

UNIVERSAL BEAMS



Information

The universal beam (UB) and universal column (UC), also called the I-beam, H-beam, wide beam, W-beam and rolled steel joist, is the shape of choice for structural steel builds. The design and structure of the I-beam makes it uniquely capable of handling a variety of loads.



Applications

Construction support beams for commercial and residential construction, support frames and columns for trolley ways, lifts and hoists, trailer and truck bed framing, bridges, factory shops, warehouses, workplace platforms, machinery and freight cars.

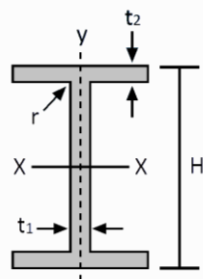


Features

- Corrosion resistant
- Superior weldability
- Wide dimensional range
- High strength to weight ratio
- Cost effective
- Multiple sectional weights

UNIVERSAL BEAMS

Material Specification: EN 10025 S275JR
 EN 10025 S355JR/JO/J2G3
 BS 4360 Gr 43A/50B
 JIS G3101 SS400

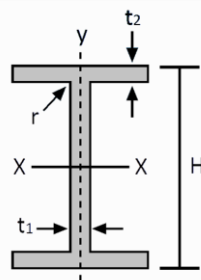


(Metric units)

Depth x Width	Unit Weight	Standard Sectional Dimension					Sectional Area	Second Moment Of Area		Radius Of Gyration		Modulus Of Section		Plastic Modulus	
		H	B	t1	t2	r		Ix	Iy	ix	iy	Sx	Sy	Zx	Zy
mm	Kg/m	mm	mm	mm	mm	mm	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³
100 x 100	17.2	100	100	6	8	10	21.90	383	134	4.18	2.47	76.5	26.7	87.6	41.2
125 x 125	23.8	125	125	7	9	10	30.31	847	294	5.29	3.11	136	47	154	71.9
150 x 75	14.0	150	75	5	7	8	17.85	666	50	6.11	1.67	88.8	13.2	102	20.8
150 x 100	21.1	148	100	6	9	11	26.84	1,020	151	6.16	2.37	138	30.1	157	46.7
150 x 150	31.5	150	150	7	10	11	40.14	1,640	563	6.39	3.75	219	75.1	246	115
200 x 100	18.2	198	99	5	7	11	23.18	1,580	114	8.26	2.21	160	22.9	180	35.7
	21.3	200	100	6	8	11	27.16	1,840	134	8.23	2.22	184	26.8	210	41.9
200 x 150	30.6	194	150	6	9	13	39.01	2,690	507	8.30	3.61	277	67.6	309	104
200 x 200	49.9	200	200	8	12	13	63.53	4,720	1,600	8.62	5.02	472	160	526	244
	56.2	200	204	12	12	13	71.53	4,980	1,700	8.34	4.88	498	167	566	257
	65.7	208	202	10	16	13	83.69	6,530	2,200	8.83	5.13	628	218	710	332
250 x 125	25.7	248	124	5	8	12	32.68	3,540	255	10.4	2.79	286	41.1	319	63.6
	29.6	250	125	6	9	12	37.66	4,050	294	10.4	2.79	324	47	366	73.1
250 x 175	44.2	244	175	7	11	16	56.24	6,120	985	10.4	4.18	502	113	558	173
250 x 250	64.4	244	252	11	11	16	82.06	8,790	2,940	10.3	5.99	721	233	805	358
	66.5	248	249	8	13	16	84.7	9,930	3,350	10.8	6.29	801	269	883	408
	72.4	250	250	9	14	16	92.18	10,800	3,650	10.8	6.29	864	292	961	444
	82.2	250	255	14	14	16	104.7	11,500	3,880	10.5	6.09	920	304	1040	468
300 x 150	32.0	298	149	6	8	13	40.8	6,320	442	12.4	3.29	424	59.3	475	91.8
	36.7	300	150	7	9	13	46.78	7,210	508	12.4	3.29	481	67.7	542	105
300 x 200	56.8	294	200	8	12	18	72.38	11,300	1,600	12.5	4.70	769	160	859	247
	65.4	298	201	9	14	18	83.36	13,300	1,900	12.6	4.77	893	189	1000	291
300 x 300	84.5	294	302	12	12	18	107.7	16,900	5,520	12.5	7.16	1,150	366	1280	560
	87.0	298	299	9	14	18	110.8	18,800	6,240	13.0	7.50	1,260	417	1390	634
	94.0	300	300	10	15	18	119.8	20,400	6,750	13.0	7.51	1,360	450	1500	684
	96.7	304	301	11	15	18	123.2	21,200	6,820	13.1	7.44	1,390	453	1550	690
	106	300	305	15	15	18	134.8	21,500	7,100	12.6	7.26	1,430	466	1610	716
	116	310	305	15	17	18	147.9	25,400	8,050	13.1	7.38	1,640	528	1840	809
	142	310	310	20	20	18	180.8	29,900	9,950	12.9	7.42	1,930	642	2200	992

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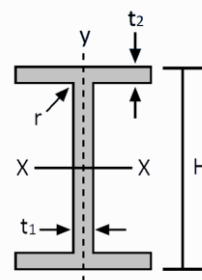


(Metric units)

Depth x Width	Unit Weight	Standard Sectional Dimension					Sectional Area	Second Moment Of Area		Radius Of Gyration		Modulus Of Section		Plastic Modulus	
		H	B	t1	t2	r		Ix	Iy	ix	iy	Sx	Sy	Zx	Zy
mm	Kg/m	mm	mm	mm	mm	mm	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³
350 x 175	41.4	346	174	6	9	14	52.68	11,100	792	14.5	3.88	642	91	716	140
	49.6	350	175	7	11	14	63.14	13,600	984	14.7	3.95	777	113	868	174
	57.8	354	176	8	13	14	73.68	16,100	1,180	14.8	4.00	910	134	1020	208
340 x 250	69.2	336	249	8	12	20	88.15	18,500	3,090	14.5	5.92	1,100	248	1210	380
	79.7	340	250	9	14	20	101.5	21,700	3,650	14.6	6.00	1,280	292	1410	447
350 x 350	106	338	351	13	13	20	135.3	28,200	9,380	14.4	8.33	1,670	535	1850	818
	115	344	348	10	16	20	146.0	33,300	11,200	15.1	8.76	1,940	644	2120	980
	131	344	354	16	16	20	166.6	35,300	11,800	14.6	8.42	2,050	667	2300	1030
	137	350	350	12	19	20	173.9	40,300	13,600	15.2	8.84	2,300	777	2550	1180
	156	350	357	19	19	20	198.4	42,800	14,400	14.7	8.52	2,450	807	2760	1240
400 x 200	56.7	396	199	7	11	16	72.16	20,000	1,450	16.6	4.48	1,010	146	1130	224
	66.0	400	200	8	13	16	84.12	23,700	1,740	16.8	4.55	1,190	174	1330	268
	75.5	404	201	9	15	16	96.16	27,500	2,030	16.9	4.59	1,360	202	1530	312
400 x 300	94.3	386	299	9	14	22	120.1	33,700	6,240	16.8	7.21	1,750	417	1920	637
	107	390	300	10	16	22	136.0	38,700	7,210	16.9	7.28	1,980	481	2190	733
400 x 400	140	388	402	15	15	22	178.5	49,000	16,300	16.6	9.56	2,530	811	2800	1240
	147	394	398	11	18	22	186.8	56,100	18,900	17.3	10.1	2,850	950	3120	1440
	168	394	405	18	18	22	214.4	59,700	20,000	16.7	9.66	3,030	988	3390	1510
	172	400	400	13	21	22	218.7	66,600	22,400	17.5	10.1	3,330	1120	3670	1700
	197	400	408	21	21	22	250.7	70,900	23,800	16.8	9.74	3,550	1170	3990	1790
	200	406	403	16	24	22	254.9	78,000	26,200	17.5	10.1	3,840	1300	4280	1980
	232	414	405	18	28	22	295.4	92,800	31,000	17.7	10.2	4,480	1530	5030	2330
	283	428	407	20	35	22	360.7	119,000	39,400	18.2	10.5	5,560	1940	6310	2940
	415	458	417	30	50	22	528.6	187,000	60,500	18.8	10.7	8,170	2900	9540	4440
	605	498	432	45	70	22	770.1	298,000	94,400	19.7	11.1	12,000	4370	14500	6720
450 x 200	66.2	446	199	8	12	18	84.30	28,700	1,580	18.5	4.33	1,290	159	1450	247
	76.0	450	200	9	14	18	96.76	33,500	1,870	18.6	4.40	1,490	187	1680	291
450 x 300	106	434	299	10	15	24	135.0	46,800	6,690	18.6	7.04	2,160	448	2380	686
	124	440	300	11	18	24	157.4	56,100	8,110	18.9	7.18	2,550	541	2820	828

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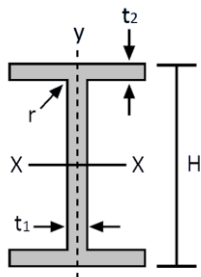


(Metric units)

Depth x Width	Unit Weight	Standard Sectional Dimension					Sectional Area	Second Moment Of Area		Radius Of Gyration		Modulus Of Section		Plastic Modulus	
		H	B	t1	t2	r	A	Ix	Iy	ix	iy	Sx	Sy	Zx	Zy
mm	Kg/m	mm	mm	mm	mm	mm	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³
500 x 200	79.5	496	199	9	14	20	101.3	41,900	1,840	20.3	4.26	1,690	185	1910	290
	89.7	500	200	10	16	20	114.2	47,800	2,140	20.5	4.33	1,910	214	2180	335
	103	506	201	11	19	20	131.3	56,500	2,580	20.7	4.43	2,230	257	2540	401
500 x 300	114	482	300	11	15	26	145.5	60,400	6,760	20.4	6.82	2,510	451	2790	695
	128	488	300	11	18	26	163.5	71,000	8,110	20.8	7.04	2,910	541	3230	830
600 x 200	94.6	596	199	10	15	22	120.5	68,700	1,980	23.9	4.05	2,310	199	2650	315
	106	600	200	11	17	22	134.4	77,600	2,280	24.0	4.12	2,590	228	2980	361
	120	606	201	12	20	22	152.5	90,400	2,720	24.3	4.22	2,980	271	3430	429
	134	612	202	13	23	22	170.7	103,000	3,180	24.6	4.32	3,370	315	3890	498
600 x 300	137	582	300	12	17	28	174.5	103,000	7,670	24.3	6.63	3,540	511	3960	793
	151	588	300	12	20	28	192.5	118,000	9,020	24.8	6.85	4,010	601	4490	928
	175	594	302	14	23	28	222.4	137,000	10,600	24.8	6.90	4,610	702	5200	1080
700 x 300	166	692	300	13	20	28	211.5	172,000	9,020	28.5	6.53	4,970	601	5630	936
	185	700	300	13	24	28	235.5	201,000	10,800	29.2	6.77	5,740	720	6460	1120
	215	708	302	15	28	28	273.6	237,000	12,900	29.4	6.87	6,690	854	7560	1320
800 x 300	191	792	300	14	22	28	243.4	254,000	9,930	32.3	6.39	6,410	662	7290	1040
	210	800	300	14	26	28	267.4	292,000	11,700	33.0	6.61	7,300	780	8240	1220
	241	808	302	16	30	28	307.6	339,000	13,800	33.2	6.70	8,390	914	9530	1430
900 x 300	213	890	299	15	23	28	270.9	345,000	10,300	35.7	6.17	7,750	689	8910	1080
	243	900	300	16	28	28	309.8	411,000	12,600	36.4	6.38	9,130	840	10500	1320
	286	912	302	18	34	28	364.0	498,000	15,700	37.0	6.57	10,920	1040	12500	1630
	307	918	303	19	37	28	391.3	542,000	17,200	37.2	6.63	11,810	1140	13500	1790

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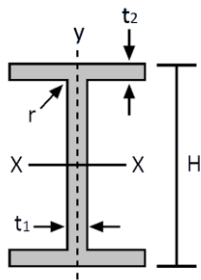


(Imperial units)

Depth x Width	Unit Weight	Standard Sectional Dimension (in)					Unit Weight	Standard Sectional Dimension (mm)					Sectional Area	Second Moment Of Area		Radius Of Gyration		Modulus Of Section		Plastic Modulus		Warping Constant	Torsional Constant
		H	B	t1	t2	r		H	B	t1	t2	r	A	Ix	Iy	ix	iy	Sx	Sy	Zx	Zy	Cw	J
in	Lbs/ft	in	in	in	in	in	Kg/m	mm	mm	mm	mm	mm	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶ , x10 ³	cm ⁴
W12 x 4	14	11.91	3.97	0.20	0.22	0.30	21.1	302.5	100.8	5.1	5.7	7.6	26.8	3,680	97.7	11.7	1.91	243	19.4	286	31.1	21	3.12
	16	11.99	3.99	0.22	0.26	0.30	23.8	304.5	101.3	5.6	6.7	7.6	30.4	4,260	117	11.8	1.96	280	23.0	328	36.9	26	4.44
	19	12.16	4.00	0.24	0.35	0.30	28.3	308.9	101.7	6.0	8.9	7.6	36.1	5,410	157	12.2	2.08	350	30.8	406	48.9	35	7.66
	22	12.31	4.03	0.26	0.43	0.30	32.8	312.7	102.4	6.6	10.8	7.6	41.8	6,500	194	12.5	2.15	416	37.9	481	60.0	44	12.3
W12 x 6½	26	12.22	6.49	0.23	0.38	0.30	38.7	310.4	164.8	5.8	9.7	7.6	49.4	8,520	724	13.1	3.83	549	87.9	611	134	164	12.6
	30	12.34	6.52	0.26	0.44	0.30	44.6	313.4	165.6	6.6	11.2	7.6	56.8	9,930	849	13.2	3.87	634	103	707	157	194	19.2
	35	12.50	6.56	0.30	0.52	0.30	52.3	317.5	166.6	7.6	13.2	7.6	66.6	11,900	1020	13.4	3.91	750	122	837	188	236	30.9
W12 x 8	40	11.94	8.00	0.30	0.52	0.60	59.7	303.3	203.3	7.5	13.1	15.2	76.0	12,900	1840	13.0	4.92	851	181	944	276	386	39.4
	45	12.06	8.04	0.33	0.57	0.60	66.9	306.3	204.3	8.5	14.6	15.2	85.2	14,600	2080	13.1	4.94	953	204	1060	311	441	54.3
	50	12.19	8.08	0.37	0.64	0.60	74.5	309.6	205.2	9.4	16.3	15.2	94.9	16,400	2350	13.1	4.98	1060	229	1190	351	505	74.3
W12 x 10	53	12.06	10.00	0.35	0.57	0.60	78.9	306.3	253.9	8.8	14.6	15.2	100.5	17,700	3990	13.3	6.30	1160	314	1280	478	847	65.7
	58	12.19	10.01	0.36	0.64	0.60	86.4	309.6	254.3	9.1	16.3	15.2	110.1	19,800	4470	13.4	6.37	1280	352	1420	534	961	87.2
W12 x 12	65	12.12	12.00	0.39	0.61	0.60	96.8	307.8	304.8	9.9	15.4	15.2	123.3	22,200	7270	13.4	7.68	1440	477	1590	724	1550	91.7
	72	12.25	12.04	0.43	0.67	0.60	107	311.2	305.8	10.9	17.0	15.2	136.2	24,800	8110	13.5	7.72	1590	530	1770	805	1750	122
	79	12.38	12.08	0.47	0.74	0.60	118	314.5	306.8	11.9	18.7	15.2	149.7	27,600	9010	13.6	7.76	1760	587	1950	892	1970	161
	87	12.53	12.13	0.52	0.81	0.60	130	318.3	308.0	13.1	20.6	15.2	165.2	30,800	10000	13.7	7.78	1940	649	2170	991	2220	215
	96	12.71	12.16	0.55	0.90	0.60	143	322.8	308.9	14.0	22.9	15.2	182.2	34,700	11300	13.8	7.88	2150	732	2420	1110	2530	289
	106	12.89	12.22	0.61	0.99	0.60	158	327.4	310.4	15.5	25.1	15.2	200.8	38,800	12500	13.9	7.89	2370	805	2680	1230	2860	381
	120	13.12	12.32	0.71	1.11	0.60	179	333.2	312.9	18.0	28.1	15.2	227.7	44,600	14400	14.0	7.95	2680	920	3050	1400	3340	544
	136	13.41	12.40	0.79	1.25	0.60	203	340.6	315.0	20.1	31.8	15.2	258	51,900	16600	14.2	8.02	3050	1050	3510	1610	3950	784
	152	13.71	12.48	0.87	1.40	0.60	227	348.2	317.0	22.1	35.6	15.2	288.9	59,700	18900	14.4	8.09	3430	1190	3980	1830	4620	1090
	161	13.88	12.54	0.91	1.48	0.60	240	352.5	318.4	23.0	37.7	15.2	305.8	64,200	20300	14.5	8.15	3640	1280	4250	1950	5020	1290
	170	14.03	12.57	0.96	1.56	0.60	253	356.4	319.3	24.4	39.6	15.2	322.5	68,500	21500	14.6	8.16	3840	1350	4500	2060	5390	1500
	190	14.38	12.67	1.06	1.74	0.60	283	365.3	321.8	26.9	44.1	15.2	360.4	78,800	24500	14.8	8.24	4310	1520	5100	2340	6320	2060
	210	14.71	12.79	1.18	1.90	0.60	313	373.6	324.9	30.0	48.3	15.2	398.9	89,300	27700	15.0	8.33	4780	1710	5710	2620	7300	2740
	230	15.05	12.89	1.28	2.07	0.60	343	382.3	327.5	32.6	52.6	15.2	436.8	100,600	30900	15.2	8.41	5260	1890	6330	2900	8370	3550
	252	15.41	13.00	1.39	2.25	0.60	375	391.4	330.3	35.4	57.2	15.2	477.9	113,200	34500	15.4	8.50	5780	2090	7020	3210	9590	4580
	279	15.85	13.14	1.53	2.47	0.60	415	402.6	333.8	38.9	62.7	15.2	528.4	129,500	39000	15.7	8.59	6430	2340	7890	3600	11230	6070
	305	16.32	13.24	1.63	2.70	0.60	454	414.5	336.2	41.3	68.7	15.2	578.4	147,600	43700	16.0	8.69	7120	2600	8810	4010	13010	7880

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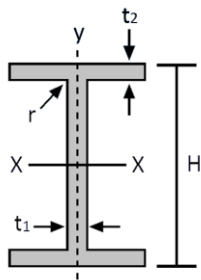


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		H	B	t1	t2	r		H	B	t1	t2	r	A	Ix	Iy	ix	iy	Sx	Sy	Zx	Zy	Cw	J
in	Lbs/ft	in	in	in	in	in	Kg/m	mm	mm	mm	mm	mm	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶ , x10 ³	cm ⁴
W14 x 5	22	13.74	5.00	0.23	0.33	0.40	32.8	349.0	127.0	5.8	8.5	10.2	41.74	8,270	291	14.1	2.64	474	45.8	542	71.8	84.1	8.71
	26	13.91	5.02	0.26	0.42	0.40	39.1	353.3	127.6	6.5	10.7	10.2	49.77	10,200	372	14.3	2.73	577	58.2	661	91.1	109	15.1
W14 x 6¾	30	13.84	6.73	0.27	0.39	0.40	45.0	351.5	170.9	6.9	9.8	10.2	57.29	12,100	817	14.5	3.78	689	95.6	777	148	238	16.3
	34	13.98	6.74	0.28	0.46	0.40	50.7	355.1	171.3	7.2	11.6	10.2	64.53	14,200	973	14.8	3.88	800	114	896	175	287	23.9
	38	14.10	6.77	0.31	0.52	0.40	56.7	358.1	172.0	7.9	13.1	10.2	72.18	16,100	1110	14.9	3.92	899	129	1010	200	331	33.6
W14 x 8	43	13.66	8.00	0.30	0.53	0.60	64.0	347.0	203.1	7.7	13.5	15.2	81.46	17,800	1890	14.8	4.82	1030	186	1140	285	524	43.4
	48	13.79	8.03	0.34	0.59	0.60	71.5	350.3	204.0	8.6	15.1	15.2	91.12	20,200	2140	14.9	4.85	1150	210	1280	322	600	59.9
	53	13.92	8.06	0.37	0.66	0.60	79.1	353.6	204.7	9.4	16.8	15.2	100.8	22,600	2410	15.0	4.89	1280	236	1430	361	681	80.8
W14 x 10	61	13.89	10.00	0.37	0.65	0.60	90.8	352.8	253.9	9.5	16.4	15.2	115.7	26,700	4480	15.2	6.22	1510	353	1680	538	1270	91.4
	68	14.04	10.04	0.41	0.72	0.60	101	356.6	254.9	10.5	18.3	15.2	128.9	30,100	5060	15.3	6.27	1690	397	1880	605	1450	125
	74	14.17	10.07	0.45	0.78	0.60	110	359.9	255.8	11.4	19.9	15.2	140.3	33,100	5560	15.4	6.30	1840	435	2050	663	1600	161
	82	14.31	10.13	0.51	0.85	0.60	122	363.5	257.3	13.0	21.7	15.2	155.3	36,700	6170	15.4	6.30	2020	480	2270	734	1800	212
W14 x 14½	90	14.02	14.52	0.44	0.71	0.60	134	356.1	368.8	11.2	18.0	15.2	170.6	41,500	15100	15.6	9.41	2330	819	2560	1240	4300	169
	99	14.16	14.57	0.48	0.78	0.60	148	359.7	370.0	12.3	19.8	15.2	187.9	46,200	16700	15.7	9.43	2570	903	2840	1370	4830	224
	109	14.32	14.61	0.52	0.86	0.60	162	363.7	371.0	13.3	21.8	15.2	206.3	51,500	18600	15.8	9.50	2830	1000	3140	1520	5420	296
	120	14.48	14.67	0.59	0.94	0.60	179	367.8	372.6	15.0	23.9	15.2	228.1	57,300	20600	15.8	9.50	3120	1110	3480	1680	6090	394
	132	14.66	14.72	0.65	1.03	0.60	197	372.4	374.0	16.4	26.2	15.2	250.4	63,800	22900	16.0	9.56	3430	1220	3840	1860	6840	518
W14 x 16	145	14.78	15.50	0.68	1.09	0.60	216	375.4	393.7	17.3	27.7	15.2	275.5	71,300	28200	16.1	10.12	3800	1430	4270	2170	8510	638
	159	14.98	15.57	0.74	1.19	0.60	237	380.5	395.4	18.9	30.2	15.2	301.3	79,100	31100	16.2	10.16	4160	1570	4700	2390	9550	827
	176	15.22	15.65	0.83	1.31	0.60	262	386.6	397.5	21.1	33.3	15.2	334.2	89,100	34900	16.3	10.22	4610	1760	5250	2670	10900	1120
	193	15.48	15.71	0.89	1.44	0.60	288	393.2	399.0	22.6	36.6	15.2	366.4	99,800	38800	16.5	10.29	5080	1940	5820	2960	12300	1470
	211	15.72	15.80	0.98	1.56	0.60	314	399.3	401.3	24.9	39.6	15.2	399.5	111,000	42700	16.7	10.34	5560	2130	6390	3240	13800	1870
	233	16.04	15.89	1.07	1.72	0.60	347	407.4	403.6	27.2	43.7	15.2	441.8	125,000	47900	16.8	10.41	6140	2370	7140	3620	15800	2510
	257	16.38	16.00	1.17	1.89	0.60	383	416.1	406.3	29.8	48.0	15.2	487.4	142,000	53700	17.1	10.50	6830	2640	7970	4040	18200	3330
	283	16.74	16.11	1.29	2.07	0.60	422	425.2	409.2	32.8	52.6	15.2	537.4	160,000	60200	17.3	10.58	7530	2940	8890	4490	20800	4400
	311	17.12	16.23	1.41	2.26	0.60	463	434.8	412.2	35.8	57.4	15.2	589.7	180,000	67100	17.5	10.67	8280	3260	9880	4980	23900	5740
	342	17.54	16.36	1.54	2.47	0.60	509	445.5	415.5	39.1	62.7	15.2	648.2	204,000	75100	17.7	10.76	9160	3610	11010	5540	27500	7510
	370	17.92	16.48	1.65	2.66	0.60	551	455.2	418.5	42.0	67.6	15.2	702.2	227,000	82800	18.0	10.86	9970	3960	12070	6070	31000	9430

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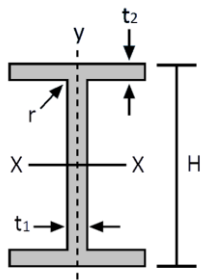


(Imperial units)

Depth x Width	Unit Weight	Standard Sectional Dimension (in)					Unit Weight	Standard Sectional Dimension (mm)					Sectional Area	Second Moment Of Area		Radius Of Gyration		Modulus Of Section		Plastic Modulus		Warping Constant	Torsional Constant
		H	B	t1	t2	r		H	B	t1	t2	r	A	Ix	Iy	ix	iy	Sx	Sy	Zx	Zy	Cw	J
in	Lbs/ft	in	in	in	in	in	Kg/m	mm	mm	mm	mm	mm	cm²	cm⁴	cm⁴	cm	cm	cm³	cm³	cm³	cm³	cm⁶ , x10³	cm⁴
W16 x 5½	26	15.69	5.50	0.25	0.35	0.40	39.1	398.5	139.7	6.4	8.8	10.2	49.86	12,600	401	15.9	2.84	632	57.4	728	90.3	152	11.3
	31	15.88	5.52	0.28	0.44	0.40	46.3	403.4	140.3	7.0	11.2	10.2	58.99	15,600	516.9	16.3	2.96	773	73.7	887	115	198	19
W16 x 7	36	15.86	6.98	0.30	0.43	0.40	53.5	402.8	177.4	7.5	10.9	10.2	68.14	18,600	1020	16.5	3.87	924	115	1050	177	389	22.9
	40	16.01	7.00	0.30	0.50	0.40	59.5	406.7	177.7	7.7	12.8	10.2	75.73	21,500	1200	16.8	3.98	1060	135	1190	208	464	32.9
	45	16.13	7.04	0.35	0.57	0.40	67.4	409.7	178.7	8.8	14.4	10.2	85.88	24,500	1370	16.9	3.99	1200	153	1350	238	535	47.1
	50	16.26	7.07	0.38	0.63	0.40	74.8	413.0	179.6	9.7	16.0	10.2	95.32	27,400	1550	17.0	4.03	1330	173	1510	268	609	64.1
	57	16.43	7.12	0.43	0.72	0.40	84.9	417.3	180.8	10.9	18.2	10.2	108.2	31,600	1800	17.1	4.08	1510	199	1730	310	714	93.2
W16 x 10¼	67	16.33	10.24	0.39	0.67	0.40	100	414.8	260.0	10.0	16.9	10.2	126.9	39,700	4950	17.7	6.25	1910	381	2130	581	1960	100
	77	16.52	10.30	0.46	0.76	0.40	115	419.6	261.5	11.6	19.3	10.2	146	46,100	5760	17.8	6.28	2200	441	2460	673	2300	150
	89	16.75	10.37	0.52	0.87	0.40	132	425.4	263.3	13.3	22.2	10.2	168.5	54,000	6760	17.9	6.33	2540	514	2860	787	2740	228
	100	16.97	10.43	0.59	0.98	0.40	149	431.0	264.8	14.9	25.0	10.2	190.1	61,800	7750	18.0	6.38	2870	585	3250	899	3190	324
W18 x 6	35	17.70	6.00	0.30	0.43	0.40	52.1	449.6	152.4	7.6	10.8	10.2	66.34	21,200	639	17.9	3.10	943	83.9	1090	132	307	21.4
	40	17.90	6.02	0.31	0.52	0.40	59.5	454.7	152.8	8.0	13.3	10.2	75.79	25,400	793	18.3	3.23	1120	104	1280	163	385	33.7
	46	18.06	6.06	0.36	0.61	0.40	68.5	458.7	153.9	9.1	15.4	10.2	87.23	29,600	939	18.4	3.28	1290	122	1490	192	460	51.2
W18 x 7½	41	17.70	7.45	0.32	0.43	0.40	60	449.6	189.2	8.1	10.8	10.2	76.6	25,400	1220	18.2	3.99	1130	129	1290	201	587	26
	45	17.86	7.48	0.33	0.50	0.40	67	453.6	189.9	8.5	12.7	10.2	85.5	29,400	1450	18.5	4.12	1300	153	1470	237	704	38
	50	17.99	7.50	0.35	0.57	0.40	74.3	456.9	190.4	9.0	14.5	10.2	94.62	33,300	1670	18.8	4.20	1460	175	1650	272	816	52.1
	55	18.11	7.53	0.39	0.63	0.40	82.0	460.0	191.3	9.9	16.0	10.2	104.5	37,100	1870	18.8	4.23	1610	196	1830	304	920	69.7
	60	18.24	7.56	0.41	0.70	0.40	89.3	463.3	191.9	10.5	17.7	10.2	113.8	41,000	2090	19.0	4.29	1770	218	2010	338	1030	91.3
	65	18.35	7.59	0.45	0.75	0.40	96.8	466.1	192.8	11.4	19.1	10.2	123.3	44,700	2290	19.0	4.31	1920	238	2190	370	1140	115
	66	18.39	7.59	0.45	0.77	0.40	98	467.2	192.8	11.4	19.6	10.2	125.3	45,700	2350	19.1	4.33	1960	244	2230	379	1170	122
	71	18.47	7.63	0.50	0.81	0.40	106	469.1	193.9	12.6	20.6	10.2	134.7	48,800	2510	19.0	4.32	2080	259	2390	405	1260	147

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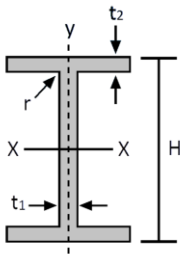


(Imperial units)

Depth x Width	Unit Weight	Standard Sectional Dimension (in)					Unit Weight	Standard Sectional Dimension (mm)					Sectional Area	Second Moment Of Area		Radius Of Gyration		Modulus Of Section		Plastic Modulus		Warping Constant	Torsional Constant
		H	B	t1	t2	r		H	B	t1	t2	r	A	Ix	Iy	ix	iy	Sx	Sy	Zx	Zy	Cw	J
in	Lbs/ft	in	in	in	in	in	Kg/m	mm	mm	mm	mm	mm	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶ , x10 ³	cm ⁴
W18 x 11	76	18.21	11.04	0.43	0.68	0.40	113	462.5	280.3	10.8	17.3	10.2	144.1	55,500	6350	19.6	6.64	2400	453	2670	693	3150	119
	86	18.39	11.09	0.48	0.77	0.40	128	467.1	281.7	12.2	19.6	10.2	163.5	63,700	7310	19.7	6.69	2730	519	3050	794	3660	173
	97	18.59	11.15	0.54	0.87	0.40	145	472.2	283.1	13.6	22.1	10.2	184.2	72,700	8370	19.9	6.74	3080	591	3460	906	4230	246
	106	18.73	11.20	0.59	0.94	0.40	158	475.5	284.5	15.0	23.9	10.2	201.1	79,700	9190	19.9	6.76	3350	646	3780	992	4680	315
	119	18.97	11.26	0.65	1.06	0.40	177	481.8	286.1	16.6	26.9	10.2	225.9	91,000	10500	20.1	6.82	3780	734	4280	1130	5430	445
	130	19.25	11.16	0.67	1.20	0.40	194	489.0	283.5	17.0	30.5	10.2	246.6	103,000	11600	20.4	6.86	4210	818	4760	1260	6090	609
	143	19.49	11.22	0.73	1.32	0.40	213	495.0	285.0	18.5	33.5	10.2	271.0	114,000	12900	20.5	6.90	4610	905	5270	1400	6880	804
	158	19.72	11.30	0.81	1.44	0.40	235	500.9	287.0	20.6	36.6	10.2	299.1	127,000	14500	20.6	6.96	5070	1010	5840	1550	7770	1060
	175	20.04	11.37	0.89	1.59	0.40	260	509.0	288.9	22.6	40.4	10.2	331.1	144,000	16300	20.9	7.02	5660	1130	6520	1740	8910	1420
	192	20.35	11.46	0.96	1.75	0.40	286	516.9	291.0	24.4	44.4	10.2	363.8	161,000	18300	21.0	7.09	6230	1260	7240	1940	10180	1880
	211	20.67	11.56	1.06	1.91	0.40	315	525.0	293.5	26.9	48.5	10.2	400.7	180,000	20500	21.2	7.15	6860	1400	8030	2170	11600	2470
	234	21.06	11.65	1.16	2.11	0.40	349	534.9	295.9	29.5	53.6	10.2	444.3	204,000	23200	21.4	7.23	7630	1570	9000	2440	13400	3320
	258	21.46	11.77	1.28	2.30	0.40	384	545.1	299.0	32.5	58.4	10.2	489.3	229,000	26100	21.6	7.30	8400	1750	10000	2730	15410	4340
	283	21.85	11.89	1.40	2.50	0.40	421	555.0	302.0	35.6	63.5	10.2	536.8	257,000	29300	21.9	7.39	9260	1940	11100	3030	17600	5620
W21 x 6½	44	20.66	6.50	0.35	0.45	0.50	65.7	524.8	165.1	8.9	11.4	12.7	83.71	35,000	859	20.4	3.20	1330	104	1560	166	563	33.1
	50	20.83	6.53	0.38	0.54	0.50	74.7	529.1	165.9	9.7	13.6	12.7	95.19	41,100	1040	20.8	3.31	1550	125	1810	200	688	48.9
	57	21.06	6.56	0.41	0.65	0.50	84.8	534.9	166.5	10.3	16.5	12.7	108.0	48,600	1270	21.2	3.43	1820	153	2110	243	853	74.4
W21 x 8¾	48	20.60	8.14	0.35	0.43	0.50	71.5	523.2	206.8	8.9	10.9	12.7	91.09	39,800	1610	20.9	4.20	1520	156	1750	244	1050	34.6
	55	20.80	8.22	0.38	0.52	0.50	82.2	528.3	208.8	9.6	13.2	12.7	104.7	47,500	2010	21.3	4.38	1800	193	2060	300	1330	52.5
	62	20.99	8.24	0.40	0.61	0.50	92.6	533.1	209.3	10.2	15.6	12.7	117.9	55,300	2390	21.7	4.50	2070	228	2370	356	1600	77
	68	21.13	8.27	0.43	0.69	0.50	101	536.7	210.1	10.9	17.4	12.7	129.2	61,600	2700	21.8	4.57	2300	257	2620	400	1810	102
	73	21.24	8.30	0.46	0.74	0.50	109	539.5	210.7	11.6	18.8	12.7	138.8	66,800	2940	21.9	4.60	2480	279	2830	435	1990	127
	83	21.43	8.35	0.52	0.83	0.50	123	544.3	212.2	13.1	21.2	12.7	157.1	76,200	3390	22.0	4.65	2800	320	3210	500	2310	182
	93	21.62	8.42	0.58	0.93	0.50	138	549.1	213.9	14.7	23.6	12.7	176.1	86,100	3860	22.1	4.68	3140	361	3610	568	2660	253

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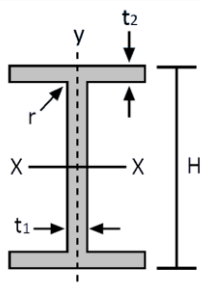


(Imperial units)

Depth x Width	Unit Weight	Standard Sectional Dimension (in)					Unit Weight	Standard Sectional Dimension (mm)					Sectional Area	Second Moment Of Area		Radius Of Gyration		Modulus Of Section		Plastic Modulus		Warping Constant	Torsional Constant
		H	B	t1	t2	r		H	B	t1	t2	r	A	Ix	Iy	ix	iy	Sx	Sy	Zx	Zy	Cw	J
in	Lbs/ft	in	in	in	in	in	Kg/m	mm	mm	mm	mm	mm	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶ , x10 ³	cm ⁴
W21 x 12¼	101	21.36	12.29	0.50	0.80	0.50	151	542.5	312.2	12.7	20.3	12.7	191.9	101,000	10300	22.9	7.33	3720	660	4140	1010	7020	218
	111	21.51	12.34	0.55	0.87	0.50	165	546.4	313.4	14.0	22.2	12.7	210.8	111,000	11400	22.9	7.35	4060	728	4560	1120	7820	286
	122	21.68	12.39	0.60	0.96	0.50	181	550.7	314.7	15.2	24.4	12.7	231.2	123,000	12700	23.1	7.41	4470	807	5030	1240	8780	377
	132	21.83	12.44	0.65	1.04	0.50	197	554.5	316.0	16.5	26.3	12.7	250.4	134,000	13900	23.1	7.45	4830	880	5460	1350	9650	474
	147	22.06	12.51	0.72	1.15	0.50	219	560.3	317.8	18.3	29.2	12.7	278.8	151,000	15600	23.3	7.48	5390	982	6120	1520	11000	648
	166	22.48	12.42	0.75	1.36	0.50	247	571.0	315.5	19.1	34.5	12.7	315	178,000	18100	23.8	7.58	6230	1150	7080	1760	13000	988
	182	22.72	12.50	0.83	1.48	0.50	272	577.1	317.5	21.1	37.6	12.7	346	197,000	20100	23.9	7.62	6830	1270	7800	1950	14600	1290
	201	23.03	12.57	0.91	1.63	0.50	300	585.0	319.4	23.1	41.0	12.7	381.9	221,000	22500	24.1	7.68	7560	1410	8680	2180	16600	1720
	223	23.35	12.67	1.00	1.79	0.50	331	593.1	321.9	25.4	45.5	12.7	421.8	248,000	25400	24.2	7.76	8360	1580	9660	2440	19000	2290
	248	23.74	12.78	1.11	1.99	0.50	370	603.0	324.5	28.3	50.5	12.7	471.2	281,000	28900	24.4	7.83	9320	1780	10900	2760	21900	3140
	275	24.13	12.89	1.22	2.19	0.50	409	612.9	327.4	31.0	55.6	12.7	521	317,000	32600	24.7	7.91	10300	1990	12100	3100	25300	4190
	300	24.53	12.99	1.32	2.38	0.50	447	623.1	329.9	33.5	60.5	12.7	568.8	353,000	36400	24.9	8.00	11300	2210	13400	3440	28600	5390
	333	25.00	13.13	1.46	2.62	0.50	495	635.0	333.5	37.1	66.5	12.7	631.2	400,000	41300	25.2	8.09	12600	2480	15000	3870	33200	7220
W24 x 7	55	23.57	7.00	0.39	0.50	0.50	81.8	598.7	177.9	10.0	12.8	12.7	104.2	55,900	1210	23.2	3.41	1870	136	2190	218	1030	50.3
	62	23.74	7.04	0.43	0.59	0.50	92.2	603.0	178.8	10.9	15.0	12.7	117.5	64,600	1440	23.4	3.50	2140	161	2510	258	1240	72.4
W24 x 9	68	23.73	8.96	0.41	0.59	0.50	102	602.7	227.7	10.5	14.9	12.7	129.4	76,200	2940	24.3	4.77	2530	258	2900	403	2530	79.2
	76	23.92	8.99	0.44	0.68	0.50	114	607.6	228.3	11.2	17.3	12.7	144.6	87,500	3440	24.6	4.88	2880	301	3290	470	2990	113
	84	24.10	9.02	0.47	0.77	0.50	125	612.1	229.1	11.9	19.6	12.7	159.4	98,600	3940	24.9	4.97	3220	344	3680	536	3450	155
	94	24.31	9.07	0.52	0.87	0.50	140	617.5	230.3	13.1	22.2	12.7	178.7	112,000	4530	25.0	5.03	3630	393	4160	615	4000	220
	103	24.53	9.00	0.55	0.98	0.50	153	623.1	228.6	14.0	24.9	12.7	195.5	125,000	4970	25.3	5.04	4010	435	4590	680	4440	297
W24 x 12¾	104	24.06	12.75	0.50	0.75	0.65	156	611.1	323.9	12.7	19.1	16.5	198.8	130,000	10800	25.6	7.37	4250	667	4770	1030	9480	206
	117	24.26	12.80	0.55	0.85	0.65	175	616.2	325.1	14.0	21.6	16.5	223	148,000	12400	25.8	7.46	4800	763	5390	1170	10900	291
	131	24.48	12.85	0.61	0.96	0.65	196	621.8	326.5	15.4	24.4	16.5	249.9	168,000	14200	25.9	7.54	5400	870	6090	1340	12600	410
	146	24.74	12.90	0.65	1.09	0.65	219	628.4	327.7	16.5	27.7	16.5	278.4	192,000	16300	26.3	7.65	6110	995	6870	1530	14700	575
	162	25.00	12.96	0.70	1.22	0.65	242	635.0	329.1	17.9	31.0	16.5	308.9	216,000	18400	26.4	7.72	6800	1120	7700	1730	16800	790
	176	25.24	12.89	0.75	1.34	0.65	263	641.1	327.4	19.1	34.0	16.5	334.4	237,000	19900	26.6	7.71	7390	1220	8390	1880	18300	1020
	192	25.47	12.95	0.81	1.46	0.65	286	646.9	328.9	20.6	37.1	16.5	364.4	261,000	22000	26.8	7.77	8070	1340	9200	2070	20500	1310
	207	25.71	13.01	0.87	1.57	0.65	308	653.0	330.5	22.1	39.9	16.5	392.8	285,000	24100	26.9	7.83	8730	1460	10000	2250	22600	1630
	229	26.02	13.11	0.96	1.73	0.65	341	660.9	333.0	24.4	43.9	16.5	434.5	319,000	27100	27.1	7.90	9650	1630	11100	2520	25700	2180
	250	26.34	13.19	1.04	1.89	0.65	373	669.0	334.9	26.4	48.0	16.5	475.1	354,000	30100	27.3	7.96	10600	1800	12200	2800	29000	2830
	279	26.73	13.31	1.16	2.09	0.65	416	678.9	337.9	29.5	53.1	16.5	530.2	400,000	34300	27.5	8.04	11800	2030	13700	3160	33400	3870
	306	27.13	13.41	1.26	2.28	0.65	455	689.1	340.5	32.0	57.9	16.5	580.1	446,000	38300	27.7	8.13	12900	2250	15100	3510	37900	5010
	335	27.52	13.52	1.38	2.48	0.65	499	699.0	343.4	35.1	63.0	16.5	636.2	496,000	42700	27.9	8.19	14200	2490	16700	3900	43000	6490
	370	27.99	13.66	1.52	2.72	0.65	552	710.9	347.0	38.6	69.1	16.5	702.9	558,000	48400	28.2	8.30	15700	2790	18600	4380	49500	8610

UNIVERSAL COLUMNS

Material Specification: EN 10025 S275JR
EN 10025 S355JR/JO/J2G3
BS 4360 Gr 43A/50B
JIS G3101 SS400



(Imperial units)

Depth x Width	Unit Weight	Standard Sectional Dimension (in)					Unit Weight	Standard Sectional Dimension (mm)					Sectional Area	Second Moment Of Area		Radius Of Gyration		Modulus Of Section		Plastic Modulus		Warping Constant	Torsional Constant
		H	B	t1	t2	r		H	B	t1	t2	r	A	Ix	Iy	ix	iy	Sx	Sy	Zx	Zy	Cw	J
in	Lbs/ft	in	in	in	in	in	Kg/m	mm	mm	mm	mm	mm	cm²	cm⁴	cm⁴	cm	cm	cm³	cm³	cm³	cm³	cm⁶ , x10³	cm⁴
W27 x 10	84	26.71	9.96	0.46	0.64	0.60	126	678.4	253.0	11.7	16.3	15.2	160	119,000	4410	27.3	5.25	3510	349	4010	546	4820	120
	94	26.92	9.99	0.49	0.74	0.60	140	683.8	253.7	12.4	18.9	15.2	178	136,000	5160	27.6	5.38	3980	407	4550	635	5680	169
	102	27.09	10.02	0.52	0.83	0.60	152	688.1	254.4	13.1	21.1	15.2	194	151,000	5800	27.9	5.47	4390	456	5010	713	6440	222
	114	27.29	10.07	0.57	0.93	0.60	170	693.2	255.8	14.5	23.6	15.2	216.4	170,000	6600	28.0	5.52	4900	516	5620	808	7380	307
	129	27.63	10.01	0.61	1.10	0.60	192	701.8	254.3	15.5	27.9	15.2	244	198,000	7670	28.5	5.61	5640	603	6460	943	8680	464
W30 x 10½	90	29.53	10.40	0.47	0.61	1.10	137	750.1	264.2	11.94	15.49	28	174.4	156,000	4780	29.9	5.24	4160	362	4790	575	6420	154
	99	29.65	10.45	0.52	0.67	1.10	151	753.1	265.4	13.21	17.02	28	192.1	172,000	5330	29.9	5.27	4570	402	5270	639	7180	199
	108	29.83	10.48	0.54	0.76	1.10	164	757.7	266.1	13.84	19.3	28	209	191,000	6090	30.2	5.40	5040	458	5820	727	8260	251
	116	30.01	10.50	0.56	0.85	1.10	177	762.3	266.6	14.35	21.59	28	225	211,000	6850	30.6	5.52	5540	514	6360	813	9350	313
	124	30.17	10.52	0.59	0.93	1.10	188	766.3	267.1	14.86	23.62	28	239.8	228,000	7540	30.8	5.61	5950	565	6840	892	10300	380
	132	30.31	10.54	0.61	1.00	1.10	200	769.9	267.8	15.62	25.4	28	255.1	245,000	8170	31.0	5.66	6360	610	7320	964	11300	456
W33 x 11½	148	30.67	10.48	0.65	1.18	1.10	224	779.0	266.2	16.51	29.97	28	285	283,000	9470	31.5	5.76	7270	712	8350	1120	13200	662
	118	32.86	11.48	0.55	0.74	1.18	180	834.6	291.6	13.97	18.8	30	228.7	253,000	7800	33.3	5.84	6060	535	6990	849	12900	274
	130	33.09	11.51	0.58	0.86	1.18	198	840.5	292.4	14.73	21.72	30	252.2	287,000	9090	33.7	6.00	6830	622	7840	983	15200	362
	141	33.30	11.54	0.61	0.96	1.18	214	845.8	293.0	15.37	24.38	30	273.1	318,000	10300	34.1	6.14	7520	703	8610	1100	17200	462
	152	33.49	11.57	0.64	1.06	1.18	231	850.6	293.8	16.13	26.8	30	293.8	347,000	11400	34.4	6.23	8160	776	9350	1220	19200	578
W36 x 12	169	33.82	11.50	0.67	1.22	1.18	255	859.0	292.1	17.02	30.99	30	324.4	394,000	12900	34.9	6.31	9170	883	10500	1390	22100	805
	135	35.55	11.95	0.60	0.79	1.18	205	903.0	303.5	15.24	20.07	30	261.1	333,000	9400	35.7	6.00	7380	619	8540	986	18200	349
	150	35.85	11.98	0.63	0.94	1.18	228	910.6	304.2	15.88	23.88	30	290	385,000	11300	36.4	6.24	8460	743	9730	1170	22000	480
	160	36.01	12.00	0.65	1.02	1.18	242	914.7	304.8	16.51	25.91	30	308.1	414,000	12300	36.7	6.32	9050	807	10400	1270	24100	577
	170	36.17	12.03	0.68	1.10	1.18	257	918.7	305.6	17.27	27.94	30	327.5	445,000	13300	36.9	6.37	9690	870	11100	1380	26400	694
	182	36.33	12.07	0.73	1.18	1.18	275	922.8	306.7	18.42	29.97	30	350.5	479,000	14500	37.0	6.43	10400	946	12000	1500	28700	844
	194	36.49	12.11	0.76	1.26	1.18	292	926.8	307.7	19.43	32.00	30	372.3	512,000	15600	37.1	6.47	11000	1010	12800	1610	31100	1010
	210	36.69	12.18	0.830	1.36	1.18	317	931.9	309.4	21.08	34.54	30	403.3	557,000	17100	37.2	6.51	12000	1110	13800	1760	34300	1270
	232	37.12	12.12	0.87	1.57	1.18	349	942.8	307.8	22.1	39.88	30	444	633,000	19500	37.8	6.63	13400	1270	15500	2010	39500	1760