state "pipe hangers must be spaced every 10 ft., regardless of size".

Follow local specifications.



TECHNICAL DATA

PVC Plastic Pipe Data – Schedule 40 & 80

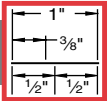
Nom. Tube Size	Schedule No.	O.D.	Wall Thick	Wt./Ft. Lbs.	Wt. of Water/Ft. Lbs.
1/8"	40	0.405	0.068	0.043	0.025
	80		0.095	0.055	0.016
1/4"	40	0.540	0.088	0.074	0.045
	80		0.119	0.094	0.031
3/8"	40	0.675	0.091	0.100	0.083
	80		0.126	0.129	0.061
1/2"	40	0.840	0.109	0.150	0.132
	80		0.147	0.150	0.101
3/4"	40	1.050	0.113	0.199	0.230
	80		0.154	0.259	0.186
1"	40	1.315	0.133	0.295	0.374
	80		0.179	0.382	0.311
1 1/4"	40	1.660	0.140	0.400	0.647
	80		0.191	0.527	0.555
1 1/2"	40	1.990	0.145	0.478	0.882
	80		0.200	0.639	0.765
2"	40	2.375	0.154	0.643	1.452
	80		0.218	0.884	1.279

Nom. Tube Size	Schedule No.	O.D.	Wall Thick	Wt. of Water/Ft. Lbs.	Water/Ft. Lbs.
2 1/2"	40	2.875	0.203	1.020	2.072
	80		0.276	1.350	1.834
3"	40	3.500	0.216	1.333	3.200
	80		0.300	1.804	2.860
3 1/2"	40	4.000	0.226	1.598	4.280
	80		0.318	2.195	3.850
4"	40	4.500	0.237	1.899	5.510
	80		0.337	2.636	4.980
5"	40	5.563	0.258	2.770	8.660
	80		0.375	4.126	7.870
6"	40	6.625	0.280	3.339	12.150
	80		0.432	5.028	11.290
8"	40	8.625	0.322	5.280	21.600
	80		0.500	8.023	19.800
10"	40	10.750	0.366	7.505	34.100
	80		0.593	11.894	31.100
12"	40	12.750	0.406	10.023	48.500
	80		0.687	16.365	44.000

Spacing of Hangers for PMC Plastic Pipe

Sch. 40 Pipe Size	Support Spacings in Feet at Temperatures Shown Above									
	20°F	40°F	60°F	80°F	100°F	110°F	120°F	130°F	140°F	150°F
1/2" – 3/4"	5.00	4.75	4.50	4.25	4.00	3.75	3.33	3.00	2.66	2.00
1" – 1 1/4"	5.50	5.25	5.00	4.66	4.33	4.00	3.75	3.33	2.80	2.25
1 1/2" – 2"	5.80	5.50	5.25	5.00	4.66	4.33	3.80	3.50	3.00	2.50
2 1/2"	6.66	6.33	6.00	5.50	5.25	4.80	4.50	4.00	3.50	2.80
3"	6.80	6.50	6.25	5.80	5.50	5.25	4.75	4.25	3.66	3.00
4"	7.33	7.00	6.50	6.25	5.80	5.50	5.00	4.50	3.80	3.25
6"	7.80	7.50	7.00	6.80	6.33	5.80	5.33	4.80	4.25	3.50

Sch. 40 Pipe Size	Support Spacings in Feet at Temperatures Shown Above									
	20°F	40°F	60°F	80°F	100°F	110°F	120°F	130°F	140°F	150°F
1/2" – 3/4"	5.75	5.50	5.25	4.80	4.50	4.33	3.80	3.50	3.00	2.50
1"	6.33	6.00	5.75	5.33	5.00	4.60	4.33	3.80	3.33	2.75
1 1/4" – 1 1/2"	6.66	6.33	6.00	5.66	5.25	4.80	4.50	4.00	3.50	3.00
2"	7.00	6.50	6.25	6.00	5.50	5.12	4.75	4.33	3.66	3.12
2 1/2"	7.80	7.50	7.00	6.66	6.33	5.80	5.33	4.75	4.25	3.33
3"	8.20	7.75	7.33	7.00	6.50	6.00	5.50	5.00	4.33	3.50
4"	8.66	8.25	7.80	7.33	6.80	6.33	5.80	5.25	4.66	3.75
6"	9.80	9.33	8.80	8.33	7.80	7.33	6.50	6.00	5.12	4.25



Cast Iron Pipe Data

Nom. Tube Size	Class	O.D.	Wall Thick	Wt./ Ft.	Wt. of Water Ft. Lbs.
3"	150	3.96	0.32	12.20	3.73
4"	150	4.80	0.35	16.40	5.72
6"	150	6.90	0.38	25.70	12.80
8"	150	9.05	0.41	36.70	23.10
10"	150	11.10	0.44	48.70	35.50
12"	150	13.20	0.48	62.90	51.00
14"	150	15.30	0.51	78.80	69.30
16"	150	17.40	0.54	95.00	90.30
18"	150	19.50	0.58	114.70	114.00
20"	150	21.60	0.62	135.90	141.50
24"	150	25.80	0.73	190.40	201.00
30"	150	32.00	0.85	277.30	312.00
36"	150	38.30	0.94	368.90	449.00
42"	150	44.50	1.05	479.10	612.00
48"	150	50.80	1.14	595.20	803.00

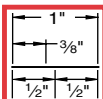
Nom. Pipe Size	O.D.	Wall Thick	Wt./Ft. Lbs.	Wt. of Water/Ft. lbs.
1½"	1.84	0.12	0.64	0.89
2"	2.34	0.14	0.94	1.45
3"	3.41	0.17	1.60	3.19
4"	4.53	0.20	2.60	5.79
6"	6.66	0.24	4.70	12.78
Heavy Schedule				
1"	1.31	0.16	0.60	0.35
1½"	1.84	0.17	0.87	0.76
2"	2.34	0.17	1.10	1.36
3"	3.41	0.20	2.00	3.06
4"	4.53	0.26	3.40	5.44
6"	6.66	0.33	6.30	12.42

Spacing of Hangers for glass pipe support every 8-10 ft. Pad all hangers. Use only clevis or trapeze, do not tie down pipe.

Mechanical Joint Pipe Class 150. Approximately same weight for Bell & Spigot. Flange cast iron pipe add weight of flanges.

Load Carrying Capacities of Threaded Hot Rolled Steel Rod

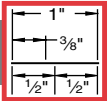
Nominal Rod Dia.	Root Area Sq. (In.)	Maximum Safe Load, Pounds	
		650°	750°
¼"	0.027	240	210
⅜"	0.068	610	540
½"	0.126	1,130	1,010
⅝"	0.202	1,810	1,610
¾"	0.302	2,710	2,420
⅞"	0.419	3,770	3,030
1"	0.552	4,960	4,420
1⅛"	0.693	6,230	5,560
1¼"	0.889	8,000	7,140
1½"	1.293	11,630	10,370
1¾"	1.744	15,700	14,000
2"	2.300	20,700	18,460
2¼"	3.023	27,200	24,260
2½"	3.719	33,500	29,880



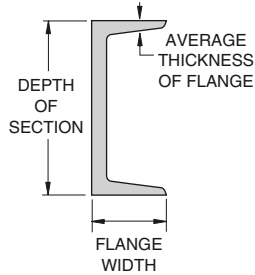
TECHNICAL DATA

Wide Flange Beams

Depth of Section	Wt/ Foot	Flange Width	Avg. Flange Thickness	Depth of Section	Wt/ Foot	Flange Width	Avg. Flange Thickness	Depth of Section	Wt/ Foot	Flange Width	Avg. Flange Thickness					
5"	16	5"	0.360"	12"	87		0.810"	18"	40		0.525"					
	19		0.430"		96		0.900"		46		0.605"					
6"	12	4"	0.280"		106		12 ¹ / ₄ "		0.990"		50	7 ¹ / ₂ "	0.570"			
	16		0.405"		120		12 ³ / ₈ "		1.105"		55	0.630"				
	20		0.365"		136		12 ¹ / ₂ "		1.250"		60	0.695"				
	25		0.455"		152		12 ⁵ / ₈ "		1.400"		65	7 ⁵ / ₈ "	0.750"			
	13		4"		0.255"		190		12 ⁵ / ₈ "		1.735"	71	0.810"			
8"	15	5 ¹ / ₄ "	0.315"		14"		22		5"		0.335"	76	11"	0.680"		
	18		0.330"				26				0.420"	86	11 ¹ / ₈ "	0.770"		
	21		0.400"				30				6 ³ / ₄ "	0.385"	97	0.870"		
	24		0.400"				34				0.455"	38	0.515"	106	11 ¹ / ₄ "	0.940"
	28		0.465"				43				8"	0.530"	48	0.595"	119	1.060"
	31		0.435"	48		0.595"	53	0.660"		21"	44	6 ¹ / ₂ "	0.450"			
	35		0.495"	53		0.660"	61	10"		0.645"	50	0.535"				
	40		0.560"	61		0.645"	68	10 ¹ / ₈ "		0.785"	57	0.650"				
	48		0.685"	68		0.720"	74	10 ¹ / ₈ "		0.785"	62	8 ¹ / ₄ "	0.615"			
	58		0.810"	74		0.785"	82	14 ¹ / ₂ "		0.710"	68	0.685"				
	67		0.935"	82		0.855"	90	14 ⁵ / ₈ "		0.780"	73	0.740"				
	10"		15	4"		0.270"	99	14 ⁵ / ₈ "		0.780"	83	8 ³ / ₈ "	0.835"			
			17		0.330"	109	0.860"	93	0.930"	111	12 ³ / ₈ "	0.875"				
19		0.395"	120		0.940"	111	12 ³ / ₈ "	0.875"	122	0.960"						
22		0.360"	132		1.030"	122	12 ¹ / ₂ "	1.150"	147	1.150"						
26		0.440"	145		1.090"	24"	55	7"	0.505"							
30		0.510"	159		1.190"	62	0.590"									
33		0.435"	176		1.310"	68	0.585"									
39		0.530"	193		1.440"	76	0.680"									
45		0.620"	211		1.560"	84	0.770"									
49		0.560"	233		1.720"	94	0.875"									
54		0.615"	257		1.890"	104	12 ³ / ₄ "	0.750"								
60		0.680"	283		2.070"	117	0.850"									
68		0.770"	311		2.260"	131	12 ⁷ / ₈ "	0.960"								
77		0.870"	342		2.470"	146	1.090"									
88		0.990"	370		2.660"	162	1.220"									
100		1.120"	398		2.845"	27"	84	10"	0.640"							
112		1.250"	426		3.035"	94	0.745"									
12"	16	4"	0.265"	16"	26	5 ¹ / ₂ "	0.345"	102	0.830"							
	19		0.350"		31		0.440"	114	10 ¹ / ₈ "	0.930"						
	22		0.425"		36		0.430"	146	14"	0.975"						
	26		0.380"		40		0.505"	161	1.080"							
	30		0.440"		45		0.565"	178	1.190"							
	35		0.520"		50		0.630"	30"	99	10 ¹ / ₂ "	0.670"					
	40		0.515"		57		0.715"	108	0.760"							
	45		0.575"		67		0.665"	116	0.850"							
	50		0.640"		77		0.760"	124	0.930"							
	53		0.575"		89		0.875"	132	1.000"							
	58		0.640"		100		0.985"	173	1.065"							
	65		0.605"		18"		6"	0.425"	191	1.185"						
	72		0.670"													
	79		0.735"													

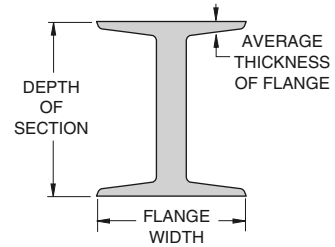


Channels – American Standard

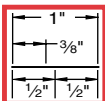


Depth of Section	Weight/Foot	Flange Width	Avg. Flange Thickness
3"	4.10	1 ³ / ₈ "	0.273"
	5.00	1 ¹ / ₂ "	
	6.00	1 ⁵ / ₈ "	
4"	5.40	1 ⁵ / ₈ "	0.296"
	7.25	1 ³ / ₄ "	
5"	6.70	1 ³ / ₄ "	0.320"
	9.00	1 ⁷ / ₈ "	
6"	8.20	1 ⁷ / ₈ "	0.343"
	10.50	2"	
	13.00	2 ¹ / ₈ "	
7"	9.80	2 ¹ / ₈ "	0.366"
	12.25	2 ¹ / ₄ "	
	14.75	2 ¹ / ₄ "	
8"	11.50	2 ¹ / ₄ "	0.390"
	13.75	2 ³ / ₈ "	
	18.75	2 ¹ / ₂ "	
9"	13.40	2 ³ / ₈ "	0.413"
	15.00	2 ¹ / ₂ "	
	20.00	2 ⁵ / ₈ "	
10"	15.30	2 ⁵ / ₈ "	0.436"
	20.00	2 ³ / ₄ "	
	25.00	2 ⁷ / ₈ "	
	30.00	3"	
12"	20.70	3"	0.501"
	25.00	3"	
	30.00	3 ¹ / ₈ "	
15"	33.90	3 ³ / ₈ "	0.650"
	40.00	3 ¹ / ₂ "	
	50.00	3 ³ / ₄ "	
18"	42.70	4"	0.625"
	45.80	4"	
	51.90	4 ¹ / ₈ "	

I-beams – American Standard

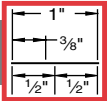


Depth of Section	Weight/Foot	Flange Width	Avg. Flange Thickness
3"	5.70	2 ³ / ₈ "	0.260"
	7.50	2 ¹ / ₂ "	
4"	7.70	2 ⁵ / ₈ "	0.293"
	9.50	2 ³ / ₄ "	
5"	10.00	3"	0.326"
	14.75	3 ¹ / ₄ "	
6"	12.50	3 ³ / ₈ "	0.359"
	17.25	3 ⁵ / ₈ "	
7"	15.30	3 ⁵ / ₈ "	0.392"
	20.00	3 ⁷ / ₈ "	
8"	18.40	4"	0.426"
	23.00	4 ¹ / ₈ "	
10"	25.40	4 ⁵ / ₈ "	0.491"
	35.00	5"	
12"	31.80	5"	0.544"
	35.00	5 ¹ / ₈ "	
	40.80	5 ¹ / ₄ "	
15"	50.00	5 ¹ / ₂ "	0.659"
	42.90	5 ¹ / ₂ "	
	50.00	5 ⁵ / ₈ "	
18"	54.70	6"	0.691
	70.00	6 ¹ / ₄ "	
20"	66.00	6 ¹ / ₄ "	0.795
	75.00	6 ³ / ₈ "	
	86.00	7"	
	96.00	7 ¹ / ₄ "	
24"	80.00	7"	0.871
	90.00	7 ¹ / ₈ "	
	100.00	7 ¹ / ₄ "	
	106.00	7 ³ / ₈ "	



TECHNICAL DATA

To Convert From	To	Multiply By	To Convert From	Multiply To	By
Length					
Inch [in]	Millimeter [mm]	25.400 000	Millimeter [mm]	Inch [in]	0.039 370
Foot [ft]	Meter [m]	0.304 800	Meter [m]	Foot [ft]	3.280 840
Yard [yd]	Meter [m]	0.914 400	Meter [m]	Yard [yd]	1.093 613
Mile (U.S. Statute) [mi]	Kilometer [km]	1.609 347	Kilometer [km]	Mile (U.S. Statute) [mi]	0.621 370
Area					
Square Inch [in ²]	Square Millimeter [mm ²]	645.16	Square Millimeter [mm ²]	Square Inch [in ²]	0.001550
Square Foot [ft ²]	Square Meter [m ²]	0.092 903	Square Meter [m ²]	Square Foot [ft ²]	10.763 915
Square Yard [yd ²]	Square Meter [m ²]	0.836 127	Square Meter [m ²]	Square Yard [yd ²]	1.195 991
Square Mile [mi ²] (U.S. Statute)	Square Kilometer [km ²]	2.589 998	Square Kilometer [km ²]	Square Mile [mi ²] (U.S. Statute)	0.386 101
Acre	Square Meter [m ²]	4046.873	Square Meter [m ²]	Acre	0.000 247
Acre	Hectare	0.404 687	Hectare	Acre	2.471 046
Volume					
Cubic Inch [in ³]	Cubic Millimeter [mm ³]	16387.06	Cubic Millimeter [mm ³]	Cubic Inch [in ³]	0.000061
Cubic Foot [ft ³]	Cubic Meter [m ³]	0.028 317	Cubic Meter [m ³]	Cubic Foot [ft ³]	35.314 662
Cubic Yard [yd ³]	Cubic Meter [m ³]	0.764 555	Cubic Meter [m ³]	Cubic Yard [yd ³]	1.307 950
Gallon (U.S. Liquid) [gal]	Litre [l]	3.785 412	Litre [l]	Gallon (U.S. Liquid) [gal]	0.264 172
Quart (U.S. Liquid) [qt]	Litre [l]	0.946 353	Litre [l]	Quart (U.S. Liquid) [qt]	1.056 688
Mass					
Ounce (Avoirdupois) [oz]	Gram [g]	28.349 520	Gram [g]	Ounce (Avoirdupois) [oz]	0.035 274
Pound (Avoirdupois) [lb]	Kilogram [kg]	0.453 592	Kilogram [kg]	Pound (Avoirdupois) [lb]	2.204 624
Short Ton	Kilogram [kg]	907.185	Kilogram [kg]	Short Ton	0.00110
Force					
Ounce-Force	Newton [N]	0.278 014	Newton [N]	Ounce-Force	3.596 941
Pound-Force [lbf]	Newton [N]	4.448 222	Newton [N]	Pound-Force [lbf]	0.224 809
Bending Moment					
Pound-Force-Inch [lbf-in]	Newton-Meter [N-m]	0.112 985	Newton-Meter [N-m]	Pound-Force-Inch [lbf-in]	8.850 732
Pound-Force-Foot [lbf-ft]	Newton-Meter [N-m]	1.355 818	Newton-Meter [N-m]	Pound-Force-Foot [lbf-ft]	0.737 562
Pressure, Stress					
Pound-Force per Square Inch [lbf/in ²]	Kilopascal [kPa]	6.894 757	Kilopascal [kPa]	Pound-Force per Square Inch [lbf/in ²]	0.145 038
Foot of Water (39.2 F)	Kilopascal [kPa]	2.988 980	Kilopascal [kPa]	Foot of Water (39.2 F)	0.334 562
Inch of Mercury (32 F)	Kilopascal [kPa]	3.386 380	Kilopascal [kPa]	Inch of Mercury (32 F)	0.295 301
Energy, Work, Heat					
Foot-Pound-Force [ft-lbf]	Joule [J]	1.355 818	Joule [J]	Foot-Pound-Force [ft-lbf]	0.737 562
British Thermal Unit [Btu]	Joule [J]	1055.056	Joule [J]	British Thermal Unit [Btu]	0.000948
Calorie [cal]	Joule [J]	4.186 800	Joule [J]	Calorie [cal]	0.238 846
Kilowatt Hour [kW-h]	Joule [J]	3600000	Joule [J]	Kilowatt Hour [kW-h]	2.78 ⁻⁷
Power					
Foot-Pound-Force /Second [ft-lbs/s]	Watt [W]	1.355 818	Watt [W]	Foot-Pound-Force /Second [ft-lbs/s]	0.737 562
British Thermal Unit /Hour [Btu/h]	Watt [W]	0.293 071	Watt [W]	British Thermal Unit /Hour [Btu/h]	3.412 142
Horsepower (550 Ft. Lbf/s) [hp]	Kilowatt [kW]	0.745 700	Kilowatt [kW]	Horsepower (550 Ft. Lbf/s) [hp]	1.341 022
Angle					
Degree	Radian [rad]	0.017 453	Radian [rad]	Degree	57.295 788
Temperature					
Degree Fahrenheit [F]	Degree Celsius [C]	(F° -32)/1.8	Degree Celsius [C]	Degree Fahrenheit [F]	1.8xC°+32



■ Metal Framing

PA 158.....	140	PS 210 S.....	36	PS 631.....	78	PS 733.....	77	PS 993.....	79
PA 238.....	140	PS 211.....	58	PS 633.....	70	PS 734.....	77	PS 998.....	103
PA 318.....	140	PS 230.....	58	PS 644.....	78	PS 735.....	77	PS 1000.....	86
PA 1GP.....	140	PS 270.....	92	PS 645.....	78	PS 736.....	104	PS 1004.....	79
PA 1HDC.....	140	PS 285.....	131	PS 646.....	78	PS 744.....	64	PS 1100.....	86
PA 1RC.....	140	PS 300.....	39	PS 647.....	74	PS 745.....	67	PS 1116.....	86
PA 1RP.....	140	PS 300 2T3.....	41	PS 649.....	120	PS 746.....	70	PS 1117.....	86
PA 1SC.....	140	PS 300 EH.....	39	PS 651.....	94	PS 747.....	65	PS 1154.....	130
PA 1SNB.....	140	PS 300 H.....	39	PS 653.....	130	PS 748.....	70	PS 1200.....	87
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PS 52 E.....	92	PS 300 S.....	39	PS 655.....	115	PS 752 R or L.....	69	PS 1450.....	88
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PS 69.....	89	PS 400.....	42	PS 658.....	116	PS 760.....	121	PS 1510.....	123
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PS 85.....	107	PS 400 EH.....	42	PS 660.....	68	PS 764.....	66	PS 1801.....	126
PS 86.....	107	PS 400 H.....	42	PS 661 T1.....	94	PS 781.....	71	PS 1850.....	126
PS 93.....	108	PS 400 K06.....	42	PS 661 T2.....	94	PS 791.....	123	PS 1901.....	98
PS 94.....	108	PS 400 S.....	42	PS 665.....	80	PS 793.....	71	PS 1902.....	99
PS 95.....	107	PS 449.....	129	PS 666.....	80	PS 803.....	116	PS 1911.....	100
PS 100.....	22	PS 500.....	45	PS 667.....	80	PS 804.....	79	PS 2007 R or L.....	70
PS 100 2T3.....	24	PS 500 2T3.....	47	PS 668.....	81	PS 805.....	120	PS 2008.....	137
PS 100 EH.....	22	PS 500 EH.....	45	PS 669.....	82	PS 806.....	66	PS 2010.....	138
PS 100 H.....	22	PS 500 H.....	45	PS 670.....	81	PS 807.....	117	PS 2011.....	138
PS 100 K06.....	22	PS 500 S.....	45	PS 671.....	121	PS 808 T1.....	94	PS 2013.....	136
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PS 135.....	58	PS 520.....	48	PS 678.....	77	PS 809.....	94	PS 2015.....	136
PS 135 X.....	107	PS 520 2T3.....	50	PS 679.....	75	PS 810.....	73	PS 2016.....	136
PS 146.....	58	PS 520 EH.....	48	PS 680.....	132	PS 812.....	73	PS 2017.....	137
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PS 150 2T3.....	27	PS 520 S.....	48	PS 685.....	103	PS 816.....	100	PS 2019.....	137
PS 150 EH.....	25	PS 560.....	51	PS 686.....	103	PS 821.....	81	PS 2023 R or L.....	137
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PS 150 K06.....	25	PS 560 EH.....	51	PS 689.....	69	PS 825 R or L.....	95	PS 2025.....	137
PS 150 S.....	25	PS 560 H.....	51	PS 692.....	75	PS 826.....	95	PS 2026.....	138
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PS 200 2T2.....	31	PS 600 J.....	134	PS 694.....	120	PS 854.....	65	PS 2033.....	136
PS 200 2T3.....	30	PS 601.....	62	PS 700 J.....	135	PS 855.....	102	PS 2034.....	136
PS 200 2T4.....	31	PS 602.....	62	PS 702.....	118	PS 858.....	106	PS 2037.....	137
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PS 200 EH.....	28	PS 605.....	67	PS 703 D.....	119	PS 888.....	63	PS 2064.....	83
PS 200 EH 2T3.....	30	PS 606.....	67	PS 704.....	79	PS 889.....	63	PS 2094.....	121
PS 200 H.....	28	PS 607.....	68	PS 707.....	119	PS 901.....	115, 130	PS 2112.....	65
PS 200 H3.....	28	PS 609.....	74	PS 707 P.....	119	PS 902.....	115	PS 2113.....	71
PS 200 K06.....	28	PS 611.....	74	PS 708.....	94	PS 907.....	103	PS 2117 R or L.....	79
PS 200 PLA.....	34	PS 612.....	74	PS 709.....	77	PS 913.....	81	PS 2119.....	76
PS 200 PLB.....	34	PS 613.....	75	PS 710.....	76	PS 916.....	104	PS 2128 R or L.....	80
PS 200 PLC.....	34	PS 614.....	68	PS 711.....	74	PS 921.....	65	PS 2129 R or L.....	80
PS 200 S.....	28	PS 615.....	68	PS 712.....	64	PS 922 R or L.....	79	PS 2144.....	66
PS 200 SB.....	28	PS 616.....	78	PS 713.....	69	PS 923.....	81	PS 2190.....	64
PS 202.....	60	PS 617.....	62	PS 714.....	64	PS 925.....	64	PS 2401 thru 2403.....	96
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PS 204.....	60	PS 619.....	62	PS 716 R or L.....	68	PS 927.....	69	PS 2421.....	96
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