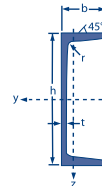


UPN BEAMS

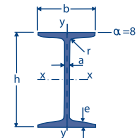


SECTION	Weight kg/m	DIMENSION				SECTION		Static value related to axes y-y z-z*					
		h mm	b mm	t mm	r mm	A cm ²	I _y cm ⁴	W _{yy} cm ³	p _y cm	I _z cm ⁴	W _{zz} cm ³	p _z cm	
30	4.27	30	33	5	7	5.44	6.39	4.26	1.08	5.1	2.6	0.968	
40	4.88	40	35	5	7	6.21	14.1	7.07	1.51	6.68	3.08	1.04	
50	5.59	50	38	5	7	7.12	26.5	10.06	1.93	9.1	3.74	1.13	
65	7.09	65	42	5.5	7.5	9.03	57.5	17.7	2.52	14	5.05	1.25	
80	8.65	80	45	6	8	11	106	26.5	3.1	19.4	6.35	1.33	
100	10.6	100	50	6	8.5	13.5	205	41.1	3.91	29.1	8.45	1.47	
120	13.3	120	55	7	9	17	364	60.7	4.63	43.1	11.1	1.59	
140	16	140	60	7	10	20.4	605	86.4	5.45	62.5	14.7	1.75	
160	18.9	160	65	7.5	10.5	24	925	116	6.21	85.1	18.2	1.88	
180	22	180	70	8	11	28	1,354	150	6.96	114	22.4	2.01	
200	25.3	200	75	8.5	11.5	32.2	1,911	191	7.71	148	26.9	2.14	
220	29.4	220	80	9	12.5	37.4	2,691	245	8.48	196	33.5	2.29	
240	33.2	240	85	9.5	13	42.3	3,599	300	9.22	247	39.5	4.42	
260	37.9	260	90	10	14	48.3	4,824	371	10	317	47.8	2.56	
280	41.9	280	95	10	15	53.4	6,276	448	10.8	398	57.2	2.73	
300	46.1	300	100	10	16	58.8	8,028	535	11.7	493	67.6	2.9	

* I_y moments of inertia about the "Y" axis of centroid;

r_y radius of gyration $[r_y = \sqrt{\frac{I_y}{A}}]$

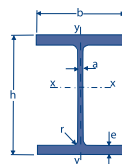
W_y stretch modulus $[W_y = \frac{I_y}{h/2}]$



ROLLED BEAMS IPN

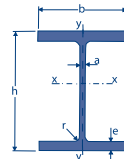
SECTION	WEIGHT Kg/m	DIMENSION				Section		Static value related to axes x-x y-y					
		h mm	b mm	a mm	e mm	A cm ²	I _x cm ⁴	W _x cm ³	p _x cm	I _y cm ⁴	W _y cm ³	p _y cm	
80	5.90	80	42	3.9	5.9	7.57	77.7	19.4	3.20	6.28	3	0.91	
100	8.34	100	50	4.5	6.8	10.6	170.0	34.1	4.00	12.1	4.88	1.07	
120	11.10	120	58	5.1	7.7	14.2	327.0	54.5	4.80	21.4	7.41	1.23	
140	14.30	140	66	5.7	8.6	18.2	572.0	81.8	5.60	35.1	10.7	1.39	
160	17.90	160	74	6.3	9.5	22.8	934.0	117.0	6.40	54.6	14.8	1.55	
180	21.90	180	82	6.9	10.4	27.9	1444.0	161.0	7.20	81.2	19.8	1.71	
200	26.20	200	90	7.5	11.3	33.4	2138.0	214.0	8.00	117	26.0	1.87	
220	31.00	220	98	8.1	12.2	39.5	3055.0	278.0	8.70	162	33.1	2.03	
240	36.20	240	106	8.7	13.1	46.1	4230.0	363.0	9.50	220	41.7	2.1	
260	41.90	260	113	9.4	14.1	53.3	5735.0	441.0	10.40	287	51.0	2.32	
280	47.90	280	119	10.1	15.2	61	7576.0	541.0	11.10	363	61.2	2.44	
300	54.20	300	125	10.8	16.2	69	9785.0	652.0	11.90	450	72.2	2.55	
320	61.00	320	131	11.5	17.3	77.7	12480.0	781.0	12.70	554	84.7	2.67	
340	68.0	340	137	12.2	18.3	86.7	15670.0	922.0	13.44	674	98.4	2.80	
360	76.10	360	143	13	19.6	97	19580.0	1087.0	14.20	818	114	2.9	
380	84.0	380	149	13.7	20.5	107	24010.0	1260	15.0	975	131	3.02	
400	92.60	400	155	14.4	21.6	118	29210.0	1461.0	15.70	975	149	3.13	
450	115.00	450	170	16.2	24.3	147.0	45790.0	2040.0	17.65	1730	203	3.43	
500	141.00	500	185	18.0	27.0	180	68650.0	2746.0	19.53	2480	268	3.72	
550	166.00	550	200	19.0	30.0	212	98950.0	3598.0	21.60	3490	349	4.02	

ROLLED BEAMS HE



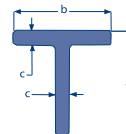
SECTION	WEIGHT Kg/m	DIMENSION					Section A cm ²	Static value related to axes x-x y-y					
		h mm	b mm	a mm	r mm	e mm		Ix cm ⁴	Iy cm ⁴	Wx cm ³	Wy cm ³	px cm	
HE 100 A	16,70	96	100	5	8	12	21,20	349	73,0	4,06	134,0	27,0	2,51
HE 100 B	20,40	100	100	6	10	12	26,00	450	90,0	4,16	167,0	33,0	2,53
HE 100 M	41,80	120	106	12	20	12	53,20	1143	190,0	4,63	399,0	75,0	2,74
HE 120 A	19,90	114	120	5	8	12	25,30	606	106,0	4,89	231,0	38,0	3,02
HE 120 B	26,70	120	120	6,5	11	12	34,00	864	144,0	5,04	318,0	53,0	3,08
HE 120 M	52,10	140	126	12,5	21	12	66,40	2018	288,0	5,51	708,0	112,0	3,25
HE 140 A	24,70	133	140	5,5	8,5	12	31,40	1033	155,0	5,73	389,0	56,0	3,52
HE 140 B	33,70	140	140	7	12	12	43,00	1509	216,0	5,93	550,0	78,0	3,58
HE 140 M	63,20	160	146	13	22	12	80,60	3291	411,0	6,39	1144,0	157,0	3,77
HE 160 A	30,40	152	160	6	9	15	38,80	1673	220,0	6,57	616,0	77,0	3,98
HE 160 B	42,60	160	160	8	13	15	54,30	2492	311,0	6,78	889,0	111,0	4,05
HE 160 M	76,20	180	166	14	23	15	97,10	5098	566,0	7,25	1759,0	212,0	4,26
HE 180 A	35,50	171	180	6	9,5	15	45,30	2510	294,0	7,45	925,0	103,0	4,52
HE 180 B	51,20	180	180	8,5	14	15	65,30	3831	426,0	7,66	1368,0	151,0	4,57
HE 180 M	88,90	200	186	14,5	24	15	113,0	7483	748,0	8,13	2580,0	277,0	4,77
HE 200 A	42,30	190	200	6,5	10	18	53,80	3692	389,0	8,28	1336,0	134,0	4,98
HE 200 B	61,30	200	200	9	15	18	78,10	5696	570,0	8,54	2003,0	200,0	5,07
HE 200 M	103,00	220	206	15	25	18	131,3	10642	967,0	9,00	3651,0	354,0	5,27
HE 220 A	50,50	210	220	7	11	18	64,30	5410	515,0	9,17	1955,0	178,0	5,51
HE 220 B	71,50	220	220	9,5	16	18	91,00	8091	736,0	9,43	2843,0	258,0	5,59
HE 220 M	117,00	240	226	15,5	26	18	149,4	14605	1220,0	9,89	5012,0	444,0	5,79
HE 240 A	60,30	230	240	7,5	12	21	76,80	7763	675,0	10,10	2769,0	231,0	6,00
HE 240 B	83,20	240	240	10	17	21	106,0	11259	938,0	10,30	3923,0	327,0	6,08
HE 240 M	157,70	270	248	18	32	21	199,6	24289	1800,0	11,00	8153,0	657,0	6,39
HE 260 A	68,20	250	260	7,5	12,5	24	86,80	10455	836,0	11,00	3698,0	282,0	6,50
HE 260 B	93,00	260	260	10	17,5	24	118,4	14919	1156,0	11,20	5135,0	395,0	6,58
HE 260 M	172,00	290	268	18	32,5	24	219,6	31307	2160,0	11,90	10449,0	780,0	6,90
HE 280 A	76,40	270	280	8	13	24	97,30	13673	1010,0	11,90	4763,0	340,0	7,00
HE 280 B	103,00	280	280	10,5	18	24	131,4	19270	1380,0	12,10	6595,0	471,0	7,09
HE 280 M	189,00	310	288	18,5	33	24	240,2	39547	2550,0	12,80	13163,0	914,0	7,40
HE 300 A	88,30	290	300	8,5	14	27	112,5	18263	1200,0	12,70	6310,0	421,0	7,49
HE 300 B	117,00	300	300	11	19	27	149,1	25164	1680,0	13,00	8563,0	571,0	7,58
HE 300 M	245,00	320	260	10	17,5	24	312,0	68135	3800,0	14,80	19709,0	1280,0	7,95
HE 320 A	97,60	290	268	18	32,5	24	124,0	22930	1479,0	13,60	6985,0	466,0	7,49
HE 320 B	127,00	320	300	11,5	20,5	27	161,0	30820	1926,0	13,80	9239,0	616,0	7,57
HE 320 M	245,00	359	309	21	40	27	312,0	68135	3800,0	14,80	19709,0	1280,0	7,95
HE 340 A	105,00	330	300	9,5	16,5	27	133,0	27690	1678,0	14,40	7436,0	496,0	7,46
HE 340 B	134,00	340	300	12	21,5	27	171,0	36660	2156,0	14,60	9690,0	646,0	7,53
HE 340 M	248,00	377	309	21	40	27	315,8	76372	4050,0	15,60	19711,0	1280,0	7,90
HE 360 A	112,00	350	300	10	17,5	27	143,0	33090	1891,0	15,20	7887,0	526,0	7,43
HE 360 B	142,00	360	300	12,5	22,5	27	181,0	43190	2400,0	15,50	10140,0	676,0	7,49
HE 360 M	250,00	395	308	21	40	27	318,8	84867	4300,0	16,30	19522,0	1270,0	7,83
HE 400 A	125,00	390	300	11	19	27	159,0	45070	2311,0	16,80	8564,0	571,0	7,34
HE 400 B	155,00	400	300	13,5	24	27	198,0	57680	2894,0	17,10	10820,0	721,0	7,40
HE 400 M	256,00	432	307	21	40	27	325,8	104119	4820,0	17,90	19335,0	1260,0	7,40
HE 450 A	140,00	440	300	11,5	21	27	178,0	63722	2900,0	18,90	9465,0	631,0	7,29
HE 450 B	171,00	450	300	14	26	27	218,0	79887	3550,0	19,10	11721,0	781,0	7,33
HE 500 A	155,00	490	300	12	23	27	197,5	86975	3550,0	21,00	10367,0	691,0	7,24
HE 500 B	187,00	500	300	14,5	28,0	27	238,6	107176	4290,0	21,00	12624,0	842,0	7,27

ROLLED BEAMS IPE



SECTION	WEIGHT		DIMENSION					Section		Static value related to axes x-x' y-y'						
	Kg/m	h mm	b mm	a mm	e mm	r mm	A cm ²	Ix cm ⁴	Wx cm ³	px cm	Iy cm ⁴	Wy cm ³	py cm			
IPE 80	6,00	80	46	3,8	5,2	5	7,64	80,1	20	3,24	8,49	3,69	1,05			
IPE 100	8,10	100	55	4,1	5,7	7	10,3	171	34,2	4,07	15,9	5,78	1,24			
IPE 120	10,40	120	64	4,4	6,3	7	13,2	318	53	4,9	27,7	8,66	1,45			
IPE 140	12,90	140	73	4,7	6,9	7	16,4	541	77,3	5,74	44,9	12,30	1,65			
IPE 160	15,80	160	82	5	7,4	9	20,1	869	109	6,58	68,3	16,66	1,84			
IPE 180	18,80	180	91	5,3	8	9	23,9	1317	146	7,42	101	22,20	2,05			
IPE 200	22,40	200	100	5,6	8,5	12	28,5	1943	194	8,26	142	28,40	2,24			
IPE 220	26,20	220	110	5,9	9,2	12	33,4	2772	252	9,11	205	37,27	2,48			
IPE 240	30,70	240	120	6,2	9,8	15	39,1	3892	324	9,97	284	47,33	2,69			
IPE 270	36,10	270	135	6,6	10,2	15	45,9	5790	429	11,2	420	62,22	3,02			
IPE 300	42,20	300	150	7,1	10,7	15	53,8	8356	557	12,5	604	80,53	3,35			
IPEM 300	154,20	300	175	25	40	13	196,4	26221	1748	11,5	3601	411,54	18,30			
IPE 330	49,10	330	160	7,5	11,5	18	62,6	11770	713	13,7	788	98,50	3,55			
IPE 360	57,10	360	170	8	12,7	18	72,7	16270	904	15	1043	122,71	3,79			
IPE 400	66,30	400	180	8,6	13,5	21	84,5	23130	1160	16,5	1318	146,44	3,95			
IPE 450	77,60	450	190	9,4	14,6	21	98,8	33740	1500	18,5	1676	176,42	4,12			
IPE 500	90,70	500	200	10,2	16	21	116	48200	1930	20,4	2142	214,20	4,31			
IPE 550	106,00	550	210	11,1	17,2	24	134	67120	2440	22,3	2668	254,10	4,45			
IPE 600	122,00	600	220	12	19	24	156	92080	3069	24,3	3387	307,90	4,66			

T-BARS*



		Weight per m in kg Thickness c [mm]														
		A	B	4,0	4,5	5,0	5,5	6,0	6,5	7,0	8,0	9,0	10,0	11,0	13,0	15,0
height a x width b [mm]	20	20	1,13													
	25	25		1,61												
	30	30			2,16											
	35	35				2,78										
	40	40					3,49									
	45	45						4,26								
	50	50							5,11							
	60	60								6,23	7,03					
	70	70									8,32	9,26				
	80	80										10,70	11,78			
	90	90											13,40			
	100	100												16,40		
	120	120													23,20	
	140	140														31,30

* The indicated value refer to T round edges profiles