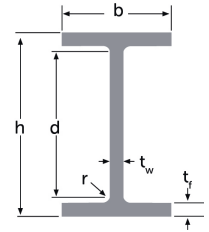


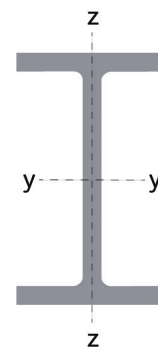
British Steel, the only UK manufacturer of structural sections, is BES 6001 certified, guaranteeing commitment to responsibly sourced materials. Our structural sections are CE marked and tested to the highest standards, providing quality and assurance for the global construction market.



Design parameters

Designation	Serial size	Mass per metre	Depth of section	Width of section	Thickness		Root radius	Depth between fillets	Ratios for local buckling		Second moment of area	
					of web	of flange			Flange	Web	Axis	Axis
			h	b	t _w	t _f	r	d	B/2T	d/t	y-y	z-z
	in	kg/m	mm	mm	mm	mm	mm	mm			cm ⁴	cm ⁴
IPE 100	100 x 55 x 8	8.1	100.0	55.0	4.1	5.7	7.0	74.6	4.82	18.2	171	16
IPE 120	120 x 65 x 10	10.4	120.0	64.0	4.4	6.3	7.0	93.4	5.08	21.2	318	28
IPE 140	140 x 73 x 13	12.9	140.0	73.0	4.7	6.9	7.0	112.2	5.29	23.9	541	45
IPE 160	160 x 82 x 16	15.8	160.0	82.0	5.0	7.4	9.0	127.2	5.54	25.4	869	68
IPE 180	180 x 91 x 19	18.8	180.0	91.0	5.3	8.0	9.0	146.0	5.69	27.5	1317	101
IPE 200	200 x 100 x 22	22.4	200.0	100.0	5.6	8.5	12.0	159.0	5.88	28.4	1943	142
IPE 220	220 x 110 x 26	26.2	220.0	110.0	5.9	9.2	12.0	177.6	5.98	30.1	2772	205
IPE 240	240 x 120 x 31	30.7	240.0	120.0	6.2	9.8	15.0	190.4	6.12	30.7	3892	284
IPE 270	270 x 135 x 36	36.1	270.0	135.0	6.6	10.2	15.0	219.6	6.62	33.3	5790	420
IPE 300	300 x 150 x 42	42.2	300.0	150.0	7.1	10.7	15.0	248.6	7.01	35.0	8356	604
IPE 330	330 x 160 x 49	49.1	330.0	160.0	7.5	11.5	20.0	267.0	6.96	35.6	11908	789
IPE 360	360 x 170 x 57	57.1	360.0	170.0	8.0	12.7	16.0	302.6	6.69	37.8	16113	1043
IPE 400	400 x 180 x 66	66.3	400.0	180.0	8.6	13.5	20.0	333.0	6.67	38.7	23015	1317
IPE 450	450 x 190 x 78	77.6	450.0	190.0	9.4	14.6	20.0	380.8	6.51	40.5	33597	1675
IPE 500	500 x 200 x 91	90.7	500.0	200.0	10.2	16.0	20.0	428.0	6.25	42.0	48017	2141
IPE 550	550 x 210 x 106	106.0	550.0	210.0	11.1	17.2	27.0	461.6	6.10	41.6	67933	2671
IPE 600	600 x 220 x 122	122.0	600.0	220.0	12.0	19.0	20.0	522.0	5.79	43.5	90952	3384
IPE 750 x 134	762 x 267 x 134	133.9	750.0	264.0	12.0	15.5	20.0	679.0	8.52	56.6	151894	4768
IPE 750 x 147	762 x 267 x 147	147.2	753.0	265.0	13.2	17.0	20.0	679.0	7.79	51.4	167254	5291
IPE 750 x 173	762 x 267 x 173	173.7	762.0	267.0	14.4	21.6	20.0	678.8	6.18	47.1	207014	6875
IPE 750 x 196	762 x 267 x 196	196.9	770.0	268.0	15.6	25.4	20.0	679.2	5.28	43.5	241470	8177

Additional sizes and gauges may be available – please contact us to discuss your requirements.

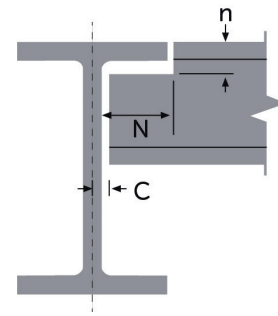


Design parameters

Radius of gyration		Elastic modulus		Plastic modulus		Buckling parameter	Torsional index	Warping constant	Torsional constant	Area of section	Designation	Mass per metre
Axis	Axis	Axis	Axis	Axis	Axis							
y-y	z-z	y-y	z-z	y-y	z-z							
cm	cm	cm ³	cm ³	cm ³	cm ³	u	x	H dm ⁶	J cm ⁴	cm ²		kg/m
4.07	1.24	34	6	39	9	0.878	15.9	0.0004	1.16	10.3	IPE 100	8.1
4.90	1.45	53	9	61	14	0.879	18.0	0.0009	1.69	13.2	IPE 120	10.4
5.74	1.65	77	12	88	19	0.880	19.7	0.0020	2.40	16.4	IPE 140	12.9
6.58	1.84	109	17	124	26	0.881	20.6	0.0040	3.54	20.1	IPE 160	15.8
7.42	2.05	146	22	166	35	0.881	21.9	0.0075	4.73	23.9	IPE 180	18.8
8.26	2.24	194	28	221	45	0.883	22.0	0.0131	6.92	28.5	IPE 200	22.4
9.11	2.48	252	37	285	58	0.884	22.9	0.0228	9.03	33.4	IPE 220	26.2
9.97	2.69	324	47	367	74	0.886	22.6	0.0376	13.0	39.1	IPE 240	30.7
11.2	3.02	429	62	484	97	0.884	25.0	0.0708	15.9	45.9	IPE 270	36.1
12.5	3.35	557	81	628	125	0.882	26.9	0.126	19.9	53.8	IPE 300	42.2
13.7	3.53	722	99	814	154	0.884	26.0	0.200	30.4	63.3	IPE 330	49.1
14.9	3.80	895	123	1010	190	0.883	28.1	0.314	35.3	72.1	IPE 360	57.1
16.5	3.96	1151	146	1301	228	0.882	28.5	0.492	49.7	84.1	IPE 400	66.3
18.5	4.12	1493	176	1695	276	0.878	30.3	0.794	65.0	98.5	IPE 450	77.6
20.4	4.31	1921	214	2186	335	0.876	31.5	1.25	87.1	115	IPE 500	90.7
22.4	4.44	2470	254	2821	402	0.874	30.5	1.90	132	136	IPE 550	106.0
24.3	4.68	3032	308	3471	483	0.871	32.9	2.86	154	154	IPE 600	122.0
29.8	5.27	4051	361	4679	569	0.855	48.7	6.43	125	172	IPE 750 x 134	133.9
29.8	5.30	4442	399	5144	632	0.854	44.8	7.17	163	188	IPE 750 x 147	147.2
30.5	5.56	5433	515	6252	811	0.864	37.4	9.42	279	222	IPE 750 x 173	173.7
31.0	5.70	6272	610	7208	960	0.869	32.8	11.3	417	252	IPE 750 x 196	196.9

Additional sizes and gauges may be available – please contact us to discuss your requirements.





Fabrication detail

Designation	Mass per metre	End clearance	Notch		Surface area			A/V ratio (m ⁻¹)			
					Per metre	Per tonne	Two end faces	Profile 3 sides	Profile 4 sides	Box 3 sides	Box 4 sides
	kg/m	C mm	N mm	n mm	m ²	m ²	m ²				
IPE 100	8.1	4	36	14	0.400	49.4	0.0021	335	385	245	300
IPE 120	10.4	4	40	14	0.475	45.7	0.0026	310	360	230	280
IPE 140	12.9	4	46	14	0.551	42.7	0.0033	290	335	215	260
IPE 160	15.8	5	50	18	0.623	39.4	0.0040	270	310	200	240
IPE 180	18.8	5	54	18	0.698	37.1	0.0048	255	290	190	225
IPE 200	22.4	5	58	22	0.768	34.3	0.0057	235	270	175	210
IPE 220	26.2	5	64	22	0.848	32.4	0.0067	220	255	165	200
IPE 240	30.7	5	68	26	0.922	30.0	0.0078	205	235	155	185
IPE 270	36.1	5	76	26	1.04	28.8	0.0092	195	225	145	175
IPE 300	42.2	6	82	26	1.16	27.5	0.0108	190	215	140	165
IPE 330	49.1	6	88	32	1.25	25.5	0.0127	170	200	130	155
IPE 360	57.1	6	92	30	1.36	23.8	0.0144	165	190	125	145
IPE 400	66.3	6	96	34	1.47	22.2	0.0168	155	175	115	140
IPE 450	77.6	7	102	36	1.61	20.7	0.0197	145	165	110	130
IPE 500	90.7	7	106	36	1.75	19.3	0.0230	135	150	105	120
IPE 550	106.0	8	110	46	1.87	17.6	0.0272	120	140	95	110
IPE 600	122.0	8	114	40	2.02	16.6	0.0308	115	130	90	105
IPE 750 x 134	133.9	10	138	46	2.55	19.0	0.0504	90	100	70	80
IPE 750 x 147	147.2	9	138	42	2.53	17.2	0.0444	100	115	80	95
IPE 750 x 173	173.7	9	136	38	2.51	14.5	0.0376	120	135	95	110
IPE 750 x 196	196.9	8	136	36	2.50	12.7	0.0344	130	145	105	120

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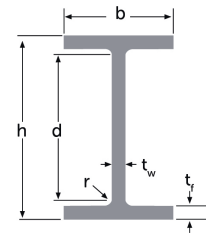
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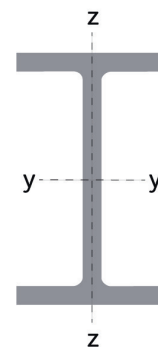
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Design parameters

Designation	Serial size	Mass per metre	Depth of section	Width of section	Thickness		Root radius	Depth between fillets	Ratios for local buckling		Second moment of area	
					of web	of flange			Flange	Web	Axis	Axis
			h	b	t _w	t _f	r	d	B/2T	d/t	y-y	z-z
	in	kg/m	mm	mm	mm	mm	mm	mm			cm ⁴	cm ⁴
HE 100 A	100 x 100 x 16.7	16.7	96.0	100.0	5.0	8.0	12.0	56.0	6.25	11.2	349	134
HE 100 B	100 x 100 x 20.4	20.4	100.0	100.0	6.0	10.0	12.0	56.0	5.00	9.33	450	167
HE 100 M	100 x 100 x 41.8	41.8	120.0	106.0	12.0	20.0	12.0	56.0	2.65	4.67	1143	399
HE 120 A	120 x 120 x 19.9	19.9	114.0	120.0	5.0	8.0	12.0	74.0	7.50	14.8	606	231
HE 120 B	120 x 120 x 26.7	26.7	120.0	120.0	6.5	11.0	12.0	74.0	5.45	11.4	864	318
HE 120 M	120 x 120 x 52.1	52.1	140.0	126.0	12.5	21.0	12.0	74.0	3.00	5.92	2018	703
HE 140 A	140 x 140 x 24.7	24.7	133.0	140.0	5.5	8.5	12.0	92.0	8.24	16.7	1033	389
HE 140 B	140 x 140 x 33.7	33.7	140.0	140.0	7.0	12.0	12.0	92.0	5.83	13.1	1509	550
HE 140 M	140 x 140 x 63.2	63.2	160.0	146.0	13.0	22.0	12.0	92.0	3.32	7.08	3291	1144
HE 160 A	160 x 160 x 30.4	30.4	152.0	160.0	6.0	9.0	15.0	104.0	8.89	17.3	1673	616
HE 160 B	160 x 160 x 42.6	42.6	160.0	160.0	8.0	13.0	15.0	104.0	6.15	13.0	2492	889
HE 160 M	160 x 160 x 76.2	76.2	180.0	166.0	14.0	23.0	15.0	104.0	3.61	7.43	5098	1759
HE 180 A	180 x 180 x 36	35.5	171.0	180.0	6.0	9.5	16.0	120.0	9.47	20.0	2524	925
HE 180 B	180 x 180 x 51	51.2	180.0	180.0	8.5	14.0	16.0	120.0	6.43	14.1	3845	1363
HE 180 M	180 x 180 x 89	88.9	200.0	186.0	14.5	24.0	16.0	120.0	3.88	8.28	7497	2581
HE 200 A	200 x 200 x 42	42.3	190.0	200.0	6.5	10.0	20.0	130.0	10.0	20.0	3733	1336
HE 200 B	200 x 200 x 61	61.3	200.0	200.0	9.0	15.0	20.0	130.0	6.67	14.4	5737	2004
HE 200 M	200 x 200 x 103	103.0	220.0	206.0	15.0	25.0	20.0	130.0	4.12	8.67	10682	3653
HE 220 A	220 x 220 x 51	50.5	210.0	220.0	7.0	11.0	20.0	148.0	10.0	21.1	5460	1955
HE 220 B	220 x 220 x 72	71.5	220.0	220.0	9.5	16.0	20.0	148.0	6.88	15.6	8141	2844
HE 220 M	220 x 220 x 117	117.0	240.0	226.0	15.5	26.0	20.0	148.0	4.35	9.55	14655	5013
HE 240 A	240 x 240 x 60	60.3	230.0	240.0	7.5	12.0	20.0	166.0	10.0	22.1	7731	2768
HE 240 B	240 x 240 x 83	83.2	240.0	240.0	10.0	17.0	20.0	166.0	7.06	16.6	11227	3922
HE 240 M	240 x 240 x 157	157.0	270.0	248.0	18.0	32.0	20.0	166.0	3.88	9.22	24257	8152
HE 260 A	260 x 260 x 68	68.2	250.0	260.0	7.5	12.5	20.0	185.0	10.4	24.7	10288	3665
HE 260 B	260 x 260 x 93	93.0	260.0	260.0	10.0	17.5	20.0	185.0	7.43	18.5	14752	5132
HE 260 M	260 x 260 x 172	172.0	290.0	268.0	18.0	32.5	20.0	185.0	4.12	10.3	31140	10444
HE 280 A	280 x 280 x 76	76.4	270.0	280.0	8.0	13.0	27.0	190.0	10.8	23.8	13843	4765
HE 280 B	280 x 280 x 103	103.0	280.0	280.0	10.5	18.0	27.0	190.0	7.78	18.1	19440	6598
HE 280 M	280 x 280 x 189	189.0	310.0	288.0	18.5	33.0	27.0	190.0	4.36	10.3	39717	13167
HE 300 A	300 x 300 x 88	88.3	290.0	300.0	8.5	14.0	27.0	208.0	10.7	24.5	18263	6310
HE 300 B	300 x 300 x 117	117.0	300.0	300.0	11.0	19.0	27.0	208.0	7.89	18.9	25166	8563
HE 300 C	300 x 300 x 177	177.0	320.0	305.0	16.0	29.0	27.0	208.0	5.26	13.0	40951	13736
HE 300 M	300 x 300 x 238	238.0	340.0	310.0	21.0	39.0	27.0	208.0	3.97	9.90	59201	19403
HE 320 A	320 x 300 x 98	97.6	310.0	300.0	9.0	15.5	27.0	225.0	9.68	25.0	22929	6985
HE 320 B	320 x 300 x 127	127.0	320.0	300.0	11.5	20.5	27.0	225.0	7.32	19.6	30824	9239
HE 320 M	320 x 300 x 245	245.0	359.0	309.0	12.0	40.0	27.0	225.0	3.86	18.8	66506	19684
HE 340 A	340 x 300 x 105	105.0	330.0	300.0	9.5	16.5	27.0	243.0	9.09	25.6	27693	7436
HE 340 B	340 x 300 x 134	134.0	340.0	300.0	12.0	21.5	27.0	243.0	6.98	20.3	36656	9690
HE 340 M	340 x 300 x 248	248.0	377.0	309.0	21.0	40.0	27.0	243.0	3.86	11.6	76372	19711
HE 360 A	360 x 300 x 112	112.0	350.0	300.0	10.0	17.5	27.0	261.0	8.57	26.1	33090	7887
HE 360 B	360 x 300 x 142	142.0	360.0	300.0	12.5	22.5	27.0	261.0	6.67	20.9	43193	10141

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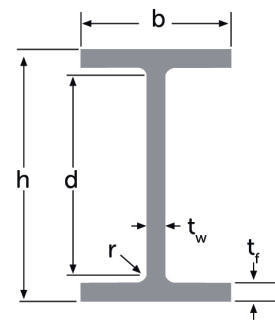


Design parameters

Radius of gyration		Elastic modulus		Plastic modulus		Buckling parameter	Torsional index	Warping constant	Torsional constant	Area of section	Designation	Mass per metre
Axis	Axis	Axis	Axis	Axis	Axis							
y-y	z-z	y-y	z-z	y-y	z-z							
cm	cm	cm ³	cm ³	cm ³	cm ³	u	x	dm ⁶	cm ⁴	cm ²		kg/m
4.06	2.51	73	27	83	41	0.836	9.99	0.0026	5.28	21.2	HE 100 A	16.7
4.16	2.53	90	33	104	51	0.840	8.51	0.0034	9.33	26.0	HE 100 B	20.4
4.63	2.74	190	75	236	116	0.845	5.04	0.0100	67.2	53.2	HE 100 M	41.8
4.89	3.02	106	38	120	59	0.837	12.3	0.0065	6.04	25.3	HE 120 A	19.9
5.04	3.06	144	53	165	81	0.842	9.64	0.0094	13.9	34.0	HE 120 B	26.7
5.51	3.25	288	112	351	172	0.846	5.77	0.0249	90.5	66.4	HE 120 M	52.1
5.73	3.52	155	56	174	85	0.837	13.9	0.0151	8.10	31.4	HE 140 A	24.7
5.93	3.58	216	79	245	120	0.844	10.6	0.0225	20.2	43.0	HE 140 B	33.7
6.39	3.77	411	157	494	240	0.847	6.44	0.0545	119	80.6	HE 140 M	63.2
6.57	3.98	220	77	245	117	0.839	14.5	0.0315	12.1	38.8	HE 160 A	30.4
6.78	4.05	312	111	354	170	0.844	11.0	0.0480	31.3	54.3	HE 160 B	42.6
7.25	4.26	566	212	675	325	0.847	6.91	0.108	161	97.1	HE 160 M	76.2
7.45	4.51	295	103	327	157	0.841	15.7	0.0603	15.5	45.5	HE 180 A	35.5
7.66	4.56	427	151	484	231	0.845	11.6	0.0939	43.2	65.5	HE 180 B	51.2
8.13	4.77	750	277	886	425	0.847	7.44	0.200	204	114	HE 180 M	88.9
8.28	4.95	393	134	435	204	0.843	15.7	0.108	23.1	54.5	HE 200 A	42.3
8.54	5.05	574	200	648	306	0.847	11.7	0.171	62.8	78.7	HE 200 B	61.3
9.00	5.26	971	355	1141	544	0.848	7.79	0.347	265	132	HE 200 M	103.0
9.17	5.48	520	178	575	271	0.844	16.4	0.194	30.8	65.0	HE 220 A	50.5
9.42	5.57	740	259	833	394	0.848	12.3	0.296	80.4	91.7	HE 220 B	71.5
9.88	5.78	1221	444	1426	679	0.848	8.29	0.574	321	150	HE 220 M	117.0
10.1	6.02	672	231	742	351	0.844	16.9	0.329	40.7	76.5	HE 240 A	60.3
10.3	6.09	936	327	1050	498	0.848	12.9	0.488	102	106	HE 240 B	83.2
11.0	6.40	1797	657	2114	1005	0.852	7.63	1.15	620	199	HE 240 M	157.0
11.0	6.55	823	282	904	428	0.846	18.0	0.517	47.5	85.3	HE 260 A	68.2
11.2	6.62	1135	395	1267	600	0.850	13.7	0.754	117	117	HE 260 B	93.0
11.9	6.92	2148	779	2508	1190	0.853	8.17	1.73	695	218	HE 260 M	172.0
11.9	6.95	1025	340	1128	519	0.849	17.2	0.787	70.5	98.6	HE 280 A	76.4
12.1	7.05	1389	471	1550	719	0.851	13.7	1.13	156	133	HE 280 B	103.0
12.8	7.38	2562	914	2981	1398	0.854	8.45	2.53	831	241	HE 280 M	189.0
12.7	7.49	1260	421	1384	640	0.849	17.7	1.20	87.8	113	HE 300 A	88.3
13.0	7.58	1678	571	1870	869	0.851	14.1	1.69	189	149	HE 300 B	117.0
13.5	7.81	2559	901	2928	1374	0.854	10.1	2.91	604	225	HE 300 C	177.0
14.0	8.00	3482	1252	4079	1912	0.856	7.90	4.39	1411	303	HE 300 M	238.0
13.6	7.49	1479	466	1629	709	0.861	17.6	1.51	112	124	HE 320 A	97.6
13.8	7.57	1926	616	2150	938	0.863	14.2	2.07	230	161	HE 320 B	127.0
15.2	8.28	3705	1274	4261	1926	0.884	8.30	5.01	1357	287	HE 320 M	245.0
14.4	7.46	1678	496	1851	755	0.870	17.9	1.83	131	133	HE 340 A	105.0
14.6	7.53	2156	646	2409	985	0.871	14.5	2.46	263	171	HE 340 B	134.0
15.6	7.90	4052	1276	4718	1952	0.874	8.72	5.60	1512	316	HE 340 M	248.0
15.2	7.43	1891	526	2089	801	0.877	18.2	2.18	153	143	HE 360 A	112.0
15.5	7.49	2400	676	2684	1032	0.878	14.9	2.89	298	181	HE 360 B	142.0

Additional sizes and gauges may be available – please contact us to discuss your requirements.



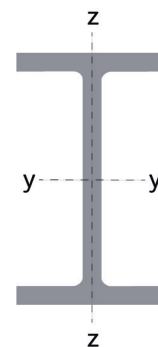


Design parameters

Designation	Serial size	Mass per metre	Depth of section	Width of section	Thickness		Root radius	Depth between fillets	Ratios for local buckling		Second moment of area	
					of web	of flange			Flange	Web	Axis	Axis
			h	b	t _w	t _f	r	d	B/2T	d/t	y-y cm ⁴	z-z cm ⁴
	in	kg/m	mm	mm	mm	mm	mm	mm				
HE 360 M	360 x 300 x 250	250.0	395.0	308.0	21.0	40.0	27.0	261.0	3.85	12.4	84867	19522
HE 400 A	400 x 300 x 125	125.0	390.0	300.0	11.0	19.0	27.0	298.0	7.89	27.1	45069	8564
HE 400 B	400 x 300 x 155	155.0	400.0	300.0	13.5	24.0	27.0	298.0	6.25	22.1	57681	10819
HE 400 M	400 x 300 x 256	256.0	432.0	307.0	21.0	40.0	27.0	298.0	3.84	14.2	104119	19335
HE 450 A	450 x 300 x 123	140.0	440.0	300.0	11.5	21.0	27.0	344.0	7.14	29.9	63722	9465
HE 450 B	450 x 300 x 171	171.0	450.0	300.0	14.0	26.0	27.0	344.0	5.77	24.6	79888	11721
HE 450 M	450 x 300 x 263	263.0	478.0	307.0	21.0	40.0	27.0	344.0	3.84	16.4	131484	19339
HE 500 A	500 x 300 x 155	155.0	490.0	300.0	12.0	23.0	27.0	390.0	6.52	32.5	86975	10367
HE 500 B	500 x 300 x 187	187.0	500.0	300.0	14.5	28.0	27.0	390.0	5.36	26.9	107176	12624
HE 500 M	500 x 300 x 270	270.0	524.0	306.0	21.0	40.0	27.0	390.0	3.83	18.6	161929	19155
HE 550 A	550 x 300 x 166	166.0	540.0	300.0	12.5	24.0	27.0	438.0	6.25	35.0	111932	10819
HE 550 B	550 x 300 x 199	199.0	550.0	300.0	15.0	29.0	27.0	438.0	5.17	29.2	136691	13077
HE 550 M	550 x 300 x 278	278.0	572.0	306.0	21.0	40.0	27.0	438.0	3.83	20.9	197984	19158
HE 600 A	600 x 300 x 178	178.0	590.0	300.0	13.0	25.0	27.0	486.0	6.00	37.4	141208	11271
HE 600 B	600 x 300 x 212	212.0	600.0	300.0	15.5	30.0	27.0	486.0	5.00	31.4	171041	13530
HE 600 M	600 x 300 x 285	285.0	620.0	305.0	21.0	40.0	27.0	486.0	3.81	23.1	237448	18975
HE 650 A	650 x 300 x 190	190.0	640.0	300.0	13.5	26.0	27.0	534.0	5.77	39.6	175178	11724
HE 650 B	650 x 300 x 225	225.0	650.0	300.0	16.0	31.0	27.0	534.0	4.84	33.4	210616	13984
HE 650 M	650 x 300 x 293	293.0	668.0	305.0	21.0	40.0	27.0	534.0	3.81	25.4	281668	18979
HE 700 A	700 x 300 x 204	204.0	690.0	300.0	14.5	27.0	27.0	582.0	5.56	40.1	215301	12179
HE 700 B	700 x 300 x 241	241.0	700.0	300.0	17.0	32.0	27.0	582.0	4.69	34.2	256888	14441
HE 700 M	700 x 300 x 301	301.0	716.0	304.0	21.0	40.0	27.0	582.0	3.80	27.7	329278	18797
HE 800 A	800 x 300 x 224	224.0	790.0	300.0	15.0	28.0	27.0	680.0	5.36	45.3	301567	12634
HE 800 B	800 x 300 x 262	262.0	800.0	300.0	17.5	33.0	27.0	680.0	4.55	38.9	357208	14898
HE 800 M	800 x 300 x 317	317.0	814.0	303.0	21.0	40.0	27.0	680.0	3.79	32.4	440722	18621
HE 900 A	900 x 300 x 252	252.0	890.0	300.0	16.0	30.0	30.0	770.0	5.00	48.1	422075	13547
HE 900 B	900 x 300 x 291	291.0	900.0	300.0	18.5	35.0	30.0	770.0	4.29	41.6	494065	15816
HE 900 M	900 x 300 x 333	333.0	910.0	305.0	21.0	40.0	30.0	770.0	3.81	36.7	574979	19004
HE 1000 A	1000 x 300 x 272	272.0	990.0	300.0	16.5	31.0	30.0	868.0	4.84	52.6	553846	14004
HE 1000 B	1000 x 300 x 314	314.0	1000.0	300.0	19.0	36.0	30.0	868.0	4.17	45.7	644748	16276
HE 1000 M	1000 x 300 x 349	349.0	1008.0	302.0	21.0	40.0	30.0	868.0	3.78	41.3	722299	18459

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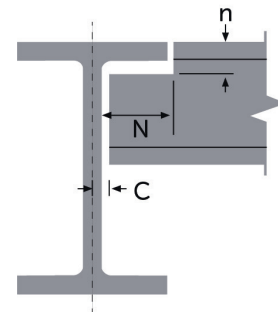


Design parameters

Radius of gyration		Elastic modulus		Plastic modulus		Buckling parameter	Torsional index	Warping constant	Torsional constant	Area of section	Designation	Mass per metre
Axis	Axis	Axis	Axis	Axis	Axis							
y-y	z-z	y-y	z-z	y-y	z-z							
cm	cm	cm ³	cm ³	cm ³	cm ³	u	x	H dm ⁶	J cm ⁴	cm ²		kg/m
16.3	7.83	4297	1268	4990	1942	0.880	9.22	6.15	1513	319	HE 360 M	250.0
16.8	7.34	2311	571	2563	872	0.884	19.0	2.95	193	159	HE 400 A	125.0
17.1	7.40	2884	721	3233	1103	0.885	15.8	3.82	361	198	HE 400 B	155.0
17.9	7.70	4820	1260	5571	1933	0.887	10.3	7.43	1520	326	HE 400 M	256.0
18.9	7.29	2896	631	3217	965	0.892	20.0	4.15	250	178	HE 450 A	140.0
19.1	7.33	3551	781	3983	1197	0.892	16.7	5.27	448	218	HE 450 B	171.0
19.8	7.59	5501	1260	6332	1938	0.892	11.6	9.28	1534	335	HE 450 M	263.0
21.0	7.24	3550	691	3950	1058	0.896	20.8	5.65	318	198	HE 500 A	155.0
21.2	7.27	4287	842	4815	1291	0.896	17.6	7.03	548	239	HE 500 B	187.0
21.7	7.46	6180	1252	7095	1931	0.894	12.9	11.2	1544	344	HE 500 M	270.0
23.0	7.15	4146	721	4623	1106	0.897	22.4	7.20	360	212	HE 550 A	166.0
23.2	7.17	4971	872	5591	1340	0.896	19.0	8.87	610	254	HE 550 B	199.0
23.6	7.35	6923	1252	7934	1936	0.894	14.4	13.6	1559	354	HE 550 M	278.0
25.0	7.05	4787	751	5351	1155	0.896	23.9	9.00	407	226	HE 600 A	178.0
25.2	7.08	5701	902	6426	1390	0.895	20.4	11.0	677	270	HE 600 B	212.0
25.6	7.22	7660	1244	8773	1930	0.893	15.8	16.0	1570	364	HE 600 M	285.0
26.9	6.97	5474	782	6137	1204	0.894	25.3	11.0	458	242	HE 650 A	190.0
27.1	6.99	6480	932	7321	1441	0.893	21.7	13.4	749	286	HE 650 B	225.0
27.5	7.13	8433	1245	9658	1935	0.891	17.3	18.7	1584	374	HE 650 M	293.0
28.8	6.84	6241	812	7033	1256	0.889	26.5	13.4	522	260	HE 700 A	204.0
29.0	6.87	7340	963	8328	1494	0.889	22.8	16.1	839	306	HE 700 B	241.0
29.3	7.01	9198	1237	10540	1928	0.889	18.8	21.5	1595	383	HE 700 M	301.0
32.6	6.67	7635	842	8648	1309	0.884	30.0	18.3	588	284	HE 800 A	224.0
32.8	6.69	8930	993	10177	1550	0.884	25.9	21.9	932	333	HE 800 B	262.0
33.1	6.80	10829	1229	12436	1927	0.884	21.8	27.9	1621	403	HE 800 M	317.0
36.3	6.50	9485	903	10812	1413	0.879	31.8	25.0	749	321	HE 900 A	252.0
36.5	6.53	10979	1054	12585	1657	0.878	27.8	29.6	1150	371	HE 900 B	291.0
36.7	6.68	12637	1246	14547	1964	0.879	24.7	36.0	1696	426	HE 900 M	333.0
40.0	6.35	11189	934	12826	1469	0.873	35.0	32.2	835	347	HE 1000 A	272.0
40.1	6.38	12895	1085	14856	1715	0.872	30.7	37.8	1267	400	HE 1000 B	314.0
40.3	6.45	14331	1222	16569	1939	0.872	27.9	43.2	1713	444	HE 1000 M	349.0

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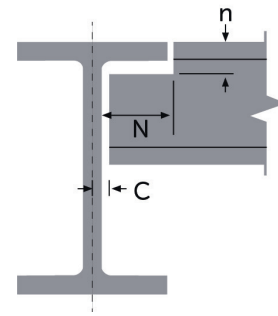


Fabrication detail

Designation	Mass per metre	End clearance	Notch		Surface area			A/V ratio (m ⁻¹)			
					Per metre	Per tonne	Two end faces	Profile 3 sides	Profile 4 sides	Box 3 sides	Box 4 sides
	kg/m	C mm	N mm	n mm	m ²	m ²	m ²				
HE 100 A	16.7	5	58	20	0.561	33.6	0.0042	215	265	140	185
HE 100 B	20.4	5	58	22	0.567	27.8	0.0052	180	220	115	155
HE 100 M	41.8	8	58	32	0.619	14.8	0.0106	95	115	65	85
HE 120 A	19.9	5	68	20	0.677	34.0	0.0051	220	265	135	185
HE 120 B	26.7	5	68	24	0.686	25.7	0.0068	165	200	105	140
HE 120 M	52.1	8	68	34	0.738	14.2	0.0133	90	110	60	80
HE 140 A	24.7	5	78	22	0.794	32.1	0.0063	210	255	130	175
HE 140 B	33.7	6	78	24	0.805	23.9	0.0086	155	185	100	130
HE 140 M	63.2	9	78	34	0.857	13.6	0.0161	90	105	60	75
HE 160 A	30.4	5	88	24	0.906	29.8	0.0078	190	235	120	160
HE 160 B	42.6	6	86	28	0.918	21.5	0.0109	140	170	90	120
HE 160 M	76.2	9	86	38	0.970	12.7	0.0194	85	100	55	70
HE 180 A	35.5	5	98	26	1.02	28.7	0.0091	185	225	115	155
HE 180 B	51.2	6	96	30	1.04	20.3	0.0131	130	160	80	110
HE 180 M	88.9	9	96	40	1.09	12.3	0.0228	80	95	50	70
HE 200 A	42.3	5	108	30	1.13	26.7	0.0109	170	210	105	145
HE 200 B	61.3	7	106	36	1.15	18.8	0.0157	120	145	75	100
HE 200 M	103.0	10	106	46	1.20	11.7	0.0264	75	90	50	65
HE 220 A	50.5	6	118	32	1.25	24.8	0.0130	160	195	100	130
HE 220 B	71.5	7	116	36	1.27	17.8	0.0183	115	140	70	95
HE 220 M	117.0	10	116	46	1.32	11.3	0.0300	75	90	45	60
HE 240 A	60.3	6	128	32	1.37	22.7	0.0153	150	180	90	125
HE 240 B	83.2	7	126	38	1.39	16.7	0.0212	110	130	70	90
HE 240 M	157.0	11	126	52	1.46	9.30	0.0398	60	75	40	50
HE 260 A	68.2	6	138	34	1.49	21.8	0.0171	145	175	90	120
HE 260 B	93.0	7	136	38	1.51	16.2	0.0234	105	130	65	90
HE 260 M	172.0	11	136	54	1.58	9.19	0.0436	60	75	40	50
HE 280 A	76.4	6	146	40	1.60	20.9	0.0197	135	160	85	110
HE 280 B	103.0	7	146	46	1.61	15.6	0.0266	100	120	65	85
HE 280 M	189.0	11	146	60	1.69	8.94	0.0482	60	70	40	50
HE 300 A	88.3	6	156	42	1.72	19.5	0.0226	125	155	80	105
HE 300 B	117.0	8	156	46	1.73	14.8	0.0298	95	115	60	80
HE 300 C	177.0	10	156	56	1.78	10.1	0.0450	65	80	40	55
HE 300 M	238.0	13	156	66	1.83	7.69	0.0606	50	60	35	45
HE 320 A	97.6	7	156	44	1.76	18.0	0.0248	115	140	75	100
HE 320 B	127.0	8	156	48	1.77	13.9	0.0322	90	110	60	75
HE 320 M	245.0	8	160	68	1.88	7.67	0.0574	55	65	35	45
HE 340 A	105.0	7	156	44	1.79	17.0	0.0266	110	135	70	95
HE 340 B	134.0	8	154	50	1.81	13.5	0.0342	90	105	55	75
HE 340 M	248.0	13	154	68	1.90	7.66	0.0632	50	60	35	45
HE 360 A	112.0	7	156	46	1.83	16.3	0.0286	105	130	70	90
HE 360 B	142.0	8	154	50	1.85	13.0	0.0362	85	100	55	75

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Fabrication detail

Designation	Mass per metre	End clearance	Notch		Surface area			A/V ratio (m ⁻¹)			
					Per metre	Per tonne	Two end faces	Profile 3 sides	Profile 4 sides	Box 3 sides	Box 4 sides
	kg/m	C mm	N mm	n mm	m ²	m ²	m ²				
HE 360 M	250.0	13	154	68	1.93	7.72	0.0638	50	60	35	45
HE 400 A	125.0	8	156	46	1.91	15.3	0.0318	100	120	70	85
HE 400 B	155.0	9	154	52	1.93	12.5	0.0396	80	95	55	70
HE 400 M	256.0	13	154	68	2.00	7.81	0.0652	50	60	35	45
HE 450 A	140.0	8	156	48	2.01	14.4	0.0356	95	115	65	85
HE 450 B	171.0	9	154	54	2.03	11.9	0.0436	80	95	55	70
HE 450 M	263.0	13	154	68	2.10	7.98	0.0670	55	60	40	45
HE 500 A	155.0	8	154	50	2.11	13.6	0.0396	90	105	65	80
HE 500 B	187.0	9	154	56	2.12	11.3	0.0478	75	90	55	65
HE 500 M	270.0	13	154	68	2.18	8.07	0.0688	55	65	40	50
HE 550 A	166.0	8	154	52	2.21	13.3	0.0424	90	105	65	80
HE 550 B	199.0	10	154	56	2.22	11.2	0.0508	75	90	55	65
HE 550 M	278.0	13	154	68	2.28	8.20	0.0708	55	65	40	50
HE 600 A	178.0	9	154	52	2.31	13.0	0.0452	90	100	65	80
HE 600 B	212.0	10	154	58	2.32	10.9	0.0540	75	85	55	65
HE 600 M	285.0	13	152	68	2.37	8.32	0.0728	55	65	40	50
HE 650 A	190.0	9	154	54	2.41	12.7	0.0484	85	100	65	80
HE 650 B	225.0	10	152	58	2.42	10.8	0.0572	75	85	55	65
HE 650 M	293.0	13	152	68	2.47	8.43	0.0748	60	65	45	50
HE 700 A	204.0	9	154	54	2.50	12.3	0.0520	85	95	65	75
HE 700 B	241.0	11	152	60	2.52	10.5	0.0612	70	80	55	65
HE 700 M	301.0	13	152	68	2.56	8.50	0.0766	60	65	45	55
HE 800 A	224.0	10	154	56	2.70	12.1	0.0568	85	95	65	75
HE 800 B	262.0	11	152	60	2.72	10.4	0.0666	75	80	55	65
HE 800 M	317.0	13	152	68	2.75	8.68	0.0806	60	70	50	55
HE 900 A	252.0	10	152	60	2.90	11.5	0.0642	80	90	65	75
HE 900 B	291.0	11	152	66	2.91	10.0	0.0742	70	80	55	65
HE 900 M	333.0	13	152	70	2.95	8.86	0.0852	60	70	50	55
HE 1000 A	272.0	10	152	62	3.10	11.4	0.0694	80	90	65	75
HE 1000 B	314.0	12	152	66	3.11	9.90	0.0800	70	80	55	65
HE 1000 M	349.0	13	152	70	3.13	8.97	0.0888	65	70	50	60

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