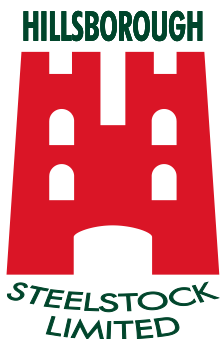

HILLSBOROUGH STEELSTOCK LIMITED

Steel Guide Book



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INTRODUCTION

HILLSBOROUGH STEELSTOCK LIMITED

Since its formation in 1992, Hillsborough Steelstock Ltd has grown into one of the major privately owned, independent Steel Stockholders in the Yorkshire area.

We carry a comprehensive range of Mild Steel products including Sheets, Plates, Mesh, Open Steel Flooring, Hollow Sections, Tubes, Structural Sections and Re-Rolled products - which are predominantly of British Origin, with full Material Certification available, sourced from CE Accredited Steel Mills. All material meets National, European and Worldwide standards.

We operate from our 7 acre site in the North of Sheffield and have our own large fleet of vehicles, which ensure a reliable delivery service.



DISCLAIMER

HILLSBOROUGH STEELSTOCK LIMITED

This guide is intended to help you, the steel use to be aware of the ever growing range of products and services available from Hillsborough Steelstoc

We have tried to cover a wide range of the products available but the list is not exhaustive either in terms of sizes or specifications.

Every care has been taken to ensure that the information given in this guide is accurate. Whilst we would be grateful to learn of any error, we regret that we can accept no responsibility.



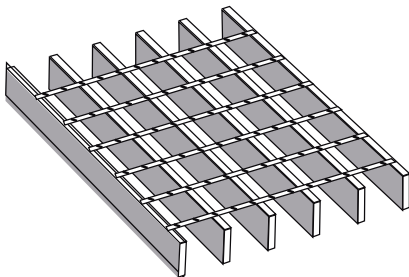
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OPEN MESH FLOORING

SELF COLOUR or HOT DIP GALVANISED

SECTION	TYPE			
	41/100	41/50	31/100	30/50
mm	Kg/m	Kg/m	Kg/m	Kg/m
20 x 3	13.44	15.25	17.70	19.50
25 x 3	16.39	18.19	21.64	23.44
30 x 3	19.34	21.14	25.73	27.54
40 x 3	25.25	27.05	33.61	35.40
20 x 5	21.31	23.11	28.36	30.16
25 x 5	26.22	28.03	35.08	36.88
30 x 5	31.15	32.95	41.63	43.44
35 x 5	36.06	37.87	48.36	50.16
40 x 5	40.98	42.78	55.08	56.88
45 x 5	45.90	47.70	61.64	63.44
50 x 5	50.82	52.62	68.36	70.16
55 x 5	55.74	57.37	75.08	76.88
60 x 5	60.65	62.29	81.63	83.44



SAWING

SAWING

We have a dedicated 15,000 square foot Cutting Shop on site with 8 saws, including automatic Mitre saws with a square cut capacity of 600mm.

**For all your sawing requirements
please contact us
at:**

TEL: 0114 2855525

Sales@steelstock.co.uk



WELDED MESH SHEETS & ROLLS

SELF COLOUR or HOT DIP GALVANISED

SPECIFICATION MESH SIZE X WIRE DIA. (inches) (mm)		Standard Panels with flush edges				
		4' x 8'	6' x 12'	6' x 4'	6' x 3'	7' x 12'
		Kg	Kg	Kg	Kg	Kg
2" x 2" x 4.75		16.79	37.40	12.63	9.54	43.55
3" x 3" x 4.75		11.36	25.19	8.56	6.49	29.33
2" x 1" x 4.00		17.68	39.51	13.29	10.01	46.71
2" x 2" x 4.00		11.91	26.52	8.96	6.77	30.88
3" x 3" x 4.00		8.06	17.86	6.07	4.60	20.78
1" x 1" x 3.15		13.19	29.53	9.91	7.46	34.42
1.5" x 1.5" x 3.15		9.61	20.10	6.96	5.22	24.36
2" x 1" x 3.15		10.54	23.55	7.92	5.94	27.44
2" x 2" x 3.15		6.69	14.92	5.04	3.81	17.37
3" x 1" x 3.15		9.39	20.97	7.06	5.29	24.45
3" x 3" x 3.15		4.54	10.05	3.42	2.58	11.88
3" x 0.5" x 3.15		15.36	34.40	11.54	8.68	40.10
1" x 1" x 2.50		9.16	20.51	6.88	5.18	23.90
2" x 2" x 2.50		4.65	10.36	3.50	2.64	12.06
3" x 1" x 2.50		5.86	13.09	4.41	3.30	15.24
3" x 0.5" x 2.50		10.66	23.89	8.01	6.03	27.85
SPECIFICATION MESH SIZE X WIRE DIA. (inches) (mm)		60 ft Rolls with flush edges				
		84"		72"		48"
		Kg		Kg		Kg
2" x 2" x 4.75		222.70		185.97		128.30
3" x 3" x 4.75		145.18		124.91		84.05
2" x 1" x 4.00		229.24		196.87		131.77
2" x 2" x 4.00		153.47		131.88		90.70
3" x 3" x 4.00		102.96		88.58		59.60
1" x 1" x 3.15		171.56		147.24		98.47
1.5" x 1.5" x 3.15		129.90		108.75		69.60
2" x 1" x 3.15		144.10		123.70		82.80
2" x 2" x 3.15		86.32		74.17		49.76
3" x 1" x 3.15		128.20		110.00		73.80
3" x 3" x 3.15		57.91		49.82		33.52
3" x 0.5" x 3.15		199.98		171.60		114.71
1" x 1" x 2.50		119.15		102.00		68.38
2" x 2" x 2.50		59.95		51.60		34.56
3" x 1" x 2.50		79.68		68.60		45.83
3" x 0.5" x 2.50		138.87		119.17		79.66

Other sizes available on request



GENERAL PURPOSE STEEL TUBE

AVAILABLE IN SELF-COLOUR, BLACK VARNISH or
GALVANISED FINISH

LIGHT

BS 1387

NOMINAL BORE		APPROX		OUTSIDE DIAMETER				THICKNESS	
				MAX		MIN			
in	mm	in	mm	in	mm	in	mm	in	mm
1/4	8	0.531	13.5	0.532	13.6	0.518	13.2	0.072	1.8
3/8	10	0.638	17.2	0.671	17.1	0.656	16.7	0.072	1.8
1/2	15	0.814	21.3	0.841	21.4	0.825	21.0	0.080	2.0
3/4	20	1.062	26.9	1.059	26.9	1.041	26.4	0.092	2.35
1	25	1.344	33.7	1.328	33.8	1.309	33.2	0.104	2.65
1 1/4	32	1.688	42.4	1.670	42.5	1.650	41.9	0.104	2.65
1 1/2	40	1.906	48.3	1.903	48.4	1.882	47.8	0.116	2.9
2	50	2.375	60.3	2.370	60.2	2.347	59.6	0.116	2.9
2 1/2	65	3.0	76.1	2.991	76.0	2.960	75.4	0.128	3.25
3	80	3.5	88.9	3.491	88.7	3.460	87.9	0.128	3.25
4	100	4.5	114.3	4.481	113.8	4.450	113.0	0.144	3.65
5	125	5.5	139.7	-	-	-	-	-	-
6	150	6.5	165.1	-	-	-	-	-	-

MEDIUM

BS 1387

NOMINAL BORE		APPROX		OUTSIDE DIAMETER				THICKNESS	
				MAX		MIN			
in	mm	in	mm	in	mm	in	mm	in	mm
1/4	8	0.531	13.5	0.547	13.9	0.522	13.3	0.092	2.35
3/8	10	0.638	17.2	0.685	17.4	0.660	16.8	0.092	2.35
1/2	15	0.814	21.3	0.856	21.7	0.831	21.1	0.104	2.65
3/4	20	1.062	26.9	1.072	27.2	1.047	26.6	0.104	2.65
1	25	1.344	33.7	1.346	34.2	1.316	33.4	0.128	3.25
1 1/4	32	1.688	42.4	1.687	42.9	1.657	40.1	0.128	3.25
1 1/2	40	1.906	48.3	1.919	48.8	1.889	48.0	0.128	3.25
2	50	2.375	60.3	2.394	60.8	2.354	59.8	0.144	3.65
2 1/2	65	3.0	76.1	3.018	76.6	2.969	75.4	0.144	3.65
3	80	3.5	88.9	3.526	89.5	3.469	88.1	0.160	4.05
4	100	4.5	114.3	4.524	114.9	4.459	113.3	0.176	4.50
5	125	5.5	139.7	5.534	140.6	5.459	118.7	0.192	4.85
6	150	6.5	165.1	6.539	166.1	6.459	164.1	0.192	4.85

HEAVY

BS 1387

NOMINAL BORE		APPROX		OUTSIDE DIAMETER				THICKNESS	
				MAX		MIN			
in	mm	in	mm	in	mm	in	mm	in	mm
1/4	8	0.531	13.5	0.547	13.9	0.522	13.3	0.116	2.90
3/8	10	0.638	17.2	0.685	17.4	0.660	16.8	0.116	2.90
1/2	15	0.814	21.3	0.856	21.7	0.831	21.1	0.128	3.25
3/4	20	1.062	26.9	1.072	27.2	1.047	26.6	0.128	3.25
1	25	1.344	33.7	1.346	34.2	1.316	33.4	0.160	4.05
1 1/4	32	1.688	42.4	1.687	42.9	1.657	40.1	0.160	4.05
1 1/2	40	1.906	48.3	1.919	48.8	1.889	48.0	0.160	4.05
2	50	2.375	60.3	2.394	60.8	2.354	59.8	0.176	4.50
2 1/2	65	3.0	76.1	3.018	76.6	2.969	75.4	0.176	4.50
3	80	3.5	88.9	3.526	89.5	3.469	88.1	0.192	4.55
4	100	4.5	114.3	4.524	114.9	4.459	113.3	0.212	5.40
5	125	5.5	139.7	5.534	140.6	5.459	138.7	0.212	5.40
6	150	6.5	165.1	6.539	166.1	6.459	164.1	0.212	5.40

SQUARE HOLLOW SECTION

COLD FORMED WELDED

Size mm	Kg/Metre	Metres/Tonne
20 x 20 x 2.0	1.12	893
20 x 20 x 2.5	1.35	741
25 x 25 x 2.0	1.43	699
25 x 25 x 2.5	1.74	575
25 x 25 x 3.0	2.04	490
30 x 30 x 2.5	2.14	467
30 x 30 x 3.0	2.51	398
40 x 40 x 2.5	2.92	342
40 x 40 x 3.0	3.45	290
40 x 40 x 4.0	4.46	224
50 x 50 x 2.5	3.71	270
50 x 50 x 3.0	4.39	228
50 x 50 x 4.0	5.72	175
60 x 60 x 3.0	5.34	187
60 x 60 x 4.0	6.97	143
70 x 70 x 3.0	6.28	159
70 x 70 x 3.6	7.46	134
70 x 70 x 5.0	10.11	99
76.2 x 76.2 x 3.0	7.30	137
80 x 80 x 3.0	7.22	139
80 x 80 x 3.6	8.59	116
80 x 80 x 5.0	11.70	85
80 x 80 x 6.0	13.90	72
90 x 90 x 3.6	9.72	103
90 x 90 x 5.0	13.30	75
90 x 90 x 6.0	15.70	64
100 x 100 x 4.0	12.00	83
100 x 100 x 5.0	14.80	68
100 x 100 x 6.0	17.60	57
120 x 120 x 5.0	18.00	56
120 x 120 x 6.0	21.30	47
150 x 150 x 5.0	22.70	44
150 x 150 x 6.0	27.00	37

RECTANGULAR HOLLOW SECTION

COLD FORMED WELDED

Size mm	Kg/Metre	Metres/Tonne
50 x 25 x 2.5	2.72	368
50 x 25 x 3.0	3.22	311
50 x 30 x 2.5	2.92	342
50 x 30 x 3.0	3.45	290
50 x 30 x 4.0	4.46	224
60 x 40 x 2.5	3.71	270
60 x 40 x 3.0	4.39	228
60 x 40 x 4.0	5.72	175
76 x 38 x 3.0	5.38	186
76 x 51 x 3.0	6.02	166
80 x 40 x 3.0	5.34	187
80 x 40 x 4.0	6.97	143
90 x 50 x 3.0	6.28	159
90 x 50 x 3.6	7.46	134
90 x 50 x 5.0	10.11	99
100 x 50 x 3.0	6.75	148
100 x 50 x 4.0	8.86	113
100 x 50 x 5.0	10.90	92
100 x 50 x 6.0	12.90	78
100 x 60 x 3.6	8.59	116
100 x 60 x 5.0	11.70	85
100 x 60 x 6.0	13.90	72
120 x 60 x 3.6	9.72	103
120 x 60 x 5.0	13.30	75
120 x 60 x 6.0	15.70	64
120 x 80 x 5.0	14.80	68
120 x 80 x 6.0	17.60	57
150 x 100 x 5.0	18.70	53
150 x 100 x 6.0	22.30	45
160 x 80 x 5.0	18.00	56
160 x 80 x 6.0	21.30	47
200 x 100 x 5.0	22.70	44
200 x 100 x 6.0	27.00	37

CIRCULAR HOLLOW SECTION

COLD FORMED WELDED

Size mm	Kg/Metre	Metres/Tonne
26.9 x 2.0	1.23	813
26.9 x 2.5 ★	1.50	667
26.9 x 3.2	1.87	535
33.7 x 2.0	1.56	641
33.7 x 2.5 ★	1.92	521
33.7 x 3.0	2.27	441
33.7 x 3.2	2.41	415
33.7 x 4.0 ★	2.93	341
42.4 x 2.5 ★	2.46	407
42.4 x 3.0	2.91	344
42.4 x 3.2	3.09	324
42.4 x 3.6	3.44	291
42.4 x 4.0	3.79	264
48.3 x 2.5 ★	2.82	355
48.3 x 3.0	3.35	299
48.3 x 3.2	3.58	281
48.3 x 3.6	3.97	252
48.3 x 4.0	4.37	229
60.3 x 2.5 ★	3.56	281
60.3 x 3.0	4.24	236
60.3 x 3.2	4.51	222
60.3 x 3.6	5.03	199
60.3 x 4.0	5.55	180
76.1 x 2.5 ★	4.54	220
76.1 x 3.0	5.41	185
76.1 x 3.2	5.75	174
76.1 x 3.6	6.44	155
76.1 x 4.0	7.11	141
76.1 x 5.0 ★	8.77	114
88.9 x 3.0	6.36	157
88.9 x 3.2	6.76	148
88.9 x 4.0	8.38	119
88.9 x 5.0 ★	10.3	97
114.3 x 3.0	8.23	122
114.3 x 3.2	8.77	114
114.3 x 3.6	9.83	102
114.3 x 4.0	10.90	92
114.3 x 5.0 ★	13.50	74
114.3 x 6.3	16.80	60
139.7 x 5.0	16.61	60
139.7 x 6.3	20.73	48
168.3 x 5.0	24.00	42
168.3 x 6.3	25.17	40

★ These sizes are supplied to BS6363 except thickness

PLATES

Thickness mm	Size mm	Weight Kg/m ² ★
3	2000 x 1000 2500 x 1250 3000 x 1500 3660 x 1830 4000 x 2000	23.55
4	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000	31.40
5	2000 x 1000 2500 x 1250 3000 x 1500 3660 x 1830 4000 x 2000 6000 x 2500	39.25
6	2000 x 1000 2500 x 1250 3000 x 1500 3660 x 1830 4000 x 2000 6000 x 2000 6000 x 2500 8000 x 2500	47.10
8	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 8000 x 2000 5000 x 2500 6000 x 2500 8000 x 2500 10000 x 2500 6000 x 3000 7500 x 3000	62.80
10	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 8000 x 2000 5000 x 2500 6000 x 2500 8000 x 2500 10000 x 2500 6000 x 3000 7500 x 3000 9000 x 3000	78.50

★ Approximate figures - for guidance only

PLATES

Thickness mm	Size mm	Weight Kg/m ² ★
12.5	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 8000 x 2000 5000 x 2500 6000 x 2500 8000 x 2500 10000 x 2500 6000 x 3000 7500 x 3000 9000 x 3000	98.12
15	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 8000 x 2000 5000 x 2500 6000 x 2500 8000 x 2500 10000 x 2500 6000 x 3000 7500 x 3000 9000 x 3000	117.75
20	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 8000 x 2000 5000 x 2500 6000 x 2500 8000 x 2500 10000 x 2500 6000 x 3000 7500 x 3000 9000 x 3000	157.00
22	2000 x 1000 2500 x 1250 4000 x 2000 5000 x 2500	172.70
25	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 8000 x 2000 5000 x 2500 6000 x 2500 8000 x 2500 10000 x 2500 6000 x 3000 7500 x 3000 9000 x 3000	196.25

★ Approximate figures - for guidance only



PLATES

Thickness mm	Size mm	Weight Kg/m ² ★
30	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 8000 x 2000 5000 x 2500 6000 x 2500 8000 x 2500 10000 x 2500 6000 x 3000 9000 x 3000	235.5
32	2000 x 1000 2500 x 1250 4000 x 2000 5000 x 2500	251.2
35	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 5000 x 2500 6000 x 2500 6000 x 3000	274.8
40	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 8000 x 2000 5000 x 2500 6000 x 2500 8000 x 2500 10000 x 2500 6000 x 3000 9000 x 3000	314.0
45	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 5000 x 2500 6000 x 2500 6000 x 3000	353.3
50	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 5000 x 2500 6000 x 2500 9000 x 3000	392.5

★ Approximate figures - for guidance only



PLATES

Thickness mm	Size mm	Weight Kg/m ² ★
55	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 5000 x 2500	431.8
60	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 5000 x 2500 6000 x 2500 6000 x 3000	471.0
65	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 5000 x 2500 6000 x 2500 6000 x 3000	510.3
70	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 5000 x 2500 6000 x 2500	549.5
75	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 2000 6000 x 2000 5000 x 2500 6000 x 2500 6000 x 3000	588.8
80	2000 x 1000 2500 x 1250 4000 x 2000 5000 x 2500	628.0
85	2000 x 1000 2500 x 1250 4000 x 2000 5000 x 2500	667.3
90	2000 x 1000 2500 x 1250 4000 x 2000 5000 x 2500	706.5

★ Approximate figures - for guidance only

SHEETS

HOT ROLLED

Thickness mm	Size mm	Weight Kg/m ² ★
1.6	2000 x 1000 2500 x 1250 3000 x 1500	12.56
2.0	2000 x 1000 2500 x 1250 3000 x 1500	15.70
2.5	2000 x 1000 2500 x 1250	19.63

COLD REDUCED

Thickness mm	Size mm	Weight Kg/m ² ★
0.5	2000 x 1000 2500 x 1250	3.93
0.6	2000 x 1000 2500 x 1250	4.71
0.7	2000 x 1000 2500 x 1250	5.50
0.8	2000 x 1000 2500 x 1250	6.28
1.0	2000 x 1000 2500 x 1250	7.85
1.2	2000 x 1000 2000 x 1250	9.42
1.6	2000 x 1000 2500 x 1250 3000 x 1500	12.56
2.0	2000 x 1000 2500 x 1250 3000 x 1500	15.70
2.5	2000 x 1000 2500 x 1250 3000 x 1500	19.63
3.0	2000 x 1000 2500 x 1250 3000 x 1500	23.55

★ Approximate figures - for guidance only

SHEETS

GALVANISED

Thickness mm	Size mm	Weight Kg/m ² ★
0.6	2000 x 1000 2500 x 1250	4.71
0.8	2000 x 1000 2000 x 1250 2500 x 1250	6.28
0.9	2000 x 1000 2000 x 1250 2500 x 1250	7.07
1.0	2000 x 1000 2000 x 1250 2500 x 1250	7.85
1.2	2000 x 1000 2000 x 1250 2500 x 1250	9.42
1.5	2500 x 1250	11.78
1.6	2000 x 1000 2000 x 1250 2500 x 1250	12.56
2.0	2000 x 1000 2500 x 1250	15.70
3.0	2500 x 1250	23.55

ELECTRO-ZINC

Thickness mm	Size mm	Weight Kg/m ² ★
0.7	2000 x 1000 2500 x 1250	5.50
0.8	2000 x 1000 2500 x 1250	6.28
0.9	2000 x 1000 2500 x 1250	7.07
1.0	2000 x 1000 2500 x 1250	7.85
1.2	2000 x 1000 2500 x 1250	9.42
1.5	2000 x 1000 2500 x 1250	11.78
2.0	2000 x 1000 2500 x 1250	15.70
2.5	2000 x 1000 2500 x 1250	19.63
3.0	2000 x 1000 2500 x 1250	23.55

★ Approximate figures - for guidance only

FLOOR PLATE

Thickness mm	Size mm	Weight Kg/m ² ★
3.0	2000 x 1000 2500 x 1250	26.19
4.5	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 1750 4000 x 1830	37.97
6.0	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 1750 4000 x 1830 6000 x 1830	49.74
8.0	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 1750 4000 x 1830	65.44
10.0	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 1750 4000 x 1830	81.14
12.5	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 1750	100.71

★ Approximate figures - for guidance only

UNIVERSAL BEAMS

Size mm	Kg/m	Metres/Tonne
127 x 76 x 13	13.0	77
152 x 89 x 16	16.0	63
178 x 102 x 19	19.0	53
203 x 102 x 23	23.1	43
203 x 133 x 25	25.1	40
203 x 133 x 30	30.0	33
254 x 102 x 22	22.0	45
254 x 102 x 25	25.2	40
254 x 102 x 28	28.3	36
254 x 146 x 31	31.1	32
254 x 146 x 37	37.0	27
254 x 146 x 43	43.0	23
305 x 102 x 25	24.8	40
305 x 102 x 28	28.2	36
305 x 102 x 33	32.8	30
305 x 127 x 37	37.0	27
305 x 127 x 42	41.9	24
305 x 127 x 48	48.1	21
305 x 165 x 40	40.3	25
305 x 165 x 46	46.1	22
305 x 165 x 54	54.0	19
356 x 127 x 33	33.1	30
356 x 127 x 39	39.1	26
356 x 171 x 45	45.0	22
356 x 171 x 51	51.0	20
356 x 171 x 57	57.0	18
356 x 171 x 67	67.1	15
406 x 140 x 39	39.0	26
406 x 140 x 46	46.0	22
406 x 178 x 54	54.1	19
406 x 178 x 60	60.1	17
406 x 178 x 67	67.1	15
406 x 178 x 74	74.2	14

UNIVERSAL BEAMS

Size mm	Kg/m	Metres/Tonne
457 x 152 x 52	52.3	19
457 x 152 x 60	59.8	17
457 x 152 x 67	67.2	15
457 x 152 x 74	74.2	14
457 x 152 x 82	82.1	12
457 x 191 x 67	67.1	15
457 x 191 x 74	74.3	14
457 x 191 x 82	82.0	12
457 x 191 x 89	89.3	11
457 x 191 x 98	98.3	10
533 x 210 x 82	82.2	12
533 x 210 x 92	92.1	11
533 x 210 x 101	101.0	10
533 x 210 x 109	109.0	9
533 x 210 x 122	122.0	8
610 x 229 x 101	101.2	10
610 x 229 x 113	113.0	9
610 x 229 x 125	125.1	8
610 x 229 x 140	139.9	7
610 x 305 x 149	149.1	7
610 x 305 x 179	179.0	6
610 x 305 x 238	238.1	4
686 x 254 x 125	125.2	8
686 x 254 x 140	140.1	7
686 x 254 x 152	152.4	7
686 x 254 x 170	170.2	6
762 x 267 x 147	146.9	7
762 x 267 x 173	173.0	6
762 x 267 x 197	196.8	5
838 x 292 x 176	175.9	6
838 x 292 x 194	193.8	5
838 x 292 x 226	226.5	4
914 x 305 x 201	200.9	5
914 x 305 x 224	224.2	4
914 x 305 x 253	253.4	4
914 x 305 x 289	289.1	3
914 x 419 x 343	343.3	3
914 x 419 x 388	388.0	3

UNIVERSAL COLUMNS

Size mm	Kg/m	Metres/Tonne
152 x 152 x 23	23.0	43
152 x 152 x 30	30.0	33
152 x 152 x 37	37.0	27
203 x 203 x 46	46.1	22
203 x 203 x 52	52.0	19
203 x 203 x 60	60.0	17
203 x 203 x 71	71.0	14
203 x 203 x 86	86.1	12
254 x 254 x 73	73.1	14
254 x 254 x 89	88.9	11
254 x 254 x 107	107.1	9
254 x 254 x 132	132.0	8
254 x 254 x 167	167.1	6
305 x 305 x 97	96.9	10
305 x 305 x 118	117.9	8
305 x 305 x 137	136.9	7
305 x 305 x 158	158.1	6
305 x 305 x 198	198.1	5
305 x 305 x 240	240.0	4
305 x 305 x 283	282.9	4
356 x 368 x 129	129.0	8
356 x 368 x 153	152.9	7
356 x 368 x 177	177.0	6
356 x 368 x 202	201.9	5
356 x 406 x 235	235.1	4
356 x 406 x 287	287.1	3
356 x 406 x 340	339.9	3
356 x 406 x 393	393.0	3
356 x 406 x 467	467.0	2
356 x 406 x 551	551.0	2
356 x 406 x 634	633.9	2

CHANNELS

TAPERED FLANGE

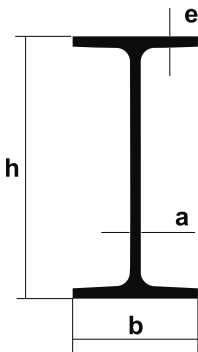
Size mm	Kg/m
51 x 25	6.7
51 x 38	
76 x 38	

PARALLEL FLANGE

Size mm	Kg/m
100 x 50 x 10	10.2
125 x 65 x 15	14.8
150 x 75 x 18	17.9
150 x 90 x 24	23.9
180 x 75 x 20	20.3
180 x 90 x 26	26.1
200 x 75 x 23	23.4
200 x 90 x 30	29.7
230 x 75 x 26	25.7
230 x 90 x 32	32.2
260 x 75 x 28	27.6
260 x 90 x 35	34.8
300 x 90 x 41	41.4
300 x 100 x 46	45.5
380 x 100 x 54	54.0
430 x 100 x 64	64.4

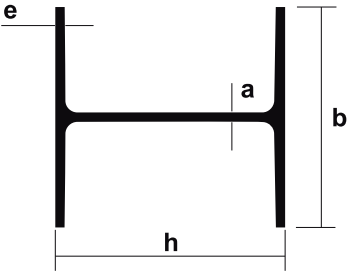
CONTINENTAL IPN SECTION

Description	h mm	b mm	a mm	e mm	Kg/m
80	80	42	3.9	5.9	5.95
100	100	50	4.5	6.8	8.32
120	120	58	4.1	7.7	11.2
140	140	66	5.7	8.6	14.4
160	160	74	6.3	9.5	17.9
180	180	82	6.9	10.4	21.9
200	200	90	7.5	11.3	26.3
220	220	98	8.1	12.2	31.1
240	240	106	8.7	13.1	36.2
260	260	113	9.4	14.1	41.9
280	280	119	10.1	15.2	48.0
300	300	125	10.8	16.2	54.2
320	320	131	11.5	17.3	61.1
340	340	137	12.2	18.3	68.1
360	360	143	13.0	19.5	76.2
380	380	149	13.7	20.5	84.0
400	400	155	14.4	21.6	92.6
450	450	170	16.2	24.3	115.0
500	500	185	18.0	27.0	141.0
550	550	200	19.0	30.0	167.0



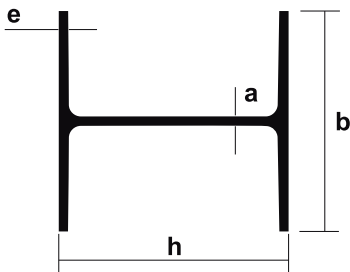
CONTINENTAL HEA SECTION

Description	h mm	b mm	a mm	e mm	Kg/m
100	96	100	5.0	8.0	16.7
120	114	120	5.0	8.0	19.9
140	133	140	5.5	8.5	24.7
160	152	160	6.0	9.0	30.4
180	171	180	6.0	9.5	35.5
200	190	200	6.5	10.0	42.3
220	210	220	7.0	11.0	50.5
240	230	240	7.5	12.0	60.3
260	250	260	7.5	12.5	68.2
280	270	280	8.0	13.0	76.4
300	290	300	8.5	14.0	88.3
320	310	300	9.0	15.5	97.6
340	330	300	9.5	16.5	105
360	350	300	10.0	17.5	112
400	390	300	11.0	19.0	125
450	440	300	11.5	21.0	140
500	490	300	12.0	23.0	155
550	540	300	12.5	24.0	166
600	590	300	13.0	25.0	178
650	640	300	13.5	26.0	190
700	690	300	14.5	27.0	204
800	790	300	15.0	28.0	224
900	890	300	16.0	30.0	252
1000	990	300	16.5	31.0	272



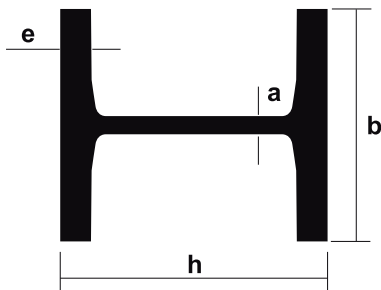
CONTINENTAL HEB SECTION

Description	h mm	b mm	a mm	e mm	Kg/m
100	100	100	6.0	10.0	20.4
120	120	120	6.5	11.0	26.7
140	140	140	7.0	12.0	33.7
160	160	160	8.0	13.0	42.6
180	180	180	8.5	14.0	51.2
200	200	200	9.0	15.0	61.3
220	220	220	9.5	16.0	71.5
240	240	240	10.0	17.0	83.2
260	260	260	10.0	17.5	93.0
280	280	280	10.5	18.0	103
300	300	300	11.0	19.01	117
320	320	300	11.5	20.5	127
340	340	300	12.0	21.5	134
360	360	300	12.5	22.5	142
400	400	300	13.5	24.0	155
450	450	300	14.0	26.0	171
500	500	300	14.5	28.0	187
550	550	300	15.0	29.0	199
600	600	300	15.5	30.5	212
650	650	300	16.0	31.0	225
700	700	300	17.0	32.0	241
800	800	300	17.5	33.0	262
900	900	300	18.5	35.0	291
1000	1000	300	19.0	36.0	314



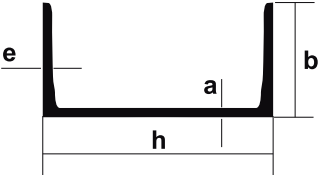
CONTINENTAL HEM SECTION

Description	h mm	b mm	a mm	e mm	Kg/m
100	120	106	12.0	20	41.8
120	140	126	12.5	21	52.1
140	160	146	13.0	22	63.2
160	180	166	14.0	23	76.2
180	200	186	14.5	24	88.9
200	220	206	15.0	25	103
220	240	226	15.5	26	117
240	270	248	18.0	32	157
260	290	268	18.0	32.5	172
280	310	288	18.5	33	189
300	340	310	21.0	39	238
320	359	309	21.0	40	245
340	377	309	21.0	40	245
360	395	308	21.0	40	250
400	432	307	21.0	40	256
450	478	307	21.0	40	263
500	524	306	21.0	40	270
550	572	306	21.0	40	278
600	620	305	21.0	40	285
650	668	305	21.0	40	293
700	716	304	21.0	40	301
800	814	303	21.0	40	317
900	910	302	21.0	40	333
1000	1008	302	21.0	40	349



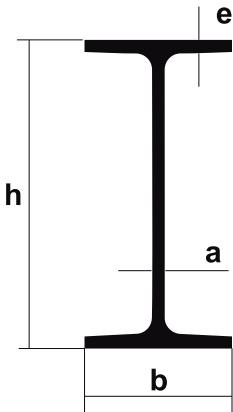
CONTINENTAL UPN SECTION

Description	h mm	b mm	a mm	e mm	Kg/m
80	80	45	6.0	8.0	8.64
100	100	50	6.0	8.5	10.6
120	120	55	7.0	9.0	13.4
140	140	60	7.0	10.0	16.0
160	160	65	7.5	10.5	18.8
180	180	70	8.0	11.0	22.0
200	200	75	8.5	11.5	25.3
220	220	80	9.0	12.5	29.4
240	240	85	9.5	13.0	33.2
260	260	90	10.0	14.0	37.9
280	280	95	10.0	15.5	41.8
300	300	100	10.0	16.0	46.2
320	320	100	14.0	17.5	59.5
350	350	100	14.0	16.0	60.6
380	380	102	13.5	16.0	62.6
400	400	110	14.0	18.0	71.8



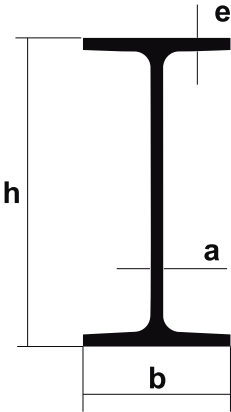
CONTINENTAL IPE SECTION

Description	h mm	b mm	a mm	e mm	Kg/m
80	80	46	3.8	5.2	6.0
100	100	55	4.1	5.7	8.1
120	120	64	4.4	6.3	10.4
140	140	73	4.7	6.9	12.9
160	160	82	5.0	7.4	15.8
180	180	91	5.3	8.0	18.8
200	200	100	5.6	8.5	22.4
220	220	110	5.9	9.2	26.2
240	240	120	6.2	9.8	30.7
270	270	135	6.6	10.2	36.1
300	300	150	7.1	10.7	42.2
330	330	160	7.5	11.5	49.1
360	360	170	8.0	12.7	57.1
400	400	180	8.6	13.5	66.3
450	450	190	9.4	14.6	77.6
500	500	200	10.2	16.0	90.7
550	550	210	11.1	17.2	106.0
600	600	220	12.0	19.0	122.0



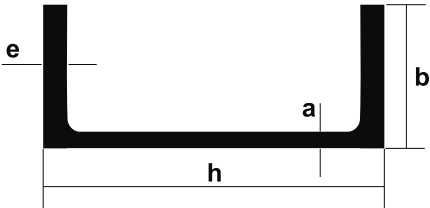
CONTINENTAL IPA/IPEA SECTION

Description	h mm	b mm	a mm	e mm	Kg/m
80	78	46	3.3	4.2	5.0
100	98	55	3.6	4.7	6.9
120	117.6	64	3.8	5.1	8.6
140	137.4	73	3.8	5.6	10.5
160	157	82	4.0	5.9	12.7
180	177	91	4.3	6.5	15.4
200	197	100	4.5	7.0	18.4
220	217	110	5.0	7.7	22.2
240	237	120	5.2	8.3	26.2
270	267	135	5.5	8.7	30.7
300	297	150	6.1	9.2	36.5
330	327	160	6.5	10.0	43.0
360	357.6	170	6.6	11.5	50.2
400	397	180	7.0	12.0	57.4
450	447	190	7.6	13.1	67.2
500	497	200	8.4	14.5	79.4
550	547	210	9.0	15.7	92.1
600	597	220	9.8	17.5	108.0



CONTINENTAL UAP SECTION

Description	h mm	b mm	a mm	e mm	Kg/m
80	80	45	5.0	8.0	8.38
100	100	50	5.5	8.5	10.5
130	130	55	6.0	9.5	13.7
150	150	65	7.0	10.25	17.9
175	175	70	7.5	10.75	21.2
200	200	75	8.0	11.5	25.1
220	220	80	8.0	11.5	25.1
250	250	85	9.0	13.5	34.4
300	300	100	9.5	16.0	46.0



EQUAL ANGLES

Size mm	Kg/m	Metres/Tonne
13 x 13 x 3	0.55	1818
20 x 20 x 3	0.88	1136
20 x 20 x 4	1.14	877
25 x 25 x 3	1.12	893
25 x 25 x 4	1.47	680
25 x 25 x 5	1.78	562
30 x 30 x 3	1.36	735
30 x 30 x 4	1.78	562
30 x 30 x 5	2.18	459
30 x 30 x 6	2.57	389
40 x 40 x 3	1.84	543
40 x 40 x 4	2.42	413
40 x 40 x 5	2.97	337
40 x 40 x 6	3.52	284
45 x 45 x 3	2.11	474
45 x 45 x 5	3.38	296
45 x 45 x 6	4.01	249
50 x 50 x 3	2.33	429
50 x 50 x 4	3.08	325
50 x 50 x 5	3.77	265
50 x 50 x 6	4.47	224
50 x 50 x 8	5.82	172
60 x 60 x 5	4.57	219
60 x 60 x 6	5.42	185
60 x 60 x 7	6.25	160
60 x 60 x 8	7.09	141
60 x 60 x 10	8.69	115

EQUAL ANGLES

Size mm	Kg/m	Metres/Tonne
70 x 70 x 6	6.38	157
70 x 70 x 7	7.69	130
70 x 70 x 8	8.36	120
70 x 70 x 10	10.31	97
75 x 75 x 6	6.87	146
75 x 75 x 8	9.01	111
75 x 75 x 10	11.11	90
75 x 75 x 12	13.07	77
80 x 80 x 6	7.34	136
80 x 80 x 8	9.63	104
80 x 80 x 10	11.90	84
80 x 80 x 12	14.20	70
90 x 90 x 6	8.30	120
90 x 90 x 8	10.90	92
90 x 90 x 10	13.40	75
90 x 90 x 12	15.90	63
100 x 100 x 8	12.20	82
100 x 100 x 10	15.00	67
100 x 100 x 12	17.80	56
100 x 100 x 15	21.90	46
120 x 120 x 8	14.70	68
120 x 120 x 10	18.20	55
120 x 120 x 12	21.60	46
120 x 120 x 15	26.60	38
150 x 150 x 10	23.00	43
150 x 150 x 12	27.30	37
150 x 150 x 15	33.80	30
150 x 150 x 18	40.10	25
200 x 200 x 12	36.74	27
200 x 200 x 16	48.50	21
200 x 200 x 18	54.20	18
200 x 200 x 20	59.90	17
200 x 200 x 24	71.10	14

UNEQUAL ANGLES

Size mm	Kg/m	Metres/Tonne
40 x 25 x 4	1.93	518
40 x 25 x 5	2.37	422
50 x 40 x 5	3.37	297
50 x 40 x 6	3.99	251
60 x 30 x 5	3.37	297
60 x 30 x 6	3.99	251
65 x 50 x 5	4.35	230
65 x 50 x 6	5.16	194
65 x 50 x 8	6.75	148
75 x 50 x 5	4.59	218
75 x 50 x 6	5.65	177
75 x 50 x 8	7.39	135
75 x 50 x 10	9.12	110
80 x 60 x 6	6.37	157
80 x 60 x 7	7.36	136
80 x 60 x 8	8.34	120
100 x 50 x 6	6.85	146
100 x 50 x 8	8.99	111
100 x 50 x 10	11.11	90
100 x 65 x 7	8.77	114
100 x 65 x 8	9.94	101
100 x 65 x 10	12.30	81
100 x 75 x 8	10.60	94
100 x 75 x 10	13.00	77
100 x 75 x 12	15.40	65
125 x 75 x 8	12.20	82
125 x 75 x 10	15.00	67
125 x 75 x 12	17.80	56
150 x 75 x 10	17.00	59
150 x 75 x 12	20.20	50
150 x 75 x 15	24.80	40
150 x 90 x 10	18.20	55
150 x 90 x 12	21.60	46
150 x 90 x 15	26.60	38
200 x 100 x 10	23.00	43
200 x 100 x 12	27.30	37
200 x 100 x 15	33.70	30
200 x 150 x 12	32.00	31
200 x 150 x 15	39.60	25
200 x 150 x 18	47.10	21

BLACK ROUNDS

Size mm	Kg/m	Metres/Tonne
6.0	0.22	4545
8.0	0.39	2564
10.0	0.62	1613
12.0	0.89	1124
16.0	1.58	633
18.0	2.05	488
19.0	2.25	444
20.0	2.47	405
22.0	2.98	336
24.0	3.56	281
25.0	3.85	260
30.0	5.55	180
32.0	6.31	158
35.0	7.55	132
38.0	8.91	112
40.0	9.86	101
42.0	10.92	92
45.0	12.51	80
50.0	15.41	65
60.0	22.00	45
65.0	26.00	38
70.0	30.20	33
75.0	34.70	29
80.0	39.50	25
85.0	44.50	22
90.0	49.90	20
95.0	55.60	18

BLACK SQUARES

Size mm	Kg/m	Metres/Tonne
6.4	0.32	3125
8.0	0.51	1961
10.0	0.79	1266
12.0	1.13	885
15.0	1.77	565
16.0	2.01	498
18.0	2.55	392
19.0	2.82	355
20.0	3.14	318
22.0	3.80	263
25.0	4.91	204
30.0	7.07	141
32.0	7.90	127
35.0	9.62	104
38.0	11.38	88
40.0	12.60	79
45.0	15.90	63
50.0	19.62	51
55.0	23.70	42
60.0	28.40	35
65.0	33.16	30
70.0	39.10	26
75.0	44.20	23
80.0	50.20	20
85.0	56.70	18
90.0	63.60	16
100.0	78.50	13

BLACK FLATS

Size mm	Kg/m	Metres/Tonne
10 x 3	0.26	3846
13 x 3	0.33	3030
15 x 3	0.36	2778
16 x 3	0.39	2564
20 x 3	0.49	2041
22 x 3	0.52	1923
25 x 3	0.63	1587
30 x 3	0.75	1333
35 x 3	0.85	1176
40 x 3	0.95	1053
45 x 3	1.06	943
50 x 3	1.25	800
60 x 3	1.44	694
65 x 3	1.53	654
70 x 3	1.65	606
75 x 3	1.77	565
80 x 3	1.89	529
90 x 3	2.12	472
100 x 3	2.36	424
110 x 3	2.59	386
130 x 3	3.06	327
150 x 3	3.54	282
13 x 5	0.51	1961
15 x 5	0.59	1695
16 x 5	0.63	1587
20 x 5	0.79	1266
22 x 5	0.86	1163
25 x 5	0.98	1020
30 x 5	1.18	847
35 x 5	1.37	730
40 x 5	1.57	637
45 x 5	1.77	565
50 x 5	1.96	510
55 x 5	2.16	463
60 x 5	2.36	424
65 x 5	2.55	392
70 x 5	2.76	362
75 x 5	2.97	337
80 x 5	3.14	318
90 x 5	3.53	283
100 x 5	3.93	254
110 x 5	4.32	231
120 x 5	4.71	212
130 x 5	5.11	196
150 x 5	5.89	170

BLACK FLATS

Size mm	Kg/m	Metres/Tonne
13 x 6	0.61	1639
16 x 6	0.75	1333
20 x 6	0.94	1064
25 x 6	1.18	847
30 x 6	1.41	709
36 x 6	1.65	606
40 x 6	1.88	532
45 x 6	2.12	472
50 x 6	2.36	424
60 x 6	2.83	353
65 x 6	3.06	327
70 x 6	3.31	302
75 x 6	3.55	282
80 x 6	3.77	265
90 x 6	4.24	236
100 x 6	4.71	212
110 x 6	5.18	193
120 x 6	5.66	177
130 x 6	6.12	163
140 x 6	6.59	152
150 x 6	7.09	141
160 x 6	7.54	133
180 x 6	8.48	118
200 x 6	9.42	106
220 x 6	10.36	97
250 x 6	11.78	85
300 x 6	14.13	71
16 x 8	0.99	1010
20 x 8	1.26	794
25 x 8	1.57	637
30 x 8	1.88	532
35 x 8	2.25	444
40 x 8	2.51	398
45 x 8	2.83	353
50 x 8	3.14	318
60 x 8	3.77	265
65 x 8	4.08	245
70 x 8	4.39	228
75 x 8	4.71	212
80 x 8	5.02	199
90 x 8	5.65	177

BLACK FLATS

Size mm	Kg/m	Metres/Tonne
100 x 8	6.28	159
110 x 8	6.91	145
120 x 8	7.54	133
130 x 8	8.16	123
140 x 8	8.79	114
150 x 8	9.42	106
180 x 8	11.31	88
200 x 8	12.59	79
220 x 8	13.82	72
250 x 8	15.69	64
300 x 8	18.84	53
16 x 10	1.26	794
20 x 10	1.57	637
22 x 10	1.73	578
25 x 10	1.96	510
30 x 10	2.36	424
35 x 10	2.75	364
40 x 10	3.14	318
45 x 10	3.53	283
50 x 10	3.93	254
55 x 10	4.32	231
60 x 10	4.71	212
65 x 10	5.11	196
70 x 10	5.49	182
75 x 10	5.89	170
80 x 10	6.28	159
90 x 10	7.07	141
100 x 10	7.85	127
110 x 10	8.64	116
120 x 10	9.42	106
130 x 10	10.21	98
140 x 10	10.99	91
150 x 10	11.78	85
160 x 10	12.56	80
180 x 10	14.13	71
200 x 10	15.69	64
220 x 10	17.27	58
250 x 10	19.59	51
300 x 10	23.55	42
350 x 10	27.48	36
400 x 10	31.41	32

BLACK FLATS

Size mm	Kg/m	Metres/Tonne
20 x 12	1.88	532
25 x 12	2.36	424
30 x 12	2.83	353
35 x 12	3.37	297
40 x 12	3.77	265
45 x 12	4.24	236
50 x 12	4.72	212
55 x 12	5.19	193
60 x 12	5.65	177
65 x 12	6.12	163
70 x 12	6.59	152
75 x 12	7.05	142
80 x 12	7.54	133
90 x 12	8.48	118
100 x 12	9.42	106
110 x 12	10.41	96
120 x 12	11.31	88
140 x 12	13.25	75
150 x 12	14.13	71
160 x 12	15.07	66
180 x 12	16.96	59
200 x 12	18.84	53
220 x 12	20.72	48
250 x 12	23.55	46
300 x 12	28.26	35
400 x 12	37.68	27
450 x 12	42.39	24
25 x 15	2.94	340
30 x 15	3.53	283
35 x 15	4.21	238
40 x 15	4.71	212
45 x 15	5.31	188
50 x 15	5.89	170
55 x 15	6.48	154
60 x 15	7.07	141
65 x 15	7.65	131
70 x 15	8.24	121
75 x 15	8.85	113
80 x 15	9.42	106
90 x 15	10.61	94

BLACK FLATS

Size mm	Kg/m	Metres/Tonne
100 x 15	11.78	85
110 x 15	12.95	77
120 x 15	14.09	71
130 x 15	15.31	65
140 x 15	16.48	61
150 x 15	17.66	57
160 x 15	18.81	53
180 x 15	21.22	47
200 x 15	23.55	42
220 x 15	25.91	39
250 x 15	29.44	34
300 x 15	35.33	28
350 x 15	41.25	24
400 x 15	47.09	21
450 x 15	52.99	19
25 x 20	3.92	255
30 x 20	4.71	212
40 x 20	6.28	159
50 x 20	7.85	127
60 x 20	9.42	106
70 x 20	10.99	91
75 x 20	11.81	85
80 x 20	12.56	80
90 x 20	14.13	71
100 x 20	15.72	64
110 x 20	17.27	58
120 x 20	18.84	53
130 x 20	20.41	49
140 x 20	21.98	45
150 x 20	23.55	42
160 x 20	25.12	40
180 x 20	28.26	35
200 x 20	31.41	32
220 x 20	34.54	29
250 x 20	39.25	25
300 x 20	47.15	21
350 x 20	54.95	18
400 x 20	62.81	16
450 x 20	70.65	14

BLACK FLATS

Size mm	Kg/m	Metres/Tonne
40 x 25	7.85	127
45 x 25	8.83	113
50 x 25	9.81	102
60 x 25	11.78	85
70 x 25	13.74	73
75 x 25	14.71	68
80 x 25	15.71	64
90 x 25	17.68	57
100 x 25	19.63	51
110 x 25	21.59	46
120 x 25	23.55	42
130 x 25	25.51	39
140 x 25	27.48	36
150 x 25	29.44	34
160 x 25	31.41	32
180 x 25	35.33	28
200 x 25	39.25	25
220 x 25	43.18	23
250 x 25	49.06	20
300 x 25	58.88	17
350 x 25	68.69	15
400 x 25	78.51	13
450 x 25	88.31	11
50 x 30	11.78	85
55 x 30	12.95	77
60 x 30	14.13	71
65 x 30	15.31	65
70 x 30	16.49	61
75 x 30	17.71	56
80 x 30	18.84	53
90 x 30	21.22	47
100 x 30	23.55	42
110 x 30	25.89	39
120 x 30	28.35	35
130 x 30	30.62	33
140 x 30	32.99	30
150 x 30	35.33	28
180 x 30	42.39	24
200 x 30	47.11	21
220 x 30	51.81	19
250 x 30	58.88	17

BLACK FLATS

Size mm	Kg/m	Metres/Tonne
300 x 30	70.65	14
350 x 30	82.43	12
400 x 30	94.21	11
50 x 40	15.71	64
60 x 40	18.84	53
65 x 40	20.41	49
70 x 40	21.96	46
75 x 40	23.61	42
80 x 40	25.12	40
90 x 40	28.26	35
100 x 40	31.41	32
110 x 40	34.54	29
130 x 40	40.81	25
150 x 40	47.11	21
180 x 40	56.52	18
200 x 40	62.81	16
220 x 40	69.08	14
250 x 40	78.51	13
300 x 40	94.22	11
350 x 40	109.89	9
375 x 40	117.75	8
400 x 40	125.61	8
65 x 50	25.52	39
70 x 50	27.48	36
75 x 50	29.45	34
80 x 50	31.41	32
90 x 50	35.33	28
100 x 50	39.25	25
110 x 50	43.18	23
130 x 50	51.03	20
150 x 50	58.88	17
180 x 50	70.65	14
200 x 50	78.51	13
220 x 50	86.35	12
250 x 50	98.13	10
300 x 50	117.75	8
80 x 65	40.82	24
100 x 65	51.11	20
150 x 65	76.65	13
100 x 75	58.95	17
130 x 75	76.51	13
150 x 75	88.32	11
200 x 75	117.75	8

SQUARE EDGE CONVEX

Size mm	Kg/m	Metres/Tonne
38 x 13 x 6.4	3.18	314
51 x 13 x 6.4	4.17	240

STEEL GRADES COMPARISON

EN 10 025 DESIGNATION 1883	EN 10 025 DESIGNATION 1880	GERMANY		FRANCE	U.K.	SPAIN	ITALY	BELGIUM	SWEDEN	PORTUGAL	AUSTRIA	NORWAY
		WORK STAFF NUMBER	DESIGNATION									
S185	Fe310-0	1.0035	St 33	A 33		A 310-0	Fe320	A 320	13 00-00	Fe310-0	St 320	
S235JR	Fe360 B	1.0037	St 37-2	E 24-2			Fe360 B	AE 235-B	13 11-00	Fe360-B	USI 360 B	NS 12 120
S235JRG1	Fe360 B(FU)	1.0036	USt 37-2			AE 235 B-FU					RSI 360 B	NS 12 122
S235JRG2	Fe360 B(FN)	1.0038	RSt 37-2		40 B	AE 235 B-FN			13 12-00	Fe360-C		NS 12 123
S235JO	Fe360 C	1.0116	St 37-3 U	E 24-3	40 C	AE 235 C	Fe360 C	AE 235-C			St 360 C	NS 12 124
S235J2G3	Fe360 D1	1.0016	St 37-3 N	E 24-4	40 D	AE 235 D	Fe360 D	AE 235-D		Fe360-D	St 360 CE	NS 12 124
S235J2G4	Fe360 D2	-	-	E 24-4	40 D	AE 235 D	Fe360 D	AE 235-D		Fe360-D	St 360 D	NS 12 124
S275JR	Fe 430 B	1.0044	St 44-2	E 28-2	43 B	AE 275 B	Fe 430 B	AE 255-B	14 12-00	Fe 430-B	St 430 B	NS 12 142
S275JO	Fe 430 C	1.0144	St 44-3 U	E 28-3	43 C	AE 275 C	Fe 430 C	AE 255-C		Fe 430-C	St 430 C	NS 12 143
S275J2G3	Fe 430 D1	1.0144	St 44-3 N	E 28-4	43 D	AE 275 D	Fe 430 D	AE 255-D	14 14-00	Fe 430-D	St 430 D	NS 12 143
S275J2G4	Fe 430 D2	-	-	E 28-4	43 D	AE 274 D	Fe 430 D	AE 255-D	14 14-01	Fe 430-D	St 430 D	NS 12 143
S355JR	Fe 510 B	-	-	E 36-2	50 B	AE 355 B	Fe 510 B	AE 355-B		Fe 510-B		
S355JO	Fe 510 C	1.0570	St 52-3 U	E 36-3	50 C	AE 355 C	Fe 510 C	AE 355-C		Fe 510-C	St 510 C	NS 12 153
S355J2G3	Fe 510 D1	1.0570	St 52-3 N		50 D	AE 355 D	Fe 510 D	AE 355-D		Fe 510-D	St 510 D	NS 12 153
S355J2G4	Fe 510 D2	-	-		50 D	AE 355 D	Fe 510 D	AE 355-D		Fe 510-D	St 510 D	NS 12 153
S355K2G3	Fe 510 DD1	-	-	E 36-4	50 DD			AE 355-DD		Fe 510-DD		
S355K2G4	Fe 510 DD2	-	-	E 36-4	50 DD			AE 355-DD		Fe 510-DD		
E295	Fe 490-2	1.0050	St 50-2	A 50-2		A 490	Fe 480	A 490-2	15 50-00	Fe 490-2	St 490	
E355	Fe 590-2	1.0060	St 60-2	A 60-2		A 590	Fe 580	A 590-2	16 50-00	Fe 590-2	St 590	
E360	Fe 690-2	1.0070	St 70-2	A 70-2		A 690	Fe 650	A 690-2	16 55-00	Fe 690-2	St 690	

SHEET GUAGES

S.W.G	THICKNESS mm	B.G.	WEIGHT Kg/m
4	6.35	4	49.8
	5.89		46.2
5	5.72	5	44.8
	5.39		42.3
6	5.03	6	39.4
	4.88		38.3
7	4.47	7	35.1
	4.06		31.9
9	3.99	8	31.3
	3.64		28.5
10	3.53	9	27.7
	3.25		25.5
11	3.18	10	24.9
	2.95		23.1
12	2.82	11	22.1
	2.64		20.7
13	2.52	12	19.7
	2.34		18.3
14	2.24	13	17.5
	2.03		15.9
15	1.98	14	15.5
	1.83		14.3
16	1.75	15	13.8
	1.63		12.8
17	1.59	16	12.5
	1.42		11.2
	1.40	17	11.0
	1.26		9.86
18	1.21	18	9.52
	1.12		8.77
19	1.02	19	7.97
	0.99		7.77
20	0.91	20	7.17
	0.89		6.95
21	0.81	21	6.37
	0.79		6.18
22	0.71	22	5.54
	0.63		4.92
23	0.61	23	4.76
	0.56		4.38
24	0.51	24	3.98
	0.50		3.90
25	0.46	25	3.59
	0.43		3.39
27	0.42		3.29

N.B. Stainless Steels are denser than Carbon Steels



FORMULAE

WEIGHTS & AREAS OF STEEL

THICKNESS mm	WEIGHT Kg/m ²
0.5	3.93
0.6	4.71
0.7	5.50
0.8	6.28
0.9	7.07
1.0	7.85
1.2	9.42
1.25	9.81
1.5	11.78
1.6	12.56
2.0	15.70
2.5	19.63
3.0	23.55
4.0	31.40
5.0	39.25
6.0	47.10
8.0	62.80
10.0	78.50
12.0	94.20
12.5	98.12
15.0	117.75

THICKNESS mm	WEIGHT Kg/m ²
20	157.0
25	196.3
30	235.0
32	251.2
35	274.8
40	314.0
45	353.3
50	392.5
55	431.8
60	471.0
65	510.3
70	549.5
75	588.8
80	628.0
90	706.5
100	785.0
110	863.5
120	942.0
130	1020.5
140	1099.0
150	1177.5

N.B. Stainless Steels are denser than Carbon Steels

Theoretical weights provided for information only

PRODUCT DEFINITIONS

BILLET

A semi-finished product intended for re-rolling. Usually square with chamfered or radiused corners and with a cross-sectional area generally not more than 160cm² (25sq. in.).

SLAB

A semi-finished product intended for re-rolling. The cross-section is rectangular with a width more than twice the thickness.

N.B. Slab is also supplied to Profilers for the production of thicker flame-cut parts.

BLOOM

A semi-finished product intended for re-rolling to finished products. Cross-sectional area greater than billet. Ratio of width to thickness greater than 1 and less than 2.

HEAVY SECTIONS

I, H and U sections, angles and tees of 80mm or more.

LIGHT SECTIONS

I, H & U and other sections less than 80mm.

HOT ROLLED BARS

Rounds, squares, hexagons and octagons, flat bars with a width of 150mm or less.

PLATES

Flat products 3mm or thicker.

SHEETS

Flat products less than 3mm thick.

HOLLOW SECTION

A tube made for a structural purpose. It can be square, rectangular or circular, formed from strip mill coil. After shaping and welding, two manufacturing processes are available:

HOT FORMED - the steel is heated before final sizing.

COLD FORMED - the manufacture is completed by cold reduction.

PROFILES

Note profiles can refer to either:

Shapes flame-cut from steel sheet, plate or slab.

or:

Steel sheet pressed or cold rolled to shape for use as cladding for buildings.

ANNEALING

ANNEALING

Heating to and holding at a suitable temperature, followed by cooling at a suitable rate for such purposes as:

- 1) inducing softness.
- 2) improving machineability.
- 3) improving cold working properties.
- 4) obtaining a desired structure
- 5) removing stresses

NORMALISING

Heating to between 800 & 900°C, according to analysis, holding at temperature, then cooling in still air. The process relieves internal stresses, refines grain size and improves mechanical properties.

QUENCHING

Rapid cooling.

SOAKING

Holding the material in a furnace after the outside has reached the desired temperature until the temperature is uniform throughout the mass and the desired metallurgical changes have been completed.

SPHERODISING

Subjecting the steel to a selected temperature cycle, usually within or near transformation range, in order to produce a suitable globular form of carbide for such purposes as:

- 1) improving machineability
- 2) facilitating subsequent cold working
- 3) obtaining a desired structure for subsequent heat treatment.

STRESS RELIEVING

Heating to and, if necessary, holding at, some temperature generally below the transformation range, usually followed by slow cooling, for the sole purpose of relieving internal stresses.

TEMPERING

Heating hardened, normalised, or mechanically worked steel to some temperature below the transformation range, and holding for a suitable time at that temperature, followed by cooling at a suitable rate. This process is usually applied for the purpose of producing a desired combination of mechanical properties.

TESTING

BEND TEST

A test made by folding a test piece, usually at atmospheric temperature, over a specified radius by a steadily applied pressure or blows. The test is a measure of ductility but, under certain conditions, it can be used to detect unsoundness.

BRINELL HARDNESS TEST

A test to determine hardness by pressing a hard steel ball of known diameter under a standard load into the surface of the material and measuring the diameter of the indentation produced.

The Brinell hardness number, BHN =
$$\frac{\text{load in Kg}}{\text{spherical area of impression in sq. mm.}}$$

CHARPY IMPACT TEST

An impact test in which a notched test piece, supported at both ends, is broken by a blow from a striker on the face opposite to and immediately behind the notch, the energy absorbed in fracturing the specimen being recorded.

COMPRESSION TEST

A test in which a solid test piece is pressed axially to determine the reduction in length under load and/or the load to fracture.

IMPACT TEST

A test to determine resistance to suddenly applied stresses.

IZOD IMPACT TEST

An impact test in which a notched test piece, fixed at one end, is broken by a blow from a pendulum hammer, the energy absorbed in fracturing the specimen being recorded.

ROCKWELL HARDNESS TEST

A number derived from the net increase in depth of an impression as the load on an indenter is increased from a fixed minor load to a major load and then returned to the minor load.

SPARK TEST

A test to determine the approximate chemical composition, particularly with respect to carbon content, by the appearance of the sparks produced when a sample is held against a grinding wheel.

TESTING

TENSILE TEST

A test in which the two ends of a straight test piece are pulled until fracture occurs. The information obtainable therefrom includes one or more of the following:
Limit of proportionality, yield stress, proof stress, ultimate tensile stress, elongation and reduction of area.

TORSION TEST

A test in which the test piece is twisted about its axis until fracture occurs.

TRANSVERSE TEST

A test for steel blooms, forgings, sheets etc. in which the longitudinal axis of the test piece is at right angles to the direction of rolling or working.

ULTRASONIC TEST

A test to determine the presence of internal flaws involving the transmission of high frequency sound waves which are reflected by any defects.

OTHER TERMS

AGEING

Ageing in low carbon sheet steel refers to changes in mechanical properties that occur when steel, which has been slightly cold worked such as by temper rolling), is stored for some time. Ageing is accompanied by a loss of ductility with an increase in hardness, yield point and tensile strength.

CAST

The product of a single furnace charge.

CHARGE

The materials loaded into a steel making furnace for the production of steel.

COGGING

The initial stages of a hot rolling process in which the chief object is to reduce the cross section as expeditiously as possible.

COLD WORKING

The operation of permanently altering the shape or dimensions of the steel, carried out at atmospheric temperature by, for example, cold rolling or cold reduction. Other methods of applying cold work are by drawing, pressing, forming, bending, swaging etc.

DECARBONISATION

Loss of carbon from the surface usually during hot working, heat treatment or re-heating.

DEOXIDATION

The removal of oxygen from molten steel by the addition of elements such as silicon, manganese and aluminium.

DESCALING

Removal of surface scale from a hot worked or heat treated product by pickling, shot blasting, oxy gas flame etc.

EDGING

The application of rolls to the edges of a rectangular section, e.g. slab, plate, strip or flat, with the object of controlling width and in certain cases giving a smooth edge of a controlled shape.

ELASTICITY

The property of the material by which it returns to its original dimensions after removal of a stress.

ELECTRO GALVANISING

Depositing zinc by electrolysis.



OTHER TERMS

ELECTRO-TINNING

Depositing tin by electrolysis.

ELONGATION

The increase in length of a tensile test piece when stressed. The elongation at fracture is usually expressed as a percentage of the original gauge length.

ETCHING

Treatment of prepared metal surfaces with acid or other reagents which, by differential attack, reveal the structure.

FERRO ALI

An alloy of one or more elements with iron used for making additions of these elements to molten steel. Examples are ferro-silicon, ferros-manganese, ferro-chromium & silico-manganese.

GAUGE

The thickness of the sheet or strip.

HARDNESS

Resistance to deformation, indentation, abrasion, cutting etc.

HOT DIPPED GALVANISING

Produced by passing the sheet steel through a bath of molten zinc which is generally modified with small additions of aluminium.

INCLUSIONS

Particles of oxides, silicates, sulphides, refractory materials, slag etc. embedded in the metal.

LAMINATION

Separation into two or more layers due to some discontinuity in the steel, usually a layer of non-metallic inclusions.

MICRO STRUCTURE

The structure of metals and alloys as revealed, after polishing and etching, by examination under a microscope.

MODULUS OF ELASTICITY

The ratio of stress to strain within the elastic range. The modulus of elasticity in tension or compression is also known as Young's modulus and that in shear as the modulus of rigidity.

OTHER TERMS

OFF GAUGE

Sheet or strip which departs from the specified thickness by an amount which exceeds the permitted limit.

ORANGE PEEL

A roughening of the surface of the sheet or strip which develops on subsequent cold deformation if the grain size is too coarse.

PIG IRON

The cast produce of the blast furnace, containing from 2½ to 5% of carbon and varying percentages of silicon, manganese, sulphur and phosphorous. Pig iron is a raw material for steelmaking and iron founding.

PIPING

An axial cavity caused by contraction during solidification of an ingot. Also the defect arising from the axial cavity in semi-finished or finished products.

PROOF STRESS

Usually the tensile stress (load divided by the original area of cross-section of a test piece) which is just sufficient to produce, under load, a non-proportional elongation equal to a specified percentage of the original gauge length. Sometimes a proof stress is determined in compression or in show.

PASS

A single passage through a pair of rolls for the purpose of altering the shape and/or reducing the cross sectional area.

RE-SHEARING

The final shearing of sheets to within close dimensional limits with adjacent edges at right angles.

ROLLED EDGE

An edge accurately contoured by the application of rolls to the edge of a narrow strip.

ROLLED-IN SCALE

Local areas of scale pressed into the surface or the steel during rolling.

ROLLING

The shaping of steel by passing it between two rotating rolls.

SCALE

Oxides formed on the surface when iron or steel is heated.

OTHER TERMS

SHEARED EDGES

Edges resulting when a sheet is either sheared or slit in rotary cutters.

SKIN PASSING

A light cold rolling of annealed, normalised or hot rolled sheet or strip. The operation suppresses the tendency to kinks, flats and stretcher strains on subsequent manipulation.

SLAG

The non-metallic layer covering the surface of molten steel in the furnace. It is the medium through which refining reactions are carried out, and also absorbs non-metallic waste products formed during the melting operations.

SOFTENING

Decreasing the hardness by heat treatment, e.g. annealing or tempering.

STRAIN HARDENING

The increase in hardness produced by cold working. Also known as work hardening.

TOLERANCE

The permitted deviation from a specified dimension or weight, usually expressed a 'plus' or 'minus' on that quantity.

YIELD STRESS

The stress (load divided by original cross-section of a test piece) at which, in a tensile test, elongation of the test piece first occurs without increase of load.

YIELD STRENGTH

The stress at which a material exhibits a specified limiting deviation from the proportionality of stress to strain. The deviation is expressed in terms of strain.

ZINC COATING

Arc zinc coating protects against corrosion in two ways. As long as the coating remains unbroken, the zinc acts as a shield between the base steel and the atmosphere. When the base steel is exposed, the zinc acts as a galvanised protector, sacrificing itself in the presence of corrosive elements. This galvanic protection also applies to the edges of hot dipped galvanised after shearing or blanking.

NOTES

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