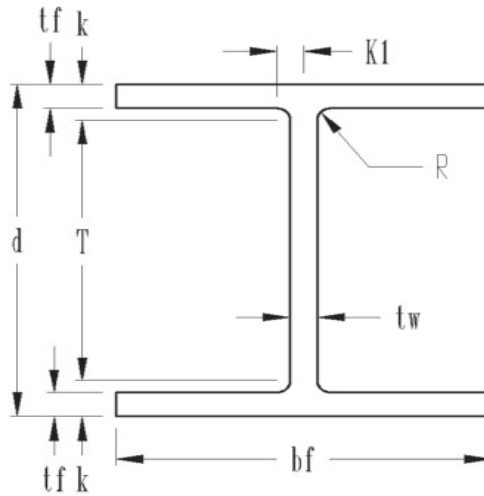


WIDE FLANGE BEAMS

Deep Foundation Pile Systems > Structural Sections > Wide Flange



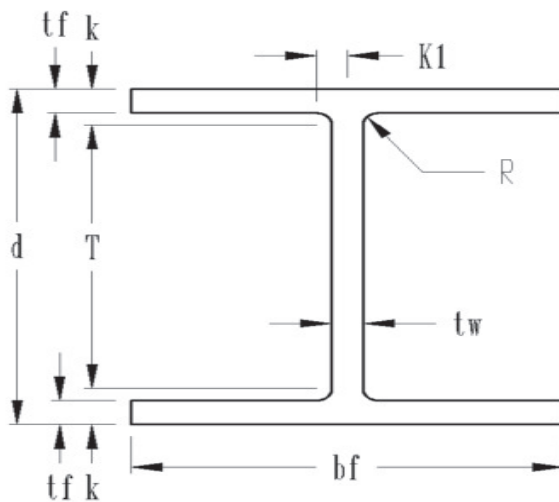
W44 & W1100

Prime Section Group	Section Size	Area A	Depth d	Web Thickness t _w	Flange		Distance			Fillet Radius R	Elastic Properties						Plastic Modulus	
					Width b _f	Thickness t _f	T	k	k ₁		X - X			Y - Y			Z _x	Z _y
											I _x	S _x	r _x	I _y	S _y	r _y		
Inch x lbs/ft (mm x kg/m)	Inch ² (mm ²)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch ⁴ (10 ⁶ mm ⁴)	Inch ³ (10 ³ mm ³)	Inch (mm)	Inch ⁴ (10 ⁶ mm ⁴)	Inch ³ (10 ³ mm ³)	Inch (mm)	Inch ³ (10 ³ mm ³)	Inch ³ (10 ³ mm ³)	
44 x 16 1100 x 400	W44 x 335 W1100 x 499	98.7 63 500	44.02 1 118	1.025 26.0	15.945 405	1.770 45.0	37.993 965	3.014 77	1.694 43	1.18 30	31100 12 945	1410 23 106	17.8 452	1200 499	150 2 458	3.49 88.6	1620 26 547	236 3 867
	W44 x 290 W1100 x 433	85.8 55 100	43.62 1 108	0.865 22.0	15.825 402	1.575 40.0	37.983 965	2.819 72	1.614 41	1.18 30	27000 11 238	1240 20 320	17.8 452	1040 433	132 2 163	3.49 88.6	1410 23 106	205 3 359
	W44 x 262 W1100 x 390	77.2 49 700	43.31 1 100	0.785 20.0	15.750 400	1.415 36.0	37.993 965	2.659 68	1.574 40	1.18 30	24100 10 031	1110 18 190	17.7 450	923 384	117 1 917	3.47 88.1	1270 20 811	182 2 982
	W44 x 230 W1100 x 343	67.9 43 600	42.91 1 090	0.710 18.0	15.750 400	1.220 31.0	37.983 965	2.464 63	1.536 39	1.18 30	20800 8 658	971 15 912	17.5 445	796 331.3	101 1 655	3.43 87.1	1100 18 026	157 2 573



WIDE FLANGE BEAMS

Deep Foundation Pile Systems > Structural Sections > Wide Flange



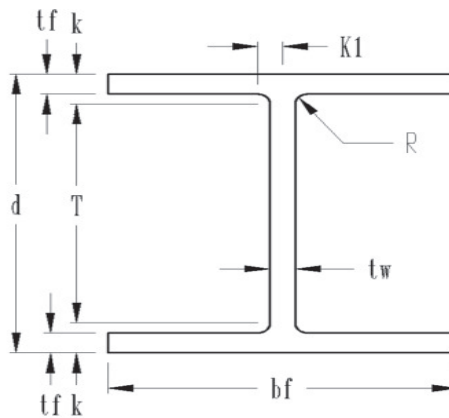
W40 & W1100

Prime Section Group	Section Size	Area A	Depth d	Web Thickness t _w	Flange		Distance			Fillet Radius R	Elastic Properties						Plastic Modulus	
					Width b _f	Thickness t _f	T	k	k ₁		X - X			Y - Y			Z _x	Z _y
											I _x	S _x	r _x	I _y	S _y	r _y		
40 x 16 1000 x 400	W40 x 431 W1000 x 642	126.7 81 800	41.26 1 048	1.340 34.0	16.220 412	2.360 60.0	34.053 865	3.604 92	1.851 47	1.18 30	34800 14 485	1690 27 694	16.6 422	1690 703	208 3 408	3.65 92.7	1960 32 119	328 5 375
	W40 x 397 W1000 x 591	117.0 75 300	40.95 1 040	1.220 31.0	16.120 409	2.200 55.9	34.063 865	3.444 87	1.791 46	1.18 30	32000 13 319	1560 25 564	16.6 422	1540 641	191 3 130	3.64 92.5	1800 29 497	300 4 916
	W40 x 372 W1000 x 554	109.4 70 600	40.63 1 032	1.160 29.5	16.065 408	2.045 52.0	34.053 865	3.289 84	1.761 45	1.18 30	29600 12 320	1460 23 925	16.5 419	1420 591	177 2 900	3.60 91.4	1680 27 530	277 4 539
	W40 x 362 W1000 x 539	107.0 68 700	40.55 1 030	1.120 28.4	16.020 407	2.010 51.1	34.043 865	3.254 83	1.741 44	1.18 30	28900 12 029	1420 23 270	16.5 419	1380 574	173 2 835	3.60 91.4	1640 26 875	270 4 424
	W40 x 324 W1000 x 483	95.3 61 500	40.16 1 020	1.000 25.4	15.910 404	1.810 46.0	34.053 865	3.054 78	1.681 43	1.18 30	25600 10 656	1280 20 975	16.4 417	1220 508	153 2 507	3.58 90.9	1460 23 925	239 3 916
	W40 x 297 W1000 x 443	87.4 56 400	39.84 1 012	0.930 23.6	15.825 402	1.650 41.9	34.053 865	2.894 73	1.646 42	1.18 30	23200 9 657	1170 19 173	16.3 414	1090 454	138 2 261	3.54 89.9	1330 21 795	215 3 523
	W40 x 277 W1000 x 412	81.3 52 500	39.69 1 008	0.830 21.1	15.830 402	1.575 40.0	34.053 865	2.819 72	1.596 41	1.18 30	21900 9 115	1100 18 026	16.4 417	1040 433	132 2 163	3.58 90.9	1250 20 484	204 3 343
	W40 x 249 W1000 x 371	73.3 47 300	39.38 1 000	0.750 19.0	15.750 400	1.420 36.1	34.053 865	2.664 68	1.556 40	1.18 30	19600 8 158	993 16 272	16.3 414	926 385	118 1 934	3.55 90.2	1120 18 353	182 2 982
	W40 x 215 W1000 x 321	63.3 40 800	38.98 990	0.650 16.5	15.750 400	1.220 31.0	34.053 865	2.464 63	1.506 38	1.18 30	16700 6 951	859 14 076	16.2 411	796 331	101 1 655	3.54 89.9	964 15 797	156 2 556
	W40 x 199 W1000 x 296	58.4 37 700	38.67 982	0.650 16.5	15.750 400	1.065 27.1	34.053 865	2.309 59	1.506 38	1.18 30	14900 6 202	770 12 618	16.0 406	695 289	88.2 1 445	3.45 87.6	869 14 240	137 2 245
40 x 12 1000 x 300	W40 x 327 W1000 x 486	95.9 61 900	40.79 1 036	1.180 30.0	12.130 308	2.130 54.1	34.043 865	3.374 86	1.771 45	1.18 30	24500 10 198	1200 19 664	16.0 406	640 266	105 1 721	2.58 65.5	1410 23 106	170 2 786
	W40 x 294 W1000 x 438	86.2 55 600	40.39 1 026	1.060 26.9	12.010 305	1.930 49.0	34.043 865	3.174 81	1.711 43	1.18 30	21900 9 115	1080 17 698	15.9 404	562 234	935.0 15 322	2.55 64.8	1270 20 811	150 2 458
	W40 x 264 W1000 x 393	77.6 50 100	40.00 1 016	0.960 24.4	11.930 303	1.730 43.9	34.053 865	2.974 75	1.661 42	1.18 30	19400 8 075	971 15 912	15.8 401	493 205	82.6 1 354	2.52 64.0	1130 18 517	132 2 163
	W40 x 235 W1000 x 350	68.9 44 600	39.69 1 008	0.830 21.1	11.890 302	1.575 40.0	34.053 865	2.819 72	1.596 41	1.18 30	17400 7 242	875 14 339	15.9 404	444 185	74.6 1 222	2.54 64.5	1010 16 551	118 1 934
	W40 x 211 W1000 x 314	62.0 40 000	39.37 1 000	0.750 19.1	11.810 300	1.415 35.9	34.053 865	2.659 67	1.556 40	1.18 30	15500 6 452	786 12 880	15.8 401	390 162	66.1 1 083	2.51 63.8	906 14 847	105 1 721
	W40 x 183 W1000 x 272	53.7 34 600	38.98 990	0.650 16.5	11.810 300	1.200 31.0	34.093 865	2.444 63	1.506 38	1.18 30	13200 5 494	675 11 061	15.7 399	331 138	56.0 918	2.49 63.2	774 12 684	88.3 1 447
	W40 x 167 W1000 x 249	49.1 31 700	38.59 980	0.650 16.5	11.810 300	1.025 26.0	34.053 865	2.269 58	1.506 38	1.18 30	11600 4 828	600 9 832	15.3 389	283 118	47.9 785.6	2.40 61.0	693 11 356	76.0 1 245
	W40 x 149 W1000 x 222	43.8 28 200	38.20 970	0.630 16.0	11.810 300	0.830 21.1	34.053 865	2.074 53	1.496 38	1.18 30	9800 4 079	513 8 407	15.0 381	229 95.3	38.8 636	2.29 58.2	598 9 799	62.2 1 019



WIDE FLANGE BEAMS

Deep Foundation Pile Systems > Structural Sections > Wide Flange



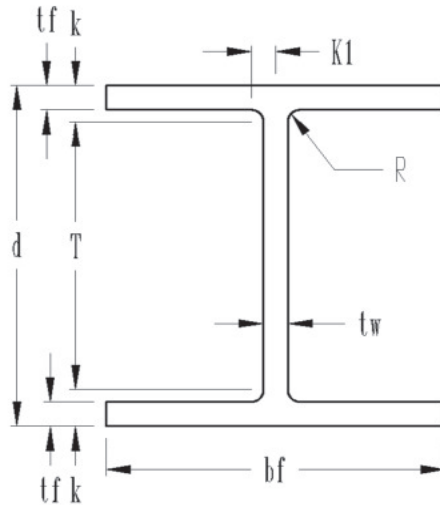
W36 & W920

Prime Section Group	Section Size	Area A	Depth d	Web Thickness tw	Flange		Distance			Fillet Radius R	Elastic Properties						Plastic Modulus	
					Width bf	Thickness tf	T	k	k1		X - X			Y - Y			Zx	Zy
											Ix	Sx	rx	Iy	Sy	ry		
36 x 16-1/2 920 x 420	W36 x 441 W920 x 656	129.7 83 700	38.85 987	1.360 34.5	16.965 431	2.440 62.0	31.483 800	3.684 94	1.861 47	1.18 30	32100 13 361	1650 27 039	15.7 399	1910 795	235 3 851	3.92 99.6	1910 31 299	368 6 030
	W36 x 395 W920 x 588	116.2 75 000	38.37 975	1.220 31.0	16.830 427	2.200 55.9	31.483 800	3.444 87	1.791 46	1.18 30	28500 11 863	1490 24 417	15.7 399	1750 728	208 3 408	3.88 98.6	1710 28 022	325 5 326
	W36 x 361 W920 x 537	106.1 68 500	37.99 965	1.120 28.4	16.730 425	2.010 51.1	31.483 800	3.254 83	1.741 44	1.18 30	25700 10 697	1350 22 122	15.6 396	1570 653	188 3 081	3.85 97.8	1550 25 400	293 4 801
	W36 x 330 W920 x 491	97.0 62 600	37.67 957	1.020 25.9	16.630 422	1.850 47.0	31.483 800	3.094 79	1.691 43	1.18 30	23300 9 698	1240 20 320	15.5 394	1420 591	171 2 802	3.83 97.3	1410 23 106	265 4 343
	W36 x 302 W920 x 449	88.8 57 600	37.33 948	0.945 24.0	16.655 423	1.680 42.7	31.483 800	2.924 74	1.654 42	1.18 30	21100 8 782	1130 18 517	15.4 391	1300 541	156 2 556	3.82 97.0	1280 20 975	241 3 949
	W36 x 282 W920 x 420	82.9 53 500	37.11 943	0.885 22.5	16.595 422	1.570 39.9	31.483 800	2.814 71	1.624 41	1.18 30	19600 8 158	1050 17 206	15.4 391	1200 499	144 2 360	3.80 96.5	1190 19 501	223 3 654
	W36 x 262 W920 x 390	77.0 49 700	36.85 936	0.840 21.3	16.550 420	1.440 36.6	31.483 800	2.684 68	1.601 41	1.18 30	17900 7 451	972 15 928	15.3 389	1090 454	132 2 163	3.76 95.5	1100 18 026	204 3 343
	W36 x 247 W920 x 368	72.5 46 800	36.67 931	0.800 20.3	16.510 419	1.350 34.3	31.483 800	2.594 66	1.581 40	1.18 30	16700 6 951	913 14 961	15.2 386	1010 420	123 2 016	3.74 95.0	1030 16 879	190 3 114
	W36 x 231 W920 x 344	68.0 43 900	36.49 927	0.760 19.3	16.470 418	1.260 32.0	31.483 800	2.504 64	1.561 40	1.18 30	15600 6 493	854 13 994	15.1 384	940 391	114 1 868	3.71 94.2	963 15 781	176 2 884
	36 x 12 920 x 300	W36 x 256 W920 x 381	75.4 48 600	37.43 951	0.960 24.4	12.215 310	1.730 43.9	31.483 800	2.974 75	1.661 42	1.18 30	16800 6 993	895 14 666	14.9 378	528 220	86.5 1 417	2.65 67.3	1040 17 042
W36 x 232 W920 x 345		68.1 44 000	37.12 943	0.870 22.1	12.120 308	1.570 39.9	31.493 800	2.814 71	1.616 41	1.18 30	15000 6 243	809 13 257	14.8 376	468 195	77.2 1 265	2.62 66.5	936 15 338	122 1 999
W36 x 210 W920 x 313		61.8 39 900	36.69 932	0.830 21.1	12.180 309	1.360 34.5	31.483 800	2.604 66	1.596 41	1.18 30	13200 5 494	719 11 782	14.6 371	411 171	67.5 1 106	2.58 65.5	833 13 650	107 1 753
W36 x 194 W920 x 289		57.0 36 800	36.49 927	0.765 19.4	12.115 308	1.260 32.0	31.483 800	2.504 64	1.564 40	1.18 30	12100 5 036	664 10 881	14.6 371	375 156	61.9 1 014	2.56 65.0	767 12 569	97.7 1 601
W36 x 182 W920 x 271		53.6 34 600	36.33 923	0.725 18.4	12.075 307	1.180 30.0	31.483 800	2.424 62	1.544 39	1.18 30	11300 4 703	623 10 209	14.5 368	347 144	57.6 944	2.55 64.8	718 11 766	90.7 1 486
W36 x 170 W920 x 253		50.0 32 300	36.17 919	0.680 17.3	12.030 306	1.100 27.9	31.483 800	2.344 59	1.521 39	1.18 30	10500 4 370	581 9 521	14.5 368	320 133	53.2 872	2.53 64.3	668 10 947	83.8 1 373
W36 x 160 W920 x 238		47.0 30 300	36.01 915	0.650 16.5	12.000 305	1.020 25.9	31.483 800	2.264 57	1.506 38	1.18 30	9760 4 062	542 8 882	14.4 366	295 123	49.1 805	2.50 63.5	624 10 225	77.3 1 267
W36 x 150 W920 x 223		44.2 28 500	35.85 911	0.625 15.9	11.975 304	0.940 23.9	31.483 800	2.184 55	1.494 38	1.18 30	9040 3 763	504 8 259	14.3 363	270 112	45.1 739	2.47 62.7	581 9 521	70.9 1 162
W36 x 135 W920 x 201		39.7 25 600	35.55 903	0.600 15.2	11.950 304	0.790 20.1	31.483 800	2.034 52	1.481 38	1.18 30	7800 3 247	439 7 194	14.0 356	225 93.7	37.7 618	2.38 60.5	509 8 341	59.7 978



WIDE FLANGE BEAMS

Deep Foundation Pole Systems > Structural Sections > Wide Flange



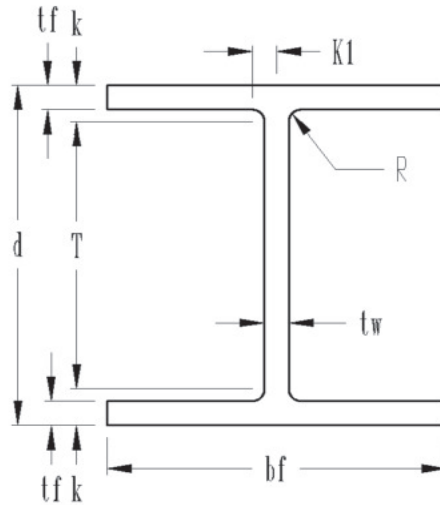
W33 & W840

Prime Section Group	Section Size	Area	Depth	Web Thickness	Flange		Distance			Fillet Radius	Elastic Properties						Plastic Modulus	
					Width	Thickness	T	k	k ₁		X - X			Y - Y			Z _x	Z _y
											I _x	S _x	r _x	I _y	S _y	r _y		
33 x 15-3/4 840 x 400	W33 x 387 W840 x 576	114.0 73 500	35.95 913	1.260 32.0	16.200 411	2.280 57.9	28.903 734	3.524 89	1.811 46	1.18 30	24300 10 114	1350 22 122	14.6 371	1620 674	200 3 277	3.77 95.8	1560 25 564	312 5 113
	W33 x 354 W840 x 527	104.1 67 200	35.55 903	1.160 29.5	16.100 409	2.090 53.1	28.883 734	3.334 85	1.761 45	1.18 30	22000 9 157	1240 20 320	14.5 368	1460 608	181 2 966	3.74 95.0	1420 23 270	282 4 621
	W33 x 318 W840 x 473	93.5 60 300	35.16 893	1.040 26.4	15.985 406	1.890 48.0	28.893 734	3.134 80	1.701 43	1.18 30	19500 8 117	1110 18 190	14.5 368	1290 537	161 2 638	3.71 94.2	1270 20 811	250 4 097
	W33 x 291 W840 x 433	85.6 55 200	34.84 885	0.960 24.4	15.905 404	1.730 43.9	28.893 734	2.974 75	1.661 42	1.18 30	17700 7 367	1020 16 715	14.4 366	1160 483	146 2 393	3.68 93.5	1160 19 009	226 3 703
	W33 x 263 W840 x 392	77.4 49 900	34.53 877	0.870 22.1	15.805 401	1.570 39.9	28.903 734	2.814 71	1.616 41	1.18 30	15900 6 618	919 15 060	14.3 363	1040 433	131 2 147	3.66 93.0	1040 17 042	202 3 310
	W33 x 241 W840 x 359	70.9 45 700	34.18 868	0.830 21.1	15.860 403	1.400 35.6	28.893 734	2.644 67	1.596 41	1.18 30	14200 5 910	831 13 618	14.1 358	933 388	118 1 934	3.62 91.9	940 15 404	182 2 982
	W33 x 221 W840 x 329	65.0 41 900	33.93 862	0.775 19.7	15.805 401	1.275 32.4	28.893 734	2.519 64	1.569 40	1.18 30	12900 5 369	759 12 438	14.1 358	840 350	106 1 737	3.59 91.2	857 14 044	164 2 687
	W33 x 201 W840 x 299	59.1 38 100	33.68 855	0.715 18.2	15.745 400	1.150 29.2	28.893 734	2.394 61	1.539 39	1.18 30	11600 4 828	686 11 241	14.0 356	749 312	95.2 1 560	3.56 90.4	773 12 667	147 2 409
33 x 11-1/2 840 x 290	W33 x 169 W840 x 251	49.5 31 900	33.82 859	0.670 17.0	11.500 292	1.220 31.0	28.893 734	2.464 63	1.516 39	1.18 30	9290 3 867	549 8 996	13.7 348	310 129	53.9 883	2.50 63.5	629 10 307	84.4 1 383
	W33 x 152 W840 x 226	44.7 28 800	33.49 851	0.635 16.1	11.565 294	1.055 26.8	28.893 734	2.299 58	1.499 38	1.18 30	8160 3 396	487 7 980	13.5 343	273 114	47.2 773	2.47 62.7	559 9 160	73.9 1 211
	W33 x 141 W840 x 210	41.6 26 800	33.30 846	0.605 15.4	11.535 293	0.960 24.4	28.893 734	2.204 56	1.484 38	1.18 30	7450 3 101	448 7 341	13.4 340	246 102	42.7 700	2.43 61.7	514 8 423	66.9 1 096
	W33 x 130 W840 x 193	38.3 24 700	33.09 840	0.580 14.7	11.510 292	0.855 21.7	28.893 734	2.099 53	1.471 37	1.18 30	6710 2 793	406 6 653	13.2 335	218 90.7	37.9 621	2.39 60.7	467 7 653	59.5 975
	W33 x 118 W840 x 176	34.7 22 400	32.86 835	0.550 14.0	11.480 292	0.740 18.8	28.893 734	1.984 50	1.456 37	1.18 30	5900 2 456	359 5 883	13.0 330	187 77.8	32.6 534	2.32 58.9	415 6 801	51.3 841



WIDE FLANGE BEAMS

Deep Foundation Pole Systems > Structural Sections > Wide Flange



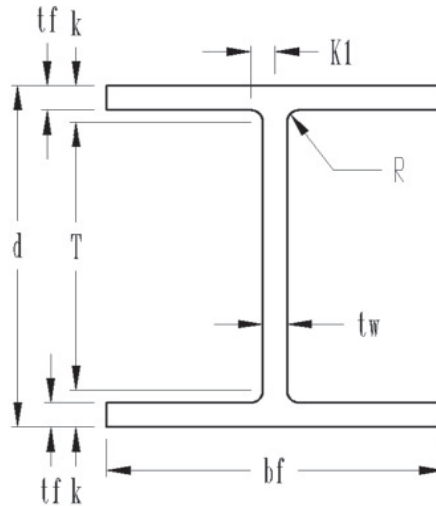
W30 & W760

Prime Section Group	Section Size	Area A	Depth d	Web Thickness t _w	Flange			Fillet Radius R	Elastic Properties						Plastic Modulus	
					Width b _f	Thickness t _f	k ₁		X - X			Y - Y			Z _x	Z _y
									I _x	S _x	r _x	I _y	S _y	r _y		
30 x 15 760 x 380	W30 x 391 W760 x 582	115.0 74 200	33.19 843	1.360 34.5	15.590 396	2.440 62.0	1.861 47	1.18 30	20700 8 616	1250 20 484	13.4 340	1550 645	198 3 245	3.67 93.2	1450 23 761	310 5 080
	W30 x 357 W760 x 531	104.8 67 600	32.80 833	1.240 31.5	15.470 393	2.240 56.9	1.801 46	1.18 30	18700 7 784	1140 18 681	13.3 338	1390 579	179 2 933	3.64 92.5	1320 21 631	279 4 572
	W30 x 326 W760 x 484	95.7 61 700	32.40 823	1.140 29.0	15.370 390	2.050 52.1	1.751 45	1.18 30	16800 6 993	1040 17 042	13.2 335	1240 516	162 2 655	3.60 91.4	1190 19 501	252 4 130
	W30 x 292 W760 x 434	85.7 55 300	32.01 813	1.020 25.9	15.255 387	1.850 47.0	1.691 43	1.18 30	14900 6 202	930 15 240	13.2 335	1100 458	144 2 360	3.58 90.9	1060 17 370	223 3 654
	W30 x 261 W760 x 389	76.7 49 500	31.61 803	0.930 23.6	15.155 385	1.650 41.9	1.646 42	1.18 30	13100 5 453	829 13 585	13.1 333	959 399	127 2 081	3.53 89.7	943 15 453	196 3 212
	W30 x 235 W760 x 350	69.0 44 500	31.30 795	0.830 21.1	15.055 382	1.500 38.1	1.596 41	1.18 30	11700 4 870	748 12 257	13.0 330	855 356	114 1 868	3.51 89.2	847 13 880	175 2 868
	W30 x 211 W760 x 314	62.0 40 000	30.94 786	0.775 19.7	15.105 384	1.315 33.4	1.569 40	1.18 30	10300 4 287	665 10 897	12.9 328	757 315	100 1 639	3.49 88.6	751 12 307	155 2 540
	W30 x 191 W760 x 284	56.1 36 200	30.68 779	0.710 18.0	15.040 382	1.185 30.1	1.536 39	1.18 30	9200 3 829	600 9 832	12.8 325	673 280	89.5 1 467	3.46 87.9	675 11 061	138 2 261
	W30 x 173 W760 x 257	50.8 32 800	30.44 773	0.655 16.6	14.985 381	1.065 27.1	1.509 38	1.18 30	8230 3 426	541 8 865	12.7 323	598 249	79.8 1 308	3.42 86.9	607 9 947	123 2 016
30 x 10-1/2 760 x 270	W30 x 148 W760 x 220	43.5 28 100	30.67 779	0.650 16.5	10.480 266	1.180 30.0	1.506 38	1.18 30	6680 2 780	436 7 145	12.4 315	227 94.5	43.3 710	2.28 57.9	500 8 194	68.0 1 114
	W30 x 132 W760 x 196	38.9 25 100	30.31 770	0.615 15.6	10.545 268	1.000 25.4	1.489 38	1.18 30	5770 2 402	380 6 227	12.2 310	196 81.6	37.2 610	2.25 57.2	437 7 161	58.4 957
	W30 x 124 W760 x 185	36.5 23 500	30.17 766	0.585 14.9	10.515 267	0.930 23.6	1.474 37	1.18 30	5360 2 231	355 5 817	12.1 307	181 75.3	34.4 564	2.23 56.6	408 6 686	54.0 885
	W30 x 116 W760 x 173	34.2 22 100	30.01 762	0.565 14.4	10.495 267	0.850 21.6	1.464 37	1.18 30	4930 2 052	329 5 391	12.0 305	164 68.3	31.3 513	2.19 55.6	378 6 194	49.2 806
	W30 x 108 W760 x 161	31.7 20 500	29.83 758	0.545 13.8	10.475 266	0.760 19.3	1.454 37	1.18 30	4470 1 861	299 4 900	11.9 302	146 60.8	27.9 457	2.15 54.6	346 5 670	43.9 719
	W30 x 99 W760 x 147	29.1 18 800	29.65 753	0.520 13.2	10.450 265	0.670 17.0	1.441 37	1.18 30	3990 1 661	269 4 408	11.7 297	128 53.3	24.5 401	2.10 53.3	312 5 113	38.6 633
	W30 x 90 W760 x 134	26.4 17 000	29.53 750	0.470 11.9	10.400 264	0.610 15.5	1.416 36	1.18 30	3610 1 503	245 4 015	11.7 297	115 47.9	22.1 362	2.09 53.1	283 4 638	34.7 569



WIDE FLANGE BEAMS

Deep Foundation Pile Systems > Structural Sections > Wide Flange



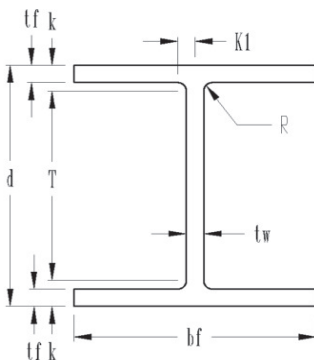
W27 & W690

Prime Section Group	Section Size	Area A	Depth d	Web Thickness t _w	Flange		Distance			Fillet Radius R	Elastic Properties						Plastic Modulus	
					Width b _f	Thickness t _f	T	k	k ₁		X - X			Y - Y			Z _x	Z _y
					Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)		I _x	S _x	r _x	I _y	S _y	r _y	Inch ³ (10 ³ mm ³)	Inch ³ (10 ³ mm ³)
27 x 14 690 x 360	W27 x 368 W690 x 548	108.1 69 800	30.39 772	1.380 35.1	14.665 372	2.480 63.0	22.943 583	3.724 95	1.871 48	1.18 30	16200 6 743	1060 17 370	12.2 310	1310 545	179 2 933	3.48 88.4	1240 20 320	279 4 572
	W27 x 336 W690 x 500	98.7 63 700	30.00 762	1.260 32.0	14.550 370	2.280 57.9	22.953 583	3.524 89	1.811 46	1.18 30	14600 6 077	972 15 928	12.1 307	1180 491	162 2 655	3.45 87.6	1130 18 517	252 4 130
	W27 x 307 W690 x 457	90.2 58 200	29.61 752	1.160 29.5	14.445 367	2.090 53.1	22.943 583	3.334 85	1.761 45	1.18 30	13100 5 453	887 14 535	12.0 305	1050 437	146 2 393	3.41 86.6	1030 16 879	227 3 720
	W27 x 281 W690 x 419	82.6 53 300	29.29 744	1.060 26.9	14.350 365	1.930 49.0	22.943 583	3.174 81	1.711 43	1.18 30	11900 4 953	814 13 339	12.0 305	953 397	133 2 179	3.39 86.1	936 15 338	206 3 376
	W27 x 258 W690 x 384	75.7 48 900	28.98 736	0.980 24.9	14.270 362	1.770 45.0	22.953 583	3.014 77	1.671 42	1.18 30	10800 4 495	745 12 208	11.9 302	859 358	120 1 966	3.36 85.3	852 13 962	187 3 064
	W27 x 235 W690 x 350	69.1 44 600	28.66 728	0.910 23.1	14.190 360	1.610 40.9	22.953 583	2.854 72	1.636 42	1.18 30	9700 4 037	677 11 094	11.8 300	769 320	108 1 770	3.33 84.3	772 12 651	168 3 275
	W27 x 217 W690 x 323	63.8 41 100	28.43 722	0.830 21.1	14.115 359	1.500 38.1	22.943 583	2.744 70	1.596 41	1.18 30	8910 3 709	627 10 275	11.8 300	704 293	100.0 1 639	3.32 84.3	711 11 651	154 2 524
	W27 x 194 W690 x 289	57.0 36 800	28.11 714	0.750 19.0	14.035 356	1.340 34.0	22.943 583	2.584 66	1.556 40	1.18 30	7860 3 272	559 9 160	11.7 297	619 258	88.1 1 444	3.29 83.6	631 10 340	136 2 229
	W27 x 178 W690 x 265	52.3 33 700	27.81 706	0.725 18.4	14.085 358	1.190 30.2	22.943 583	2.434 62	1.544 39	1.18 30	7020 2 922	505 8 275	11.6 295	555 231	78.8 1 291	3.25 82.6	570 9 341	122 1 999
	W27 x 161 W690 x 240	47.4 30 600	27.59 701	0.660 16.8	14.020 356	1.080 27.4	22.943 583	2.324 59	1.511 38	1.18 30	6310 2 626	458 7 505	11.5 292	497 207	70.9 1 162	3.23 82.0	515 8 439	109 1 786
	W27 x 146 W690 x 217	42.9 27 700	27.38 695	0.605 15.4	13.965 355	0.975 24.8	22.943 582	2.219 56	1.484 38	1.18 30	5660 2 356	414 6 784	11.5 292	443 184	63.5 1 041	3.20 81.3	464 7 604	97.7 1 601
	27 x 10 690 x 250	W27 x 129 W690 x 192	37.8 24 400	27.63 702	0.610 15.5	10.010 254	1.100 27.9	22.943 583	2.344 59	1.486 38	1.18 30	4760 1 981	345 5 654	11.2 284	184 76.6	36.8 603	2.21 56.1	395 6 473
W27 x 114 W690 x 170		33.5 21 600	27.29 693	0.570 14.5	10.070 256	0.930 23.6	22.943 583	2.174 55	1.466 37	1.18 30	4080 1 698	299 4 900	11.0 279	159 66.2	31.5 516	2.18 55.4	343 5 621	49.3 808
W27 x 102 W690 x 152		30.0 19 400	27.09 688	0.515 13.1	10.015 254	0.830 21.1	22.943 583	2.074 53	1.439 37	1.18 30	3620 1 507	267 4 375	11.0 279	139 57.9	27.8 456	2.15 54.6	305 4 998	43.4 711
W27 x 94 W690 x 140		27.7 17 900	26.92 684	0.490 12.4	9.990 254	0.745 18.9	22.943 583	1.989 50	1.426 36	1.18 30	3270 1 361	243 3 982	10.9 277	124 51.6	24.8 406	2.12 53.8	278 4 556	38.8 636
W27 x 84 W690 x 125		24.8 16 000	26.71 678	0.460 11.7	9.960 253	0.640 16.3	22.943 582	1.884 48	1.411 36	1.18 30	2850 1 186	213 3 490	10.7 272	106 44.1	21.2 347	2.07 52.6	244 3 998	33.2 544



WIDE FLANGE BEAMS

Deep Foundation Pile Systems > Structural Sections > Wide Flange



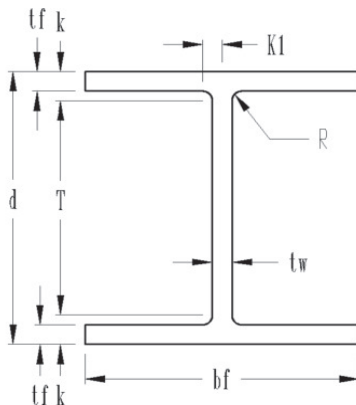
W24 & W610

Prime Section Group	Section Size	Area A	Depth d	Web Thickness tw	Flange		Distance			Fillet Radius R	Elastic Properties						Plastic Modulus	
					Width bf	Thickness tf	T	k	k1		X - X			Y - Y			Zx	Zy
											Ix	Sx	rx	Iy	Sy	ry		
Inch x lbs/ft (mm x kg/m)	Inch ² (mm ²)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch ⁴ (10 ⁶ mm ⁴)	Inch ³ (10 ³ mm ³)	Inch (mm)	Inch ⁴ (10 ⁶ mm ⁴)	Inch ³ (10 ³ mm ³)	Inch (mm)	Inch ³ (10 ³ mm ³)	Inch ³ (10 ³ mm ³)	
24 x 12-3/4 610 x 320	W24 x 370	108.0	27.99	1.520	13.660	2.720	20.063	3.964	1.941	1.18	13400	957	11.1	1160	170	3.27	1130	267
	W610 x 551	70 200	711	38.6	347	69.1	510	101	49	30	5 577	15 682	282	483	2 786	83.1	18 517	4 375
	W24 x 335	98.4	27.52	1.380	13.520	2.480	20.073	3.724	1.871	1.18	11900	864	11.0	1030	152	3.23	1020	238
	W610 x 498	63 500	699	35.1	343	63.0	510	94	48	30	4 953	14 158	279	429	2 491	82.0	16 715	3 900
	W24 x 306	89.8	27.13	1.260	13.405	2.280	20.083	3.524	1.811	1.18	10700	789	10.9	919	137	3.20	922	214
	W610 x 455	57 900	689	32.0	340	57.9	510	89	46	30	4 454	12 929	277	383	2 245	81.3	15 109	3 507
	W24 x 279	82.0	26.73	1.160	13.305	2.090	20.063	3.334	1.761	1.18	9600	718	10.8	823	124	3.17	835	193
	W610 x 415	52 900	679	29.5	338	53.1	510	85	45	30	3 996	11 766	274	343	2 032	80.5	13 683	3 163
	W24 x 250	73.5	26.34	1.040	13.185	1.890	20.073	3.134	1.701	1.18	8490	644	10.7	724	110	3.14	744	171
	W610 x 372	47 400	669	26.4	335	48.0	510	80	43	30	3 534	10 553	272	301	1 803	79.8	12 192	2 802
	W24 x 229	67.2	26.02	0.960	13.110	1.730	20.073	2.974	1.661	1.18	7650	588	10.7	651	99.4	3.11	675	154
	W610 x 341	43 400	661	24.4	333	43.9	510	75	42	30	3 184	9 636	272	271	1 629	79.0	11 061	2 524
	W24 x 207	60.7	25.71	0.870	13.010	1.570	20.083	2.814	1.616	1.18	6820	531	10.6	578	88.8	3.08	606	137
	W610 x 307	39 100	653	22.1	330	39.9	510	71	41	30	2 839	8 701	269	241	1 455	78.2	9 931	2 245
	W24 x 192	56.3	25.47	0.810	12.950	1.460	20.063	2.704	1.586	1.18	6260	491	10.5	530	81.8	3.07	559	126
	W610 x 285	36 100	647	20.6	329	37.1	510	69	40	30	2 606	8 046	267	221	1 340	78.0	9 160	2 065
W24 x 176	51.7	25.24	0.750	12.890	1.340	20.073	2.584	1.556	1.18	5680	450	10.5	479	74.3	3.04	511	115	
W610 x 262	33 300	641	19.0	327	34.0	510	66	40	30	2 364	7 374	267	199	1 218	77.2	8 374	1 885	
W24 x 162	47.7	25.00	0.705	12.955	1.220	20.073	2.464	1.534	1.18	5170	414	10.4	443	68.4	3.05	468	105	
W610 x 241	30 800	635	17.9	329	31.0	510	63	39	30	2 152	6 784	264	184	1 121	77.5	7 669	1 721	
W24 x 146	43.0	24.74	0.650	12.900	1.090	20.073	2.334	1.506	1.18	4580	371	10.3	391	60.5	3.01	418	93.2	
W610 x 217	27 700	628	16.5	328	27.7	510	59	38	30	1 906	6 080	262	163	991	76.5	6 850	1 527	
W24 x 131	38.5	24.48	0.605	12.855	0.960	20.073	2.204	1.484	1.18	4020	329	10.2	340	53.0	2.97	370	81.5	
W610 x 195	24 800	622	15.4	327	24.4	510	56	38	30	1 673	5 391	259	142	869	75.4	6 063	1 336	
W24 x 117	34.4	24.26	0.550	12.800	0.850	20.073	2.094	1.456	1.18	3540	291	10.1	297	46.5	2.94	327	71.4	
W610 x 174	22 200	616	14.0	325	21.6	510	53	37	30	1 473	4 769	257	124	762	74.7	5 359	1 170	
W24 x 104	30.6	24.06	0.500	12.750	0.750	20.073	1.994	1.431	1.18	3100	258	10.1	259	40.7	2.91	289	62.4	
W610 x 155	19 700	611	12.7	324	19.0	510	51	36	30	1 290	4 228	257	108	667	73.9	4 736	1 023	
24 x 9 610 x 230	W24 x 103	30.3	24.53	0.550	9.000	0.980	20.083	2.224	1.456	1.18	3000	245	10.00	119	26.5	1.99	280	41.5
	W610 x 153	19 600	623	14.0	229	24.9	510	56	37	30	1 249	4 015	254	49.5	434	50.5	4 588	680
	W24 x 94	27.7	24.31	0.515	9.065	0.875	20.073	2.119	1.439	1.18	2700	222	9.87	109	24.0	1.98	254	37.5
	W610 x 140	17 900	617	13.1	230	22.2	510	54	37	30	1 124	3 638	251	45.4	393	50.3	4 162	615
	W24 x 84	24.7	24.10	0.470	9.020	0.770	20.073	2.014	1.416	1.18	2370	196	9.79	94.4	20.9	1.95	224	32.6
W610 x 125	15 900	612	11.9	229	19.6	510	51	36	30	986	3 212	249	39.3	342	49.5	3 671	534	
W24 x 76	22.4	23.92	0.440	8.990	0.680	20.073	1.924	1.401	1.18	2100	176	9.69	82.5	18.4	1.92	200	28.6	
W610 x 113	14 500	608	11.2	228	17.3	510	49	36	30	874	2 884	246	34.3	302	48.8	3 277	469	
W24 x 68	20.1	23.73	0.415	8.965	0.585	20.073	1.829	1.389	1.18	1830	154	9.55	70.4	15.7	1.87	177	24.5	
W610 x 101	13 000	603	10.5	228	14.9	510	46	35	30	762	2 524	243	29.3	257	47.5	2 900	401	
CSA	W24 x 61	18.0	23.56	0.380	8.930	0.500	20.073	1.744	1.371	1.18	1602	136	9.45	59.6	13.4	1.82	156	20.9
	W610 x 91	11 600	598	9.7	227	12.7	510	44	35	30	667	2 230	240	24.8	219	46.3	2 560	343
	W24 x 56	16.6	23.48	0.355	8.900	0.460	20.073	1.704	1.359	1.18	1473	126	9.41	54.3	12.2	1.81	144	19.1
W610 x 84	10 700	596	9.0	226	11.7	510	43	35	30	613	2 060	239	22.6	200	45.9	2 360	313	
24 x 7 610 x 180	W24 x 62	18.2	23.74	0.430	7.040	0.590	20.939	1.401	0.963	0.75	1550	131	9.23	34.5	9.8	1.38	153	15.7
	W610 x 92	11 700	603	10.9	179	15.0	532	36	24	19	645	2 147	234	14.4	161	35.1	2 507	257
	W24 x 55	16.2	23.57	0.395	7.005	0.505	20.939	1.316	0.946	0.75	1350	114	9.11	29.1	8.30	1.34	134	13.3
W610 x 82	10 500	599	10.0	178	12.8	532	33	24	19	562	1 868	231	12.1	136	34.0	2 196	218	



WIDE FLANGE BEAMS

Deep Foundation Pile Systems > Structural Sections > Wide Flange



W21 & W530

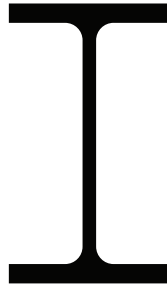
Prime Section Group	Section Size	Area A	Depth d	Web Thickness tw	Flange		Distance			Fillet Radius R	Elastic Properties						Plastic Modulus	
					Width bf	Thickness tf	T	k	k1		X - X			Y - Y			Zx	Zy
											Ix	Sx	rx	Iy	Sy	ry		
21 x 13 530 x 330	W21 x 275* W530 x 409*	81.8 52 700	24.13 613	1.220 31.0	12.890 327	2.190 55.6	17.263 439	3.434 87	1.791 45	1.18 30	7710 3 210	639 10 500	9.71 247	786 327	122 2 000	3.10 78.7	750 12 300	190 3 120
	W21 x 248* W530 x 369*	73.8 47 600	23.74 603	1.100 27.9	12.775 324	1.990 50.5	17.273 439	3.234 82	1.731 44	1.18 30	6850 2 850	577 9 450	9.63 245	695 289	109 1 780	3.07 77.9	672 11 000	169 2 770
21 x 12-1/4 530 x 310	W21 x 223* W530 x 332*	66.3 42 800	23.35 593	1.000 25.4	12.675 322	1.790 45.5	17.283 439	3.034 77	1.681 43	1.18 30	6040 2 510	517 8 480	9.54 242	610 254	96.2 1 580	3.03 77.0	598 9 800	150 2 450
	W21 x 201 W530 x 300	59.2 38 200	23.03 585	0.910 23.1	12.575 319	1.630 41.4	17.283 439	2.874 73	1.636 42	1.18 30	5310 2 210	461 7 554	9.47 241	542 226	86.1 1 411	3.02 76.7	530 8 685	133 2 179
	W21 x 182 W530 x 272	53.7 34 600	22.72 577	0.830 21.1	12.500 317	1.480 37.6	17.273 439	2.724 69	1.596 41	1.18 30	4730 1 969	417 6 833	9.40 239	483 201	77.2 1 265	3.00 76.2	476 7 800	119 1 950
	W21 x 166 W530 x 248	48.9 31 500	22.48 571	0.750 19.0	12.420 315	1.360 34.5	17.273 439	2.604 66	1.556 40	1.18 30	4280 1 781	380 6 227	9.36 238	435 181	70.0 1 147	2.99 75.9	432 7 079	108 1 770
	W21 x 147 W530 x 219	43.2 27 900	22.06 560	0.720 18.3	12.510 318	1.150 29.2	17.273 439	2.394 61	1.541 39	1.18 30	3630 1 511	329 5 391	9.17 233	376 157	60.1 985	2.95 74.9	373 6 112	92.6 1 517
	W21 x 132 W530 x 196	38.8 25 000	21.83 554	0.650 16.5	12.440 316	1.035 26.3	17.273 438	2.279 58	1.506 38	1.18 30	3220 1 340	295 4 834	9.12 232	333 139	53.5 877	2.93 74.4	333 5 457	82.3 1 349
	W21 x 122 W530 x 182	35.9 23 200	21.68 551	0.600 15.2	12.390 315	0.960 24.4	17.273 439	2.204 56	1.481 38	1.18 30	2960 1 232	273 4 474	9.09 231	305 127	49.2 806	2.92 74.2	307 5 031	75.6 1 239
	W21 x 111 W530 x 165	32.7 21 100	21.51 546	0.550 14.0	12.340 313	0.875 22.2	17.273 439	2.119 54	1.456 37	1.18 30	2670 1 111	249 4 080	9.05 230	274 114	44.5 729	2.90 73.7	279 4 572	68.2 1 118
	W21 x 101 W530 x 150	29.8 19 200	21.36 543	0.500 12.7	12.290 312	0.800 20.3	17.273 439	2.044 52	1.431 36	1.18 30	2420 1 007	227 3 720	9.02 229	248 103	40.3 660	2.89 73.4	253 4 146	61.7 1 011
	21 x 8-1/4 530 x 210	W21 x 93 W530 x 138	27.3 17 600	21.62 549	0.580 14.7	8.420 214	0.930 23.6	18.139 461	1.741 44	1.038 26	0.75 19	2070 862	192 3 146	8.70 221	92.9 39	22.1 362	1.84 46.7	221 3 622
W21 x 83 W530 x 123		24.3 15 700	21.43 544	0.515 13.1	8.355 212	0.835 21.2	18.139 461	1.646 42	1.006 26	0.75 19	1830 762	171 2 802	8.67 220	81.4 34	19.5 320	1.83 46.5	196 3 212	30.5 500
W21 x 73 W530 x 109		21.5 13 900	21.24 539	0.455 11.6	8.295 211	0.740 18.8	18.139 460	1.551 39	0.976 25	0.75 19	1600 666	151 2 474	8.64 219	70.6 29	17.0 279	1.81 46.0	172 2 819	26.6 436
W21 x 68 W530 x 101		20.0 12 900	21.13 537	0.430 10.9	8.270 210	0.685 17.4	18.139 461	1.496 38	0.963 24	0.75 19	1480 616	140 2 294	8.60 218	64.7 27	15.7 257	1.80 45.7	160 2 622	24.4 400
W21 x 62 W530 x 92		18.3 11 800	20.99 533	0.400 10.2	8.240 209	0.615 15.6	18.139 461	1.426 36	0.948 24	0.75 19	1330 554	127 2 081	8.54 217	57.5 24	14.0 229	1.77 45.0	144 2 360	21.7 356
W21 x 55 W530 x 82		16.2 10 500	20.80 528	0.375 9.5	8.220 209	0.522 13.3	18.135 460	1.333 34	0.936 24	0.75 19	1140 475	110 1 803	8.40 213	48.4 20	11.8 193	1.73 43.9	126 2 065	18.4 302
W21 x 48 W530 x 72		14.1 9 180	20.62 524	0.350 9.0	8.140 207	0.430 10.9	18.139 461	1.241 31	0.923 23	0.75 19	959 399	93 1 524	8.24 209	38.7 16	9.52 156	1.66 42.2	107 1 753	14.9 244
21 x 6-1/2 530 x 170	W21 x 57 W530 x 85	16.7 10 800	21.06 535	0.405 10.3	6.555 166	0.650 16.5	18.139 461	1.461 37	0.951 24	0.75 19	1170 487	111 1 819	8.36 212	30.6 13	9.35 153	1.35 34.3	129 2 114	14.8 243
	W21 x 50 W530 x 74	14.7 9 480	20.83 529	0.380 9.7	6.530 166	0.535 13.6	18.139 461	1.346 34	0.938 24	0.75 19	984 410	94.5 1 549	8.18 208	24.9 10	7.64 125	1.30 33.0	110 1 803	12.2 200
	W21 x 44 W530 x 66	13.0 8 390	20.66 525	0.350 8.9	6.500 165	0.450 11.4	18.139 461	1.261 32	0.923 23	0.75 19	843 351	81.6 1 337	8.06 205	20.7 9	6.37 104	1.26 32.0	95.4 1 563	10.2 167

* Non ASTM A6 Sections



WIDE FLANGE ASTM TABLE

Deep Foundation Pile Systems > Structural Sections > Wide Flange



STRUCTURAL SECTIONS

BEAM Available Steel Grades								
ASTM	American		CSA G40.21	Canadian		EN 10025 & EN 10113	European *	
	Yield Strength			Yield Strength			Yield Strength	
	ksi	MPa		ksi	MPa		ksi	MPa
A 36	36	250	Grade 350 W	50	350	S 235	34	235
A 572 Grade 50	50	345				S 275	40	275
A 588	50	345				S 355	51	355
A 709	50	345				S 460 HISTAR	67	460
A 913	50	345						
A 913	65	450						
A 992	50	345						

*HISTAR only available in some sizes

DELIVERY CONDITIONS & TOLERANCES

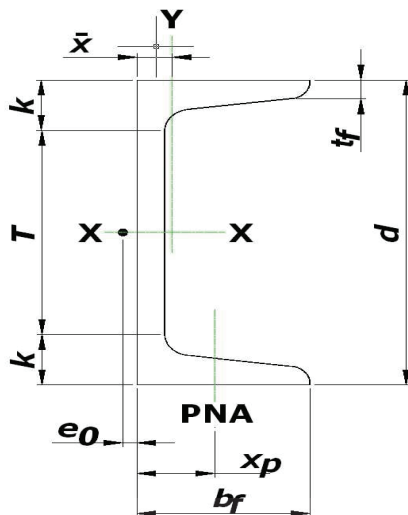
	ASTM A 6		
Mass	± 2.5%		
Depth	± 0.125 inches		
Length	30 feet and Under	Over 30 Feet	
Beams W 24 and Under	± 0.375 inches	+ (0.375 inches + (Length - 30) / 80	-0.375 inches
Beams Over W 24	± 0.5 inches	+ (0.5 inches + (Length - 30) / 80	-0.375 inches
Flanges out of Square			
Beams W 12 and Under	≤ 0.25 inches		
Beams Over W 12	≤ 0.3125 inches		
Web off Center	≤ 0.1875 inches		
Greatest Depth over Theoretical	≤ 0.25 inches		
Camber and Sweep	(0.125 in) * (Length / 10)		
Camber and Sweep for Columns			
45 Feet and Under	(0.125 in) * (Length / 10) but not over 0.375 inches		
Over 45 Feet	(0.375 in) + (0.125 in * (Length - 45) / 10		

*W 8 x 31 and heavier, W 10 x 49 and heavier, W 12 x 65 and heavier, and W 14 x 90 and heavier order as columns. If other sections are ordered as columns, the tolerances are subject to negotiation with manufacturer.



CHANNEL

Deep Foundation Pile Systems > Structural Sections > Channel



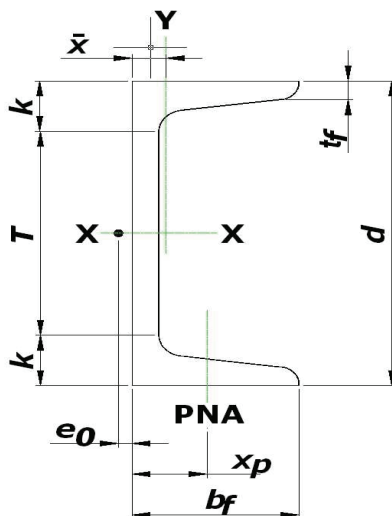
C

Prime Section Group	Section Size	Area A	Depth d	Web Thickness t _w	Flange		Distance			Fillet Radius R	Elastic Properties						Plastic Modulus	
					Width b _f	Thickness t _f	T	k	k ₁		X - X			Y - Y			Z _x	Z _y
											I _x	S _x	r _x	I _y	S _y	r _y		
Inch x lbs/ft (mm x kg/m)	Inch ² (mm ²)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch ⁴ (10 ⁶ mm ⁴)	Inch ³ (10 ³ mm ³)	Inch (mm)	Inch ⁴ (10 ⁶ mm ⁴)	Inch ³ (10 ³ mm ³)	Inch (mm)	Inch ³ (10 ³ mm ³)	Inch ³ (10 ³ mm ³)	
15 x 3-3/8 380 x 85	C15 x 50.0 C380 x 74	14.7 9 480	15.00 381	0.716 18.2	3.716 94	0.650 16.5	12.575 319	1.213 31	0.858 22	0.50 13	404 168	53.8 882	5.24 133.1	11.0 4.6	3.77 62	0.865 22.0	68.5 1 123	8.14 133
	C15 x 40.0 C380 x 60	11.8 7 610	15.00 381	0.520 13.2	3.520 89	0.650 16.5	12.575 319	1.213 31	0.760 20	0.50 13	348 144.8	46.5 762	5.45 138.4	9.2 3.8	3.34 55	0.883 22.4	57.5 942	6.84 112
	C15 x 33.9 C380 x 50.4	9.96 6 430	15.00 381	0.400 10.2	3.400 86	0.650 16.5	12.575 319	1.213 31	0.700 18	0.50 13	315 131.1	42.0 688	5.62 142.7	8.1 3.4	3.09 51	0.901 22.9	50.8 832	6.19 101
12 x 3 310 x 75	C12 x 30.0 C310 x 45	8.82 5 690	12.00 305	0.510 13.0	3.170 80	0.501 12.7	10.123 257	0.939 24	0.630 17	0.375 10	162 67.4	27.0 442	4.29 109.0	5.1 2.1	2.05 34	0.762 19.4	33.8 554	4.32 71
	C12 x 25.0 C310 x 37	7.35 4 740	12.00 305	0.387 9.8	3.047 77	0.501 12.7	10.123 257	0.939 24	0.569 15	0.375 10	144 59.9	24.0 393	4.43 112.5	4.5 1.9	1.87 31	0.779 19.8	29.4 482	3.82 63
	C12 x 20.7 C310 x 30.8	6.09 3 930	12.00 305	0.282 7.2	2.942 74	0.501 12.7	10.123 257	0.939 24	0.516 14	0.375 10	129 53.7	21.5 352	4.61 117.1	3.9 1.6	1.72 28	0.797 20.2	25.6 420	3.47 57



CHANNEL

Deep Foundation Pile Systems > Structural Sections > Channel



MC

Prime Section Group	Section Size	Area	Depth	Web Thickness	Flange		Distance			Fillet Radius	Elastic Properties						Plastic Modulus	
					Width	Thickness	T	k	k ₁		X - X			Y - Y			Z _x	Z _y
											b _f	t _f	I _x	S _x	r _x	I _y		
Inch x lbs/ft (mm x kg/m)	Inch ² (mm ²)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch ⁴ (10 ⁶ mm ⁴)	Inch ³ (10 ³ mm ³)	Inch (mm)	Inch ⁴ (10 ⁶ mm ⁴)	Inch ³ (10 ³ mm ³)	Inch (mm)	Inch ³ (10 ³ mm ³)	Inch ³ (10 ³ mm ³)	
18 x 4 460 x 100	MC18 x 58.0 MC460 x 86	17.1 11 000	18.00 457	0.700 17.8	4.200 107	0.625 15.9	15.375 390	1.313 33	0.975 25	0.625 16	675 281	75.0 1 229	6.29 159.8	17.6 7.3	5.28 87	1.020 25.9	95.4 1 563	10.70 175
	MC18 x 51.9 MC460 x 77.2	15.3 9 870	18.00 457	0.600 15.2	4.100 104	0.625 15.9	15.375 390	1.313 33	0.925 24	0.625 16	627 261	69.6 1 141	6.41 162.8	16.3 6.8	5.02 82	1.030 26.2	87.3 1 431	9.86 162
	MC18 x 45.8 MC460 x 68.2	13.5 8 710	18.00 457	0.500 12.7	4.000 102	0.625 15.9	15.375 390	1.313 33	0.875 22	0.625 16	578 241	64.2 1 052	6.55 166.4	14.9 6.2	4.77 78	1.050 26.7	79.2 1 298	9.14 150
	MC18 x 42.7 MC460 x 63.5	12.60 8 130	18.00 457	0.450 11.4	3.950 100	0.625 15.9	15.375 390	1.313 33	0.850 22	0.625 16	554 231	61.5 1 008	6.64 168.7	14.3 6.0	4.64 76	1.070 27.2	75.1 1 231	8.82 145
13 x 4 330 x 100	MC13 x 50.0 MC330 x 74	14.70 9 480	13.00 330	0.787 20.0	4.412 112	0.610 15.5	10.655 270	1.173 30	0.894 23	0.500 13	314 131	48.3 791	4.62 117.3	16.4 6.8	4.77 78	1.060 26.9	60.8 996	10.20 167
	MC13 x 40.0 MC330 x 60	11.80 7 610	13.00 330	0.560 14.2	4.185 106	0.610 15.5	10.655 270	1.173 30	0.780 20	0.500 13	273 114	41.9 687	4.82 122.4	13.7 5.7	4.24 69	1.080 27.4	51.2 839	8.66 142
	MC13 x 35.0 MC330 x 52	10.30 6 640	13.00 330	0.447 11.4	4.072 103	0.610 15.5	10.655 270	1.173 30	0.724 19	0.500 13	252 105	38.8 636	4.95 125.7	12.3 5.1	3.97 65	1.090 27.7	46.5 762	8.04 132
	MC13 x 31.8 MC330 x 47.3	9.35 6 030	13.00 330	0.375 9.5	4.000 102	0.610 15.5	10.655 270	1.173 30	0.688 18	0.500 13	239 99	36.7 601	5.05 128.3	11.4 4.7	3.79 62	1.100 27.9	43.4 711	7.69 126
12 x 4 310 x 100	MC12 x 50.0 MC310 x 74	14.70 9 480	12.00 305	0.835 21.2	4.135 105	0.700 17.8	9.475 240	1.263 32	0.918 24	0.500 13	269 112	44.9 736	4.28 108.7	17.4 7.2	5.64 92	1.090 27.7	56.5 926	10.90 179
	MC12 x 45.0 MC310 x 67	13.20 8 502	12.00 305	0.710 18.0	4.010 102	0.700 17.8	9.475 240	1.263 32	0.855 22	0.500 13	251 104	41.9 687	4.36 110.7	15.8 6.6	5.30 87	1.090 27.7	52.0 852	10.10 166
	MC12 x 40.0 MC310 x 60	11.80 7 610	12.00 305	0.590 15.0	3.890 98	0.700 17.8	9.475 240	1.263 32	0.795 21	0.500 13	234 97	39.0 639	4.46 113.3	14.2 5.9	4.98 82	1.100 27.9	47.7 782	9.31 153
	MC12 x 35.0 MC310 x 52	10.30 6 620	12.00 305	0.465 11.8	3.765 96	0.700 17.8	9.475 240	1.263 32	0.733 19	0.500 13	216 90	36.0 590	4.59 116.6	12.6 5.2	4.64 76	1.110 28.2	43.2 708	8.62 141
	MC12 x 31.0 MC310 x 46	9.12 5 890	12.00 305	0.370 9.4	3.670 93	0.700 17.8	9.475 240	1.263 32	0.685 18	0.500 13	202 84	33.7 552	4.71 119.6	11.3 4.7	4.37 72	1.110 28.2	39.7 651	8.15 134



CHANNEL ASTM TABLE

Deep Foundation Pile Systems > Structural Sections > Channel



STRUCTURAL SECTIONS

CHANNEL Available Steel Grades								
ASTM	American		CSA G40.21	Canadian		EN 10248	European	
	Yield Strength			Yield Strength			Yield Strength	
	ksi	MPa		ksi	MPa		ksi	MPa
A 36	36	250	Grade 350 W	50	350	S 235 GP	34	235
A 572 Grade 50	50	345				S 355 GP	51	355
A 572 Grade 60	60	415						
A 588	50	345						
A 242	50	345						

DELIVERY CONDITIONS & TOLERANCES

Mass	ASTM A 6 ± 2.5%					
Depth	3 to 7 in + 0.9375 in	- 0.0625 in	7 to 14 in + 0.125 in	- 0.9375 in	Over 14 in + 0.1875 in	- 0.125
Length	5 to 10 ft + 1.0 in	10 to 20 ft + 1.5 in	20 to 30 ft + 1.75 in	30 to 40 ft + 2.25 in	40 to 50 ft + 2.75 in	50 to 65 ft + 2.75 in
Flange Width	3 to 7 in ± 0.125 in		7 to 14 in + 0.125 in	- 0.9375 in	Over 14 in + 0.125 in	- 0.1875
Flanges out of Square	≤ 0.03125 in					
Camber	(0.125 in) * (Length / 5)					
Sweep	Subject to negotiation with manufacturer					