



AJN
STEELSTOCK

Delivering steel expertise across the UK

**Steel Stock &
Processing Catalogue Issue 07**



PLEASE NOTE

While every care and effort has been made in the preparation of this booklet, AJN Steelstock Ltd does not accept any responsibility for any errors or omissions which may inadvertently occur.

Information regarding the availability of stock and sizes are considered correct at the time of printing. AJN Steelstock Ltd reserves the right to alter stock sizes and their specifications without notice as part of ongoing improvements to the range of items offered.

Care has been taken to ensure that the dimensions and weights given in this booklet are correct but customers are advised to check details when ordering.

Our standard terms and conditions will apply in all circumstances. A current copy is available on request.

We wish to acknowledge BCSA, Steel for Life and SCI for their kind permission to reproduce parts of their specifications in this booklet.

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Company Overview



At any given time we will be holding circa 30,000 tonnes of steel across our sites, ready to be delivered by our fleet of over 70 lorries, wherever and whenever you need it.

We can also prepare and process your steel before it's delivered, with saw cutting, shot-blasting and painting, CNC drilling, and hi-def plasma and precision laser cutting, all completed in-house.

We employ over 430 people across our two sites covering 32 acres in Suffolk and Somerset. We are proud to have grown our company year-on-year despite the fluctuations of an unpredictable economy.

Our accreditations to BS EN1090 EXC 4, ISO 9001:2008, ISO 14001 and ISO 45001 demonstrate our ongoing commitment to quality, environmental and health and safety management.





John Boyden, along with his business partner, founded the company back in 1951 and while the business has always been successful, it's in the last 25 years or so that it's seen its biggest growth.

When John's business partner left, a decision was made to focus on prime steel sales and John's sons, Alan and Neil, joined the business servicing the construction, agricultural, engineering, food processing, automotive and architectural industries.

At the same time the company's name was changed to mark the start of the new era and AJN Steelstock was born.

Since then, it's been a continual success story, with rapid growth and steel sales and turnover increasing year-on-year. In September 2015, the company made a multi-million pound investment in a 17 acre steel stockholding site in Henstridge, Somerset.

We now keep circa 30,000 tonnes of steel at our two stockyards, as well as having large quantities of steel awaiting collection at our supplementary holding facilities and various UK ports.

With plentiful stock levels, the company is well placed to cope in the most demanding of environments and service orders now and well into the future.



As one of the UK's largest steel stockholders we have an enviable reputation for great service and reliability, especially with processed material on short lead times.

Over the past 10 years we have invested extensively in the latest machinery and technology to add to our in-house steel processing capabilities, which now encompasses:



18

SAW CUTTING
LINES



5

DRILL LINES



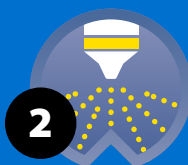
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HI-DEF PLASMA
PROFILING
MACHINES



2

LASER CUTTING
MACHINES



2

SHOT BLASTING
& PRIMER LINES



1

CROPPING &
PUNCHING
MACHINE



Saw Cutting



Eighteen fully automated band saws of various sizes and capacities means we are capable of multibatch cutting and one-offs of up to 1100mm wide sections, down to the smallest bar products both square cut and mitre.

CNC Drilling



Utilising our five, fully automated, drill lines across our two steel processing sites means we have a high level of flexibility in the range of products we can process.

Shot-blasting / Painting



Our Wheelabrator and Gietart preservation lines combine the heating, blasting, coating and drying of structural beams and columns, profiles, sheet and plate and structural hollow sections, in one automated line.



Precision Laser Cutting



Fast, efficient and highly accurate, our Bystar Fiber machines offer unparalleled parts production and best-in-class cutting quality.

Hi-Def Plasma Profiling



Our dual gantry Voortman V310 plate processing machine can cut, drill, mark, countersink and run at one station, allowing us to simplify the production process, maximise processing uptime and greatly increase production.

Shearing and Punching



Our high performance Ficep HP20T6 angle line offers a highly accurate combination of programmed processes such as punching, marking and shearing.



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The products listed on the following pages (p8 - p23) are just a small selection of sizes, sections and forms we stock.

Other sizes and grades are available.

If there is a particular product you are interested in, please contact one of our sales team for further details.

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Size (mm)	Weight (Kg/m)	Depth Section (mm)	Width Section (mm)
127 x 76	13.0	127.0	76.0
152 x 89	16.0	152.4	87.7
178 x 102	19.0	177.8	102.2
203 x 102	23.1	203.2	101.8
203 x 133	25.1	203.2	133.2
	30.0	206.8	133.9
254 x 102	22.0	265.0	101.6
	25.2	257.2	101.9
	28.3	260.4	102.2
254 x 146	31.1	251.4	146.1
	37.0	256.0	146.4
	43.0	259.6	147.3
305 x 102	24.8	305.1	101.6
	28.2	308.7	101.8
	32.8	312.7	102.4
305 x 127	37.0	304.4	123.4
	41.9	307.2	124.3
	48.1	311.0	125.3
305 x 165	40.3	303.4	165.0
	46.1	306.6	165.7
	54.0	310.4	166.9
356 x 127	33.1	349.0	125.4
	39.1	353.4	126.0
356 x 171	45.0	351.1	171.1
	51.0	355.0	171.5
	57.0	358.0	172.2
	67.1	363.4	173.2
406 x 140	39.0	398.0	141.8
	46.0	403.2	142.2
	53.3	406.6	143.3
406 x 178	54.1	402.6	177.7
	60.1	406.4	177.9
	67.1	409.4	178.8
	74.2	412.8	179.5
	85.0	417.2	181.9
457 x 152	52.3	449.8	152.4
	59.8	454.6	152.9
	67.2	458.0	153.8
	74.2	462.0	154.4
	82.1	465.8	153.3
457 x 191	67.1	453.4	189.9
	74.3	457.0	190.4
	82.0	460.0	191.3
	89.3	463.4	191.9
	98.3	467.2	192.8
	105.8	469.2	194.0
	133.3	480.6	196.7
161.4	492.0	199.4	

Size (mm)	Weight (Kg/m)	Depth Section (mm)	Width Section (mm)
533 x 165	65.7	524.7	165.1
	74.7	529.1	165.9
	84.5	534.9	166.5
533 x 210	82.2	528.3	208.8
	92.1	533.1	209.3
	101.0	536.7	210.0
	109.0	539.5	210.8
	122.0	544.5	211.9
533 x 312	138.3	549.1	213.9
	150.6	542.5	312.0
	181.5	550.7	314.5
	218.7	560.3	317.4
610 x 178	273.2	577.1	320.2
	81.8	598.6	177.9
	92.2	603.0	178.8
610 x 229	100.3	607.4	179.2
	101.2	602.6	227.6
	113.0	607.6	228.2
610 x 305	125.1	612.2	229.0
	139.9	617.2	230.2
	149.2	612.4	304.8
610 x 229	179.0	620.2	307.1
	238.1	635.8	311.4
	125.2	677.9	253.0
686 x 254	140.1	683.5	253.7
	152.4	687.5	254.5
	170.2	692.9	255.8
	133.9	750.0	264.4
762 x 267	146.9	754.0	265.2
	173.0	762.2	266.7
	196.8	769.8	268.0
838 x 292	175.9	834.9	291.7
	193.8	840.7	292.4
	226.5	850.9	293.8
914 x 305	200.9	903.0	303.3
	224.2	910.4	304.1
	253.4	918.4	305.5
	289.1	926.6	307.7
914 x 419	343.3	911.8	418.5
	388.0	921.0	420.5
1016 x 305	222.0	970.3	300.0
	248.7	980.2	300.0
	272.3	990.1	300.0
	314.3	1000.0	300.0
	349.4	1008.1	302.0
	392.7	1016.0	303.0
	438.0	1025.9	305.4
486.7	1036.1	308.5	

Universal Columns, Channels, Tees & Convex Bar

Universal Columns			
Size (mm)	Weight (Kg/m)	Depth Section (mm)	Width Section (mm)
102 x 102	20.5	100.0	100.0
152 x 152	23.0	152.4	152.2
	30.0	157.6	152.9
	37.0	161.8	154.4
	44.0	166.0	155.9
	51.2	170.2	157.4
203 x 203	46.1	203.2	203.6
	52.0	206.2	204.3
	60.0	209.6	205.8
	71.0	215.8	206.4
	86.1	222.2	209.1
	99.6	228.6	210.3
	113.5	235.0	212.1
	127.5	241.4	213.9
	254 x 254	73.1	254.1
88.9		260.3	256.3
107.1		266.7	258.8
132.0		276.3	261.3
167.1		289.1	265.2
305 x 305	96.9	307.9	305.3
	117.9	314.5	307.4
	136.9	320.5	309.2
	158.1	327.1	311.2
	198.1	339.9	314.5
	240.0	352.5	318.4
356 x 368	282.9	365.3	322.2
	129.0	355.6	368.6
	152.9	362.0	370.5
	177.0	368.2	372.6
356 x 406	201.9	375.6	374.4
	235.1	381.0	394.8
	287.1	393.6	399.0
356 x 406	339.9	406.4	403.0
	393.3	419.0	407.0
	467.3	436.6	412.2
	551.0	455.6	418.5
	633.9	474.6	424.0

Parallel Flange Channels			
Size (mm)	Weight (Kg/m)	Depth Section (mm)	Width Section (mm)
100 x 50	10.2	100.0	50.0
125 x 65	14.8	125.0	65.0
150 x 75	17.9	150.0	75.0
150 x 90	23.9	150.0	90.0
180 x 75	20.3	180.0	75.0
180 x 90	26.1	180.0	90.0
200 x 75	23.4	200.0	75.0
200 x 90	29.7	200.0	90.0
230 x 75	25.7	230.0	75.0
230 x 90	32.2	230.0	90.0
260 x 75	27.6	260.0	75.0
260 x 90	34.8	260.0	90.0
300 x 90	41.4	300.0	90.0
300 x 100	45.5	300.0	100.0
380 x 100	54.0	380.0	100.0
430 x 100	64.4	430.0	100.0

Light Channels	
Size (mm)	Weight (Kg/m)
40 x 20	2.87
51 x 25	3.86
51 x 38	5.60
76 x 38	6.70
80 x 45	8.60

Mild Steel Tees	
Size (mm)	Weight (Kg/m)
25 x 25 x 3	1.19
30 x 30 x 5	2.16
40 x 40 x 5	2.96
40 x 40 x 6	3.18
50 x 50 x 6	4.76

Convex Bar - Square Edge	
Size (mm)	Weight (Kg/m)
40 x 12 x 6	3.50
50 x 12 x 6	4.17

Our in-house CNC machinery enables us to offer accurately processed sections and quick lead times. Contact us for further details.

Equal Angles	
Size (mm)	Weight (Kg/m)
20 x 20 x 3	0.88
25 x 25 x 3	1.11
x 5	1.77
30 x 30 x 3	1.36
x 5	2.18
40 x 40 x 3	1.84
x 4	2.42
x 5	2.97
x 6	3.52
45 x 45 x 4	2.75
x 5	3.38
x 6	4.01
50 x 50 x 3	2.33
x 4	3.08
x 5	3.77
x 6	4.47
x 8	5.82
60 x 60 x 5	4.57
x 6	5.42
x 8	7.09
x 10	8.69
70 x 70 x 6	6.38
x 8	8.36
x 10	10.30
75 x 75 x 6	6.86
x 8	9.00
x 10	11.10
80 x 80 x 6	7.34
x 8	9.63
x 10	11.90
x 12	14.20
90 x 90 x 6	8.30
x 8	10.90
x 10	13.40
x 12	15.90
100 x 100 x 6	9.40
x 8	12.20
x 10	15.00
x 12	17.80
x 15	21.90
120 x 120 x 8	14.70
x 10	18.20
x 12	21.60
x 15	26.60
150 x 150 x 10	23.00
x 12	27.30
x 15	33.80
x 18	40.10
200 x 200 x 16	48.50
x 18	54.20
x 20	59.90
x 24	71.10

Unequal Angles	
Size (mm)	Weight (Kg/m)
40 x 25 x 4	1.93
x 5	2.37
50 x 40 x 5	3.37
x 6	3.99
60 x 30 x 5	3.37
x 6	3.99
65 x 50 x 5	4.35
x 6	5.16
x 8	6.75
75 x 50 x 6	5.65
x 8	7.39
x 10	9.12
80 x 60 x 6	6.37
x 8	8.34
100 x 50 x 6	6.85
x 8	9.55
100 x 65 x 7	8.77
x 8	9.94
x 10	12.30
100 x 75 x 8	10.60
x 10	13.00
x 12	15.40
125 x 75 x 8	12.20
x 10	15.00
x 12	17.80
150 x 75 x 10	17.00
x 12	20.20
x 15	24.80
150 x 90 x 10	18.20
x 12	21.60
x 15	26.60
200 x 100 x 10	23.00
x 12	27.30
x 15	33.70
200 x 150 x 12	32.00
x 15	39.60
x 18	47.10

PRECISION CUTTING AND DRILLING



DELIVERY DATES YOU CAN COUNT ON

Whether its multiple batch work, one offs or large structural sections or bars, we have an excellent reputation for cutting and drilling material accurately and quickly.



For competitive pricing, quality workmanship, unrivalled reliability and a quick turnaround

~ CONTACT US TODAY, WE'D BE HAPPY TO HELP ~

KENTFORD
01638 555 500

HENSTRIDGE
01963 365 210



Size (mm)	Weight (Kg/m)
20 x 3	0.47
25 x 3	0.63
30 x 3	0.75
40 x 3	0.95
50 x 3	1.18
60 x 3	1.44
70 x 3	1.65
75 x 3	1.76
80 x 3	1.89
90 x 3	2.12
100 x 3	2.36
150 x 3	3.54
20 x 5	0.79
25 x 5	0.98
30 x 5	1.18
35 x 5	1.37
40 x 5	1.57
50 x 5	1.96
60 x 5	2.36
65 x 5	2.55
70 x 5	2.76
75 x 5	2.97
80 x 5	3.14
90 x 5	3.53
100 x 5	3.93
130 x 5	5.10
150 x 5	5.89
20 x 6	0.94
25 x 6	1.18
30 x 6	1.41
35 x 6	1.65
40 x 6	1.88
45 x 6	2.12
50 x 6	2.36
60 x 6	2.83
65 x 6	3.06
70 x 6	3.31
75 x 6	3.55
80 x 6	3.77
90 x 6	4.24
100 x 6	4.71

Size (mm)	Weight (Kg/m)
110 x 6	5.18
120 x 6	5.66
130 x 6	6.12
140 x 6	6.59
150 x 6	7.09
180 x 6	8.48
200 x 6	9.42
220 x 6	10.36
250 x 6	11.78
300 x 6	14.13
20 x 8	1.26
25 x 8	1.57
30 x 8	1.88
40 x 8	2.51
45 x 8	2.83
50 x 8	3.14
60 x 8	3.77
65 x 8	4.08
70 x 8	4.39
75 x 8	4.71
80 x 8	5.02
90 x 8	5.65
100 x 8	6.28
110 x 8	6.91
120 x 8	7.54
130 x 8	8.16
140 x 8	8.79
150 x 8	9.42
160 x 8	10.05
180 x 8	11.31
200 x 8	12.59
220 x 8	13.82
250 x 8	15.69
300 x 8	18.84
20 x 10	1.57
25 x 10	1.96
30 x 10	2.36
40 x 10	3.14
45 x 10	3.53
50 x 10	3.93
60 x 10	4.71

Size (mm)	Weight (Kg/m)
65 x 10	5.11
70 x 10	5.49
75 x 10	5.89
80 x 10	6.28
90 x 10	7.07
100 x 10	7.85
110 x 10	8.64
120 x 10	9.42
130 x 10	10.21
140 x 10	10.99
150 x 10	11.78
160 x 10	12.56
180 x 10	14.13
200 x 10	15.69
220 x 10	17.27
250 x 10	19.59
275 x 10	21.59
300 x 10	23.55
350 x 10	27.48
400 x 10	31.41
450 x 10	35.33
500 x 10	39.25
20 x 12	1.88
25 x 12	2.36
30 x 12	2.83
40 x 12	3.77
45 x 12	4.24
50 x 12	4.72
60 x 12	5.65
65 x 12	6.12
70 x 12	6.59
75 x 12	7.05
80 x 12	7.54
90 x 12	8.48
100 x 12	9.42
110 x 12	10.41
120 x 12	11.31
130 x 12	12.25
140 x 12	13.25
150 x 12	14.13
160 x 12	15.07



Flat Bar (continued)

Size (mm)	Weight (Kg/m)
180 x 12	16.96
200 x 12	18.84
220 x 12	20.72
250 x 12	23.55
275 x 12	25.91
300 x 12	28.26
350 x 12	33.01
400 x 12	37.68
450 x 12	42.39
500 x 12	47.10
25 x 15	2.94
30 x 15	3.53
40 x 15	4.71
45 x 15	5.31
50 x 15	5.89
60 x 15	7.07
65 x 15	7.65
70 x 15	8.24
75 x 15	8.85
80 x 15	9.42
90 x 15	10.61
100 x 15	11.78
110 x 15	12.95
120 x 15	14.09
130 x 15	15.31
140 x 15	16.48
150 x 15	17.66
160 x 15	18.81
180 x 15	21.22
200 x 15	23.55
220 x 15	25.91
250 x 15	29.44
300 x 15	35.33
350 x 15	41.25
400 x 15	47.09
450 x 15	53.00
500 x 15	58.88
25 x 20	3.92
30 x 20	4.71
40 x 20	6.28
45 x 20	7.07
50 x 20	7.85

Size (mm)	Weight (Kg/m)
60 x 20	9.42
65 x 20	10.21
70 x 20	10.99
75 x 20	11.81
80 x 20	12.56
90 x 20	14.13
100 x 20	15.72
110 x 20	17.27
120 x 20	18.84
130 x 20	20.41
140 x 20	21.98
150 x 20	23.55
160 x 20	25.12
180 x 20	28.26
200 x 20	31.41
220 x 20	34.54
250 x 20	39.25
300 x 20	47.15
350 x 20	54.95
400 x 20	62.81
450 x 20	70.65
500 x 20	78.50
30 x 25	5.89
40 x 25	7.85
45 x 25	8.83
50 x 25	9.81
60 x 25	11.78
65 x 25	12.76
70 x 25	13.74
75 x 25	14.71
80 x 25	15.71
90 x 25	17.68
100 x 25	19.63
120 x 25	23.55
130 x 25	25.51
140 x 25	27.48
150 x 25	29.44
160 x 25	31.41
180 x 25	35.33
200 x 25	39.25
220 x 25	43.18
250 x 25	49.06

Size (mm)	Weight (Kg/m)
300 x 25	58.88
350 x 25	68.69
400 x 25	78.51
450 x 25	88.31
500 x 25	98.13
40 x 30	9.42
50 x 30	11.78
60 x 30	14.13
70 x 30	16.49
75 x 30	17.71
80 x 30	18.84
90 x 30	21.22
100 x 30	23.55
130 x 30	30.62
140 x 30	32.99
150 x 30	35.33
180 x 30	42.39
200 x 30	47.11
250 x 30	58.88
300 x 30	70.65
350 x 30	82.43
400 x 30	94.21
450 x 30	105.98

Round Bars	
Size (mm)	Weight (Kg/m)
10	0.62
12	0.89
16	1.58
19	2.24
20	2.47
22	2.98
25	3.85
30	5.92
32	6.31
35	7.55
40	9.86
45	12.50
50	15.40
55	18.69
60	22.20
65	26.00
75	34.70
80	39.50
90	49.90
100	61.60

Square Bars	
Size (mm)	Weight (Kg/m)
10	0.79
12	1.13
16	2.01
20	3.14
22	3.80
25	4.91
30	7.07
35	9.65
40	12.60
45	15.90
50	19.60
60	28.30



SHOT-BLAST AND PAINTED MATERIAL

(CUSTOM LENGTHS - BESPOKE TO YOUR REQUIREMENTS)



DELIVERY DATES YOU CAN COUNT ON

Our two Wheelabrator processing lines can accommodate material up to 20m in length and 2m wide with automated transfer beds linking to saws and other equipment to reduce handling times.



For competitive pricing, quality workmanship, unrivalled reliability and a quick turnaround

~ CONTACT US TODAY, WE'D BE HAPPY TO HELP ~

KENTFORD
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HENSTRIDGE
01963 365 210



FMS 561026 CHS 696812

3273-CR-0105

FMS 561026 CHS 696812

Square / Rectangular Hollow Sections

Squares		
Size (mm)	Thickness (mm)	Weight (Kg/m)
20 x 20	2.0	1.12
	2.5	1.39
25 x 25	2.0	1.43
	2.5	1.74
	3.0	2.04
30 x 30	2.0	1.75
	2.5	2.14
	3.0	2.51
40 x 40	2.0	2.37
	2.5	2.92
	3.0	3.45
	4.0	4.46
	5.0	5.329
50 x 50	2.0	2.98
	2.5	3.71
	3.0	4.39
	4.0	5.72
	5.0	6.97
60 x 60	3.0	5.34
	4.0	6.97
	5.0	8.54
	6.0	10.17
70 x 70	3.0	6.28
	3.5	7.46
	5.0	10.10
	6.0	12.98
75 x 75	3.0	6.75
80 x 80	3.0	7.22
	3.5	8.59
	5.0	11.70
	6.0	13.90
	8.0	17.80
90 x 90	3.0	8.10
	3.5	9.72
	5.0	13.30
	6.0	15.76
	8.0	20.40
100 x 100	3.0	9.42
	4.0	11.90
	5.0	14.80
	6.0	17.61
	8.0	22.90
120 x 120	10.0	27.90
	5.0	18.00
	6.0	21.31
	8.0	27.90
100 x 100	10.0	34.20

Squares		
Size (mm)	Thickness (mm)	Weight (Kg/m)
140 x 140	5.0	21.10
	6.0	26.30
	8.0	33.15
	10.0	41.50
150 x 150	5.0	22.70
	6.0	26.86
	8.0	35.40
180 x 180	10.0	43.60
	6.0	32.60
	8.0	43.00
200 x 200	10.0	53.00
	6.0	36.40
	8.0	48.00
250 x 250	10.0	59.30
	12.5	73.00
	6.0	45.24
300 x 300	8.0	60.50
	10.0	75.00
	10.0	90.70

Rectangles			
Size (mm)	Thickness (mm)	Weight (Kg/m)	
50 x 25	2.0	2.23	
	2.5	2.72	
	3.0	3.22	
50 x 30	2.0	2.37	
	2.5	2.92	
	3.0	3.45	
60 x 40	2.5	3.71	
	3.0	4.39	
	4.0	5.72	
	5.0	7.065	
80 x 40	6.0	8.50	
	3.0	5.34	
	4.0	6.97	
	5.0	8.54	
75 x 50	6.0	10.17	
	3.0	8.54	
	90 x 50	3.0	10.17
	3.5	5.60	
100 x 50	5.0	6.28	
	3.0	7.46	
	4.0	8.86	
	5.0	10.90	
100 x 50	6.0	12.98	

Rectangles		
Size (mm)	Thickness (mm)	Weight (Kg/m)
100 x 60	3.0	7.22
	3.5	8.59
	5.0	11.70
	6.0	13.90
120 x 60	8.0	17.80
	3.0	8.10
	3.5	9.72
120 x 80	5.0	13.30
	6.0	15.76
	8.0	20.40
120 x 80	3.0	9.42
	4.0	11.90
	5.0	14.80
	6.0	17.61
160 x 80	8.0	22.90
	10.0	27.90
	5.0	18.00
	6.0	21.31
150 x 100	8.0	27.90
	10.0	34.20
	5.0	18.40
	6.0	22.30
200 x 100	8.0	29.10
	10.0	35.70
	5.0	22.70
	6.0	26.86
200 x 150	8.0	35.40
	10.0	43.60
	12.5	53.40
	6.0	32.50
250 x 100	8.0	41.40
	10.0	51.00
	6.0	32.80
	8.0	42.40
250 x 150	10.0	51.00
	6.0	36.40
	8.0	48.00
	10.0	59.30
300 x 100	6.0	38.40
	8.0	48.23
	10.0	59.30
	6.0	45.24
300 x 200	8.0	60.50
	10.0	75.00
	10.0	90.70

Circular Hollow Sections

Diameter (mm)	Thickness (mm)	Weight (Kg/m)
21.3	3.0	1.360
26.9	2.5	1.500
	3.0	1.770
33.7	2.5	1.920
	3.0	2.270
42.4	4.0	2.930
	2.5	2.460
	3.0	2.910
48.3	4.0	3.790
	2.5	2.820
60.3	3.0	4.240
	4.0	5.550
	5.0	6.830
76.1	3.0	5.410
	4.0	7.110
	5.0	8.770
88.9	3.0	6.360
	4.0	8.380
	5.0	10.300
101.6	3.0	7.290
114.3	3.0	8.230
	3.5	9.830
	5.0	13.500
	6.0	16.030
139.7	5.0	16.600
	6.0	19.780
	8.0	26.000
	10.0	32.000

Diameter (mm)	Thickness (mm)	Weight (Kg/m)
168.3	5.0	20.100
	6.0	24.020
	8.0	31.600
	10.0	39.000
193.7	5.0	23.290
	6.0	29.100
	8.0	36.600
	10.0	45.300
219.1	5.0	26.430
	6.0	31.520
	8.0	41.600
	10.0	51.600

We can also supply a range of fittings to cover many applications.

Please see page 19 onwards for further details.



Thickness (mm)	Size (mm)	Weight (Kg/m ²)
1.6	2000 x 1000	12.56
	2500 x 1250	12.56
	3000 x 1500	12.56
2.0	2000 x 1000	15.70
	2500 x 1250	15.70
	3000 x 1500	15.70
2.5	2000 x 1000	19.62
	2500 x 1250	19.62
	3000 x 1500	19.62
3.0	2000 x 1000	23.55
	2500 x 1250	23.55
	3000 x 1500	23.55
	4000 x 2000	23.55
4.0	2000 x 1000	31.40
	2500 x 1250	31.40
	3000 x 1500	31.40
	4000 x 2000	31.40
5.0	2000 x 1000	39.25
	2500 x 1250	39.25
	3000 x 1500	39.25
	4000 x 2000	39.25
6.0	2000 x 1000	47.10
	2500 x 1250	47.10
	3000 x 1500	47.10
	4000 x 2000	47.10
8.0	2000 x 1000	62.80
	2500 x 1250	62.80
	3000 x 1500	62.80
	4000 x 2000	62.80
10.0	2000 x 1000	78.50
	2500 x 1250	78.50
	3000 x 1500	78.50
	4000 x 2000	78.50
12.5	2000 x 1000	98.12
	2500 x 1250	98.12
	3000 x 1500	98.12
	4000 x 2000	98.12
15.0	2000 x 1000	117.75
	2500 x 1250	117.75
	3000 x 1500	117.75
	4000 x 2000	117.75
20.0	2000 x 1000	157.00
	2500 x 1250	157.00
	3000 x 1500	157.00
	4000 x 2000	157.00

Thickness (mm)	Size (mm)	Weight (Kg/m ²)
25.0	2000 x 1000	196.25
	2500 x 1250	196.25
	3000 x 1500	196.25
	4000 x 2000	196.25
30.0	2000 x 1000	235.50
	2500 x 1250	235.50
	3000 x 1500	235.50
35.0	2000 x 1000	274.80
	2500 x 1250	274.80
	3000 x 1500	274.80
40.0	2000 x 1000	314.00
	2500 x 1250	314.00
	3000 x 1500	314.00
	4000 x 2000	314.00
45.0	2000 x 1000	353.30
	2500 x 1250	353.30
	3000 x 1500	353.30
	4000 x 2000	353.30
50.0	2000 x 1000	392.50
	2500 x 1250	392.50
	3000 x 1500	392.50
	4000 x 2000	392.50

LASER CUTTING AND HI-DEF PLASMA PROFILING



Fast, efficient and highly accurate, our precision laser and hi-def plasma machines offer best-in-class cutting quality on structural plates and fittings, cutting up to 15mm and 150mm thick respectively.

Our machines can cut, drill, mark and countersink to simplify the production process and increase production.



For competitive pricing, quality workmanship, unrivalled reliability and a quick turnaround

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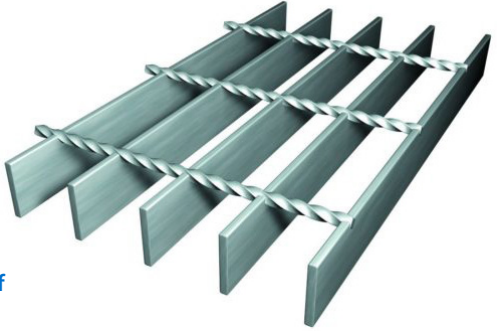
Thickness (mm)	Size (mm)	Weight (Kg/m ²)
3.0	2000 x 1000	26.19
	2500 x 1250	26.19
	3000 x 1500	26.19
4.5	2000 x 1000	37.97
	2500 x 1250	37.97
	3000 x 1500	37.97
6.0	2000 x 1000	49.74
	2500 x 1250	49.74
	3000 x 1500	49.74
8.0	2000 x 1000	65.44
	2500 x 1250	65.44
	3000 x 1500	65.44
10.0	2000 x 1000	81.14
	2500 x 1250	81.14
	3000 x 1500	81.14
12.5	2000 x 1000	100.77
	2500 x 1250	100.77
	3000 x 1500	100.77



Open Steel Flooring

The number one choice for steel grating and open mesh flooring in the UK is Safegrid. It is used extensively in the design and manufacture of raised platforms, mezzanine flooring and steel walkways on many industrial applications.

The British standard contains 35mm and 20mm ball proof requirements for steel gratings. This means that the traditional 41/100g rating is no longer compliant in many applications.



35mm Ball Proof

Suitable for:

- Walkways used for access to machinery
- Walkways where people may occasionally pass underneath

Mesh Size		
Thickness (mm)	Load Bearing Bar Centres (mm)	Transverse Bar Centres (mm)*
3	37	125
5	38	125

* other transverse pitches available on request

20mm Ball Proof

Suitable for:

- Fire escape stairs, landings
- Areas where people may be working below the walkway
- Areas where the walkway is in constant use

Mesh Size		
Thickness (mm)	Load Bearing Bar Centres (mm)	Transverse Bar Centres (mm)*
3	21	100
5	23	100

* other transverse pitches available on request

Utility Grating

Suitable for:

- Walkways below head height and where people cannot pass underneath
- Shelving
- Fencing


















Mesh Size		
Thickness (mm)	Load Bearing Bar Centres (mm)	Transverse Bar Centres (mm)*
3	47	125
5	47	125

* other transverse pitches available on request

Sizes & Ordering

Five different size ranges of fittings are available as shown on the table below. They are easily identified by a type of number for each design, e.g., 125, followed by a size code e.g., D. Therefore, a 90 Degree Elbow suitable for a 1 1/2" nominal bore tube would be denoted as a 125 - D.

Size Ref	Nominal	Outside
Size	Bore	Diameter
A	3/4"	26.9mm
B	1"	33.7mm
C	1 1/4"	42.4mm
D	1 1/2"	48.3mm
E	2"	60.3mm

	101 A B C D E		101R B/C C/B C/D D/B D/C E/D		104 A B C D E
	116 A B C D E		117X D		117X D
	117Y D		117Y D		117Y D
	117x Parts		117y Parts		119 A B C D E
	119R C/D		123 B C D		124 B C D
	125 A B C D E		127 B C D	BS1387 Tubes and CHS sizes to suit are kept in stock	

Tube Fittings (continued)



128
A
B
C
D
E



129
A
B
C
D



130
B
C
D



131
A
B
C
D
E



132
A
B
C
D
E



133
A
B
C
D
E



134
B
C
D



135
A
B
C
D
E



135X
C
D



135Y
D



136
C
D



137
D



138
A
B
C
D



140
A
B
C
D



143
A
B
C
D



144
B
C
D



145
B
C
D



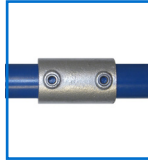
146
B
C
D



147
B
C
D



148
A
B
C
D
E



149
A
B
C
D
E



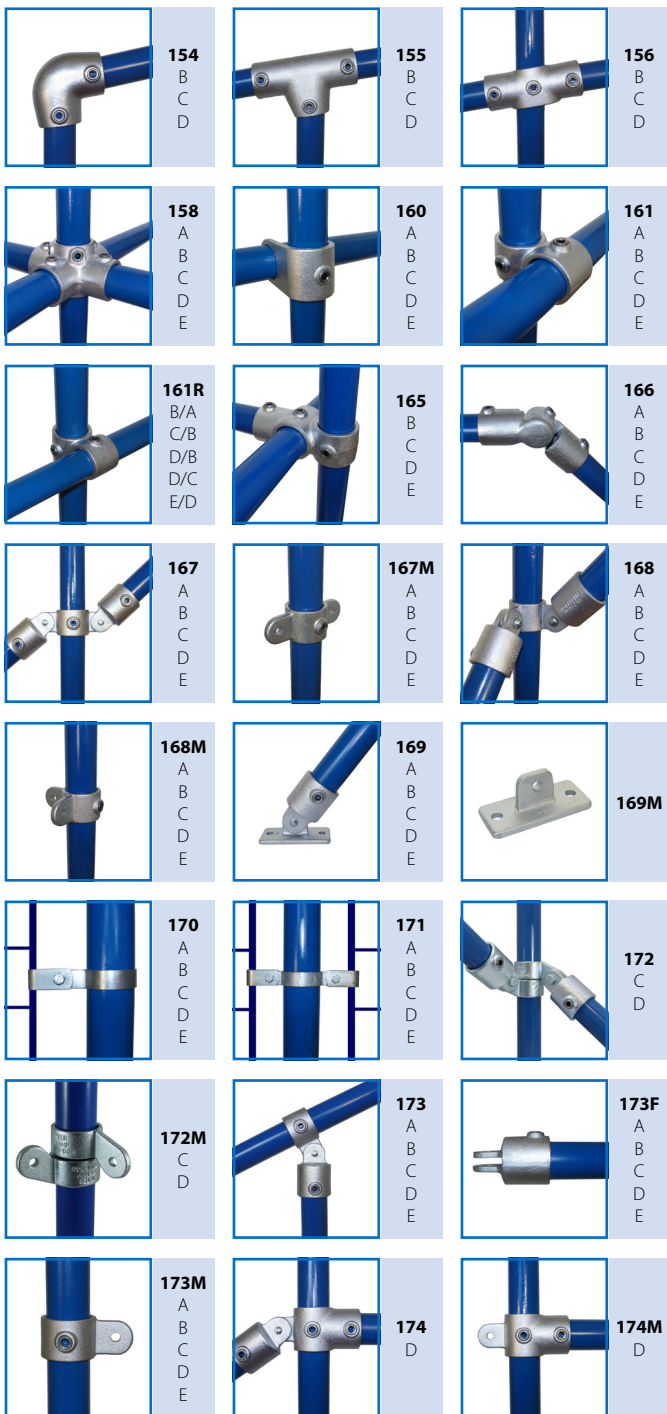
150
B
C
D



152
B
C
D



153
B
C
D



Tube Fittings (continued)

	175 D		175M D		176 A B C D E
	179 A B C D E		182 A B C D		185 D
	191 D		192 B C D		197 D
	198 B C D		199 B C D		232 D
	242 C D		245 D		246 B C D
	251 B C D		252 D		253 D
	255 D		256 D		300 AB CDE
	301 AB CDE		302		303 AB CDE

	304 AB CDE		305 CDE		310
	333 A B C D E		390 400ml		720 C
	721 C D		724 C		725 C
	728 C		729 C		731 C
	745 C D		746 C		747 C D
	748 C		750 C D		751 C D
	764 C		797 C		798

SAW CUT MATERIAL

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With 18 fully automated band saws of various sizes and capabilities we are capable of multi-batch cutting or one-offs of up to 1100mm wide sections, down to the smallest bar products - both square cut and mitre.

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Metric Measures and Equivalents

Length		
1 millimetre (mm)		= 0.0394 in
1 centimetre (cm)	= 10 mm	= 0.3937 in
1 metre	= 100 cm	= 1.0936 yd
1 kilometre (km)	= 1,000 m	= 0.6214 mile

Area		
1 sq cm (cm ²)	= 100 mm ²	= 0.15550 in ²
1 sq metre (m ²)	= 10,000 cm ²	= 1.960 yd ²
1 sq km (km ²)	= 100 hectares	= 0.3861 mile ²

Imperial Measures and Equivalents

Length		
1 inch (in)		= 2.54 cm
1 foot (ft)	= 12 in	= 0.3048 m
1 yard (yd)	= 3 ft	= 0.9144 m
1 mile	= 1,760 yd	= 1.6093 km
1 int. nautical mile	= 2,025.4 yd	= 1.852 km

Area		
1 sq inch (in ²)		= 6.4516 cm ²
1 sq foot (ft ²)	= 144 in ²	= 0.0929 m ²
1 sq yard (yd ²)	= 9 ft ²	= 0.8361 m ²
1 acre	= 4,840 yd ²	= 4,046.9 m ²
1 sq mile (mile ²)	= 640 acres	= 2.590 km ²

Mass (Weight)		
1 ounce (oz)	= 437.5 grains	= 28.35 g
1 pound (lb)	= 16 oz	= 0.4536 kg
1 stone	= 14 lb	= 6.3503 kg
1 hundredweight (cwt)	= 112 lb	= 50.802 kg
1 ton	= 20 cwt	= 1.016 t

Product Specifications - Tolerances

The dimensions and mass of the following hot-rolled structural steel sections currently produced by British Steel – universal beams, universal columns, universal bearing piles, joists, parallel flange channels, structural tees cut from universal beams, structural tees cut from universal columns, as well as length, depth and mass tolerances for taper flange joists are specified in BS4: Part 1:1993.

Rolling tolerances – BS EN 10034: 1993

This European Standard specifies tolerances on shape dimensions and mass of structural steel universal beams and columns. These requirements do not apply to taper flange sections.

Section height (h)

The deviation from nominal on section height measured at the centre line of web thickness shall be within the tolerance given in Table 1(a).

Table 1 (a) Tolerance on height and cross-section

Section height (h) mm	Tolerance mm
Up to and including 180	+3.0 -2.0
Greater than 180 up to and including 400	+4.0 -2.0
Greater than 400 up to and including 700	+5.0 -3.0
Greater than 700	± 5.0

Flange width (b)

The deviation from nominal on flange width shall be within the tolerance given in Table 1(b).

Table 1 (b) Tolerance on flange width

Flange width (b) mm	Tolerance mm
Up to and including 110	+4.0 -1.0
Greater than 110 up to and including 210	+4.0 -2.0
Greater than 210 up to and including 325	± 4.0
Greater than 325	+6.0 -5.0

Product Specifications - Tolerances (continued)

Web thickness (s)

The deviation from nominal on web thickness measured at the mid-point of dimension (h) shall be within the tolerance given in Table 1(c)

Table 1 (c) Tolerances on web thickness

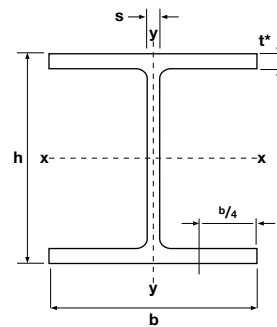
Web thickness (s) mm	Tolerance mm
Less than 7	± 0.7
7 up to but excluding 10	± 1.0
10 up to but excluding 20	± 1.5
20 up to but excluding 40	± 2.0
40 up to but excluding 60	± 2.5
60 and over	± 3.0

Flange thickness (t)

The deviation from nominal on section height measured at the centre line of web thickness shall be within the tolerance given in Table 1(d).

Table 1 (d) Tolerances on flange thickness

Flange thickness (s) mm	Tolerance mm
Less than 6.5	+1.5 / -0.5
6.5 up to but excluding 10	+2.0 / -1.0
10 up to but excluding 20	+2.5 / -1.5
20 up to but excluding 30	+2.5 / -2.0
30 up to but excluding 40	± 2.5
40 up to but excluding 60	± 3.0
60 and over	± 4.0



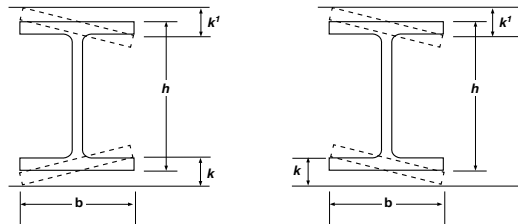
t^* is measured at $b/4$

Out-of-squareness ($k+k'$)

The out-of-squareness of the section shall not exceed the maximum given in Table 2 (a)

Table 2 (a) Tolerance on out-of-squareness of universal beams and columns Section height (h)

Flange width (b) mm	Tolerance mm
Up to and including 110	1.5
Greater than 110	2% of b (maximum 6.5mm)



Web off-centre (e)

The mid-thickness of the web shall not deviate from the mid-width position on the flange by more than the distance (e) given in Table 2(b).

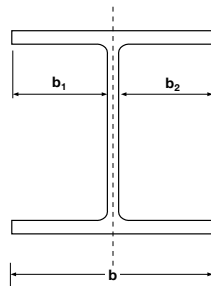


Table 2 (b) Tolerance on web off-centre of universal beams and columns

Flange thickness (t) mm	Flange width (b) mm	Web off-centre where $e = \frac{b_1 - b_2}{2}$ mm
$t < 40$	Up to and including 110	2.5
	Greater than 110 up to and including 325	3.5
$t \geq 40$	Greater than 325	5.0
	Greater than 110 up to and including 325	5.0
	Greater than 325	8.0

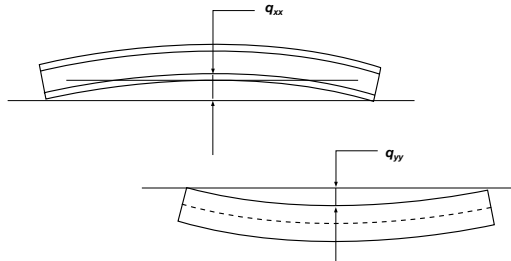
Product Specifications - Tolerances (continued)

Straightness (q_{xx} or q_{yy})

The straightness shall comply with the requirements given in Table 3.

Table 3 Tolerance on straightness of universal beams and columns

Section height (h) mm	Tolerance q_{xx} and q_{yy} on length (L) %
Greater than 80 up to and including 180	0.30 L
Greater than 180 up to and including 360	0.15 L
Greater than 360	0.1 L



Tolerance on mass

The deviation from the nominal mass of a batch or a piece shall not exceed $\pm 4.0\%$.

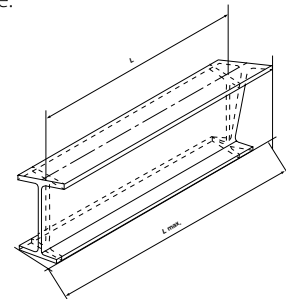
The mass deviation is the difference between the actual mass of the batch or piece and the calculated mass. The calculated mass shall be determined using a density of 7850kg/m^3 .

Tolerance on length

The sections shall be cut to ordered lengths to tolerances of:

- a) $\pm 50\text{mm}$ or
- b) $-0, +100\text{mm}$ where minimum lengths are required.

L represents the longest useable length of the section assuming that the ends of the section have been cut square.



Rolling Tolerances BS EN 10056-2: 1993

This European Standard specifies tolerances on shape dimensions and mass of hot-rolled structural steel equal and unequal leg angles.

Tolerances on shapes and dimensions

Leg length (a or b)

The deviation from nominal on leg length shall be within the tolerance given in Table 1(a). For unequal leg angles the longer leg length (a) shall be used to determine the tolerance band.

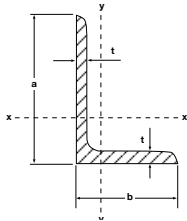
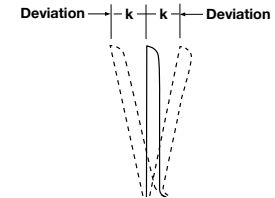


Table 1 (a) Dimensional tolerances

Leg length (a) mm	Tolerance mm
Up to and including 50	± 1.0
Greater than 50 up to and including 100	± 2.0
Greater than 100 up to and including 150	± 3.0
Greater than 150 up to and including 200	± 4.0
Greater than 200	$+ 6.0 / -4.0$

Table 1 (b) Thickness tolerances

Thickness (a) mm	Tolerance mm
Up to and including 5	± 0.50
Greater than 5 up to and including 10	± 0.75
Greater than 10 up to and including 15	± 1.0
Greater than 15	± 1.20



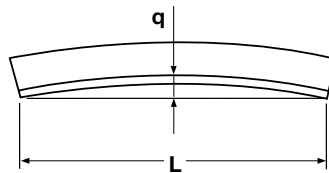
Rolling Tolerances BS EN 10056-2: 1993 (continued)

Out-of-square (k)

Out-of-squareness of the section shall not exceed the maximum given in Table 1(c). For unequal leg angles, the longer leg length (a) shall be used to determine the tolerance band.

Table 1 (c) Squareness tolerances

Leg length (a) mm	Tolerance mm
Up to and including 100	1.0
Greater than 100 up to and including 150	1.5
Greater than 150 up to and including 200	2.0
Greater than 200	3.0



Straightness (q)

The deviation from straightness shall not exceed the tolerances given in Table 1(d). For unequal leg angles, the longer leg length (a) shall be used to determine the tolerance band.

Table 1 (d) Straightness tolerances.

Leg length (a) mm	Tolerances		
	Over full bar length Deviation (q) mm	Over any part bar length Length considered mm	Deviation (q) mm
Up to and including 150	0.4% L	1,500	6.0
Greater than 150 up to and including 200	0.2% L	2,000	3.0
Greater than 200	0.1% L	3,000	3.0

Rolling Tolerances BS EN 10056-2: 1993 (continued)

Tolerance on mass

The deviation from the nominal mass of any individual piece shall not exceed:

- a) $\pm 6\%$ for thickness for $t \leq 4\text{mm}$ or
- b) $\pm 4\%$ for thickness for $t > 4\text{mm}$.

The deviation from the nominal mass is the difference between the actual mass of the piece and the calculated mass. The calculated mass shall be determined using a density of 7850kg/m^3 .

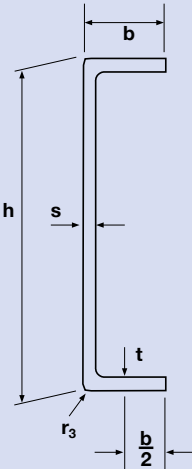
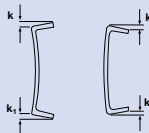
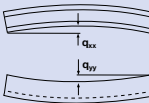
Tolerance on length

The tolerance on ordered length shall be either:

- a) $\pm 50\text{mm}$; or
- b) $-0, +100\text{mm}$ where minimum lengths are required.



Table 1: Tolerances for Parallel Flange Channels

Designation	Property mm	Range mm	Tolerance mm	Designation	Property mm	Range mm	Tolerance mm	
	HEIGHT	$h \leq 65$	± 1.5		OUT OF SQUARENESS	$b \leq 100$	2.0	
	h	$65 < h \leq 200$	± 2.0		$k + k_1$	$100 < b$	2.5% of b	
		$200 < h \leq 400$	± 3.0		WEB FLATNESS	f	$h \leq 100$	± 0.5
		$400 < h$	± 4.0			$100 < h \leq 200$	± 1.0	
						$200 < h \leq 400$	± 1.5	
FLANGE WIDTH	b	$b \leq 50$	± 1.5	$400 < h$	± 1.5			
		$50 < b \leq 100$	± 2.0	STRAIGHTNESS	q_{xx}	$h \leq 150$	$\pm 0.3\%$ of L	
		$100 < b \leq 125$	± 2.5			$150 < h \leq 300$	$\pm 0.2\%$ of L	
		$125 < b$	± 3.0			$300 < h$	$\pm 0.15\%$ of L	
WEB THICKNESS	s	$s \leq 10$	± 0.5		q_{yy}	$h \leq 150$	$\pm 0.5\%$ of L	
		$10 < s \leq 15$	± 0.7			$150 < h \leq 300$	$\pm 0.3\%$ of L	
		$15 < s$	± 1.0			$300 < h$	$\pm 0.2\%$ of L	
FLANGE THICKNESS	t	$t \leq 10$	a -0.5	STANDARD	LENGTH (L)	All	-0 +100	
		$10 < t \leq 15$	a -1.0	ALTERNATIVE STANDARD	LENGTH (L)	All	± 50	
		$15 < t$	a -1.5	MASS PER UNIT LENGTH	Kg/m	$h < 125$	$\pm 6\%$	
HEEL RADIUS	r_3	All Sizes	$\leq 0.3t$			$125 < h$	$\pm 4\%$	

Grades, Properties & Nearest Equivalents

EN 10025: part 2: 2004 Non-alloy structural steels

The table below show the grades, properties and nearest equivalent grades from earlier standards.

Comparison between grades in EN 10025: part 2: 2004 and nearest equivalent versions in EN 10025: 1993 AND BS 4360: 1990. The grade designations are explained on the previous page.

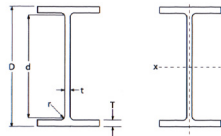
EN 10025: PART 2 : 2004					EN 10025 : 1993	BS 4360 : 1990	Corresponding Former National Designations					
Grade	Yield (Reh) mon	Tenalle (Rm)	Charpy V-notch longitudinal		Grade	Grade	Germany	France	Italy	Belgium	Spain	Sweden
	Strength at t = 16mm (MPa)		Temp (°C)	Energy (J) t = 16mm								
S185	185	290/510	-	-	S185	-	St33	A33	Fe320	A320	AE310-0	13-00-00
¹	235	360-510	-	-	S235	40A	-	-	-	-	-	-
S235JR ²			20	27	S235JR ¹ /G2	40B	St 37-2	E24-2	Fe 360 B	AE235-B	-	13 11-00
S235J0			0	27	S235J0	40C	St 37-3 U	E24-3	Fe 360 C	AE 235-C	AE 235-C	-
S235J2			-20	27	S235J2G3/G4	40D	-	E24-4	Fe 360 D	AE235-D	AE235-D	-
¹	275	410/560	-	-	S275	43A	-	-	-	-	-	-
S275JR ²			20	27	S275JR	43B	St 44-2	E28-2	Fe 430 B	AE 255-B	AE 275-B	14 12-00
S275J0			0	27	S275J0	43C	St 44-3 U	E28-3	Fe 430 C	AE 255-C	AE 275-C	-
S275J2			-20	27	S275J2G3/G4	43D	St 430 D1	E28-4	Fe 430 D	AE 255-C	AE 275-D	14 14-00
¹	355	470/630	-	-	S355	50A	-	-	-	-	-	-
S355JR			20	27	S355JR	50B	St 52-2	E36-2	Fe 510 B	AE 355-B	AE 355-B	-
S355J0			0	27	S355J0	50C	St 52-3 U	E36-3	Fe 510 C	AE 355-2	AE 355-2	-
S355J2			-20	27	S355K2G3/G4	50D	St 52-3 N	-	Fe 510 D	AE 355-D	AE 355-D	-
S355K2			-20	40	S355K2G3/G4	50DD	-	E36-4	-	-	AE 355-DD	-
E295	295	470/610	-	-	E295	-	St 50-2	A50-2	Fe 480	A 490-2	A 490	15 50-00/01
S335	335	570/710	-	-	S335	-	St 60-2	A60-2	Fe 580	A 590-2	A 590	16 50-00/01
E360	360	850/830	-	-	E360	-	St 70-2	A70-2	Fe 650	A 690-2	A 690	16 55-00/01

Universal Beams

Dimensions and properties to BS 4: Part 1: 1993

127 x 76 x 13 - 457 x 191 x 161

*These sections are in addition to the range of BS EN 10365 sections

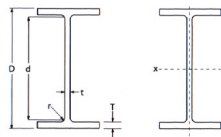


Section Designation	Dimensions														Properties												
	Mass per metre kg/m	Depth of section h mm	Width of section b mm	Thickness		Root radius r mm	Depth between fillets d mm	Ratios for local buckling		Dimensions for detailing			Surface area		Second moment of area		Radius of gyration		Elastic modulus		Plastic modulus		Buckling parameter U	Torsional index X	Warping constant I _w cm ⁴	Torsional constant I _t cm ⁴	Area of section A cm ²
				Web t _w mm	Flange t _f mm			Web c _w /t _w	Flange c _f /t _f	End clearance C mm	Notch		Per metre m ²	Per tonne m ²	Axis y-y cm ⁴	Axis z-z cm ⁴	Axis y-y cm	Axis z-z cm	Axis y-y cm ³	Axis z-z cm ³	Axis y-y cm ³	Axis z-z cm ³					
											N mm	n mm															
127 x 76 x13	13.0	127.0	76.0	4.0	7.6	7.6	96.6	24.2	3.74	4	46	16	0.537	41.3	473	55.7	5.35	1.84	74.6	14.7	84.2	22.6	0.894	16.3	0.00200	2.85	16.5
152 x 89 x16	16.0	152.4	88.7	4.5	7.7	7.6	121.8	27.1	4.48	4	54	16	0.638	39.9	834	89.8	6.41	2.10	109	20.2	123	31.2	0.889	19.5	0.00470	3.56	20.3
178 x 102 x19	19.0	177.8	101.2	4.8	7.9	7.6	146.8	30.6	5.14	4	60	16	0.738	38.8	1360	137	7.48	2.37	153	27	171	41.6	0.886	22.6	0.00990	4.41	24.3
203 x 102 x23	23.1	203.2	101.8	5.4	9.3	7.6	169.4	31.4	4.37	5	60	18	0.790	34.2	2100	164	8.46	2.36	207	32.2	234	49.7	0.888	22.4	0.0154	7.02	29.4
203 x 133 x25	25.1	203.2	133.2	5.7	7.8	7.6	172.4	30.2	7.20	5	74	16	0.915	36.5	2340	308	8.56	3.10	230	46.2	258	70.9	0.877	25.6	0.0294	5.96	32.0
203 x 133 x30	30.0	206.8	133.9	6.4	9.6	7.6	172.4	26.9	5.85	5	74	18	0.923	30.8	2900	385	8.71	3.17	280	57.5	314	88.2	0.881	21.5	0.0374	10.3	38.2
254 x 102 x22	22.0	254.0	101.6	5.7	6.8	7.6	225.2	39.5	5.93	5	58	16	0.890	40.5	2840	119	10.1	2.06	224	23.5	259	37.3	0.856	36.3	0.0182	4.15	28.0
254 x 102 x25	25.2	257.2	101.9	6.0	8.4	7.6	225.2	37.5	4.80	5	58	16	0.897	35.6	3410	149	10.3	2.15	266	29.2	306	46	0.868	31.4	0.0230	6.42	32.0
254 x 102 x28	28.3	260.4	102.2	6.3	10.0	7.6	225.2	35.7	4.04	5	58	18	0.904	31.9	4000	179	10.5	2.22	308	34.9	353	54.8	0.874	27.5	0.0280	9.57	36.1
254 x 146 x31	31.1	251.4	146.1	6.0	8.6	7.6	219.0	36.5	7.26	5	82	18	1.06	34.1	4410	448	10.5	3.36	351	61.3	393	94.1	0.879	29.6	0.0660	8.55	39.7
254 x 146 x37	37.0	256.0	146.4	6.3	10.9	7.6	219.0	34.8	5.73	5	82	20	1.07	28.9	5540	571	10.8	3.48	433	78	483	119	0.889	24.3	0.0857	15.3	47.2
254 x 146 x43	43.0	259.6	147.3	7.2	12.7	7.6	219.0	30.4	4.92	6	82	22	1.08	25.1	6540	677	10.9	3.52	504	92	566	141	0.890	21.1	0.103	23.9	54.8
305 x 102 x25	24.8	305.1	101.6	5.8	7.0	7.6	275.9	47.6	5.76	5	58	16	0.992	40.0	4460	123	11.9	1.97	292	24.2	342	38.8	0.849	43.1	0.0270	4.77	31.6
305 x 102 x28	28.2	308.7	101.8	6.0	8.8	7.6	275.9	46.0	4.58	5	58	18	1.00	35.5	5370	155	12.2	2.08	348	30.5	403	48.4	0.859	37.4	0.0349	7.40	35.9
305 x 102 x33	32.8	312.7	102.4	6.6	10.8	7.6	275.9	41.8	3.73	5	58	20	1.01	30.8	6500	194	12.5	2.15	416	37.9	481	60	0.867	31.6	0.0442	12.2	41.8
305 x 127 x37	37.0	304.4	123.4	7.1	10.7	8.9	265.2	37.4	4.60	6	70	20	1.07	28.9	7170	336	12.3	2.67	471	54.5	539	85.4	0.871	29.7	0.0725	14.8	47.2
305 x 127 x42	41.9	307.2	124.3	8.0	12.1	8.9	265.2	33.2	4.07	6	70	22	1.08	25.8	8200	389	12.4	2.70	534	62.6	614	98.4	0.872	26.5	0.0846	21.1	53.4
305 x 127 x48	48.1	311.0	125.3	9.0	14.0	8.9	265.2	29.5	3.52	7	70	24	1.09	22.7	9570	461	12.5	2.74	616	73.6	711	116	0.873	23.3	0.102	31.8	61.2

305 x 165	x 40	40.3	303.4	165.0	6.0	10.2	8.9	265.2	44.2	6.92	5	90	20	1.24	30.8	8500	764	12.9	3.86	560	92.6	623	142	0.889	31.0	0.164	14.7	51.3
	x 46	46.1	306.6	165.7	6.7	11.8	8.9	265.2	39.6	5.98	5	90	22	1.25	27.1	9900	896	13.0	3.90	646	108	720	166	0.890	27.1	0.195	22.2	58.7
	x 54	54.0	310.4	166.9	7.9	13.7	8.9	265.2	33.6	5.15	6	90	24	1.26	23.3	11700	1060	13.0	3.93	754	127	846	196	0.888	23.6	0.234	34.8	68.8
356 x 127	x 33	33.1	349.0	125.4	6.0	8.5	10.2	311.6	51.9	5.82	5	70	20	1.17	35.3	8250	280	14.0	2.58	473	44.7	543	70.2	0.863	42.1	0.0810	8.79	42.1
	x 39	39.1	353.4	126.0	6.6	10.7	10.2	311.6	47.2	4.63	5	70	22	1.18	30.2	10200	358	14.3	2.68	576	56.8	659	89	0.871	35.2	0.105	15.1	49.8
356 x 171	x 45	45.0	351.4	171.1	7.0	9.7	10.2	311.6	44.5	7.41	6	94	20	1.36	30.2	12100	811	14.5	3.76	687	94.8	775	147	0.874	36.8	0.237	15.8	57.3
	x 51	51.0	355.0	171.5	7.4	11.5	10.2	311.6	42.1	6.25	6	94	22	1.36	26.7	14100	968	14.8	3.86	796	113	896	174	0.880	32.1	0.286	23.8	64.9
	x 57	57.0	358.0	172.2	8.1	13.0	10.2	311.6	38.5	5.53	6	94	24	1.37	24.0	16000	1110	14.9	3.91	896	129	1010	199	0.882	28.8	0.330	33.4	72.6
	x 67	67.1	363.4	173.2	9.1	15.7	10.2	311.6	34.2	4.58	7	94	26	1.38	20.6	19500	1360	15.1	3.99	1070	157	1210	243	0.886	24.4	0.412	55.7	85.5
406 x 140	x 39	39.0	398.0	141.8	6.4	8.6	10.2	360.4	56.3	6.69	5	78	20	1.33	34.1	12500	410	15.9	2.87	629	57.8	724	90.8	0.858	47.4	0.155	10.7	49.7
	x 46	46.0	403.2	142.2	6.8	11.2	10.2	360.4	53.0	5.13	5	78	22	1.34	29.1	15700	538	16.4	3.03	778	75.7	888	118	0.871	39.0	0.207	19.0	58.6
	x 53	53.3	406.6	143.3	7.9	12.9	10.2	360.4	45.6	4.46	6	78	24	1.35	25.3	18300	635	16.4	3.06	899	88.6	1030	139	0.870	34.1	0.246	29.0	67.9
406 x 178	x 54	54.1	402.6	177.7	7.7	10.9	10.2	360.4	46.8	6.86	6	96	22	1.48	27.4	18700	1020	16.5	3.85	930	115	1050	178	0.869	38.3	0.392	23.1	69.0
	x 60	60.1	406.4	177.9	7.9	12.8	10.2	360.4	45.6	5.84	6	96	24	1.49	24.8	21600	1200	16.8	3.97	1060	135	1200	209	0.880	33.8	0.466	33.3	76.5
	x 67	67.1	409.4	178.8	8.8	14.3	10.2	360.4	41.0	5.23	6	96	26	1.50	22.4	24300	1360	16.9	3.99	1190	153	1350	237	0.880	30.5	0.533	46.1	85.5
	x 74	74.2	412.8	179.5	9.5	16.0	10.2	360.4	37.9	4.68	7	96	28	1.51	20.4	27300	1550	17.0	4.04	1320	172	1500	267	0.882	27.5	0.608	62.8	94.5
	x 85	85.3	417.2	181.9	10.9	18.2	10.2	360.4	33.1	4.14	7	96	30	1.52	17.8	31700	1830	17.1	4.11	1520	201	1730	313	0.879	24.4	0.728	93.0	109
457 x 152	x 52	52.3	449.8	152.4	7.6	10.9	10.2	407.6	53.6	5.71	6	84	22	1.48	28.3	21400	645	17.9	3.11	950	84.6	1100	133	0.861	43.8	0.311	21.4	66.6
	x 60	59.8	454.6	152.9	8.1	13.3	10.2	407.6	50.3	4.68	6	84	24	1.49	24.9	25500	795	18.3	3.23	1120	104	1290	163	0.869	37.5	0.387	33.8	76.2
	x 67	67.2	458.0	153.8	9.0	15.0	10.2	407.6	45.3	4.15	7	84	26	1.50	22.3	28900	913	18.4	3.27	1260	119	1450	187	0.867	33.6	0.448	47.7	85.6
	x 74	74.2	462.0	154.4	9.6	17.0	10.2	407.6	42.5	3.66	7	84	28	1.50	20.2	32700	1050	18.6	3.33	1410	136	1630	213	0.874	30.1	0.518	65.9	94.5
	x 82	82.1	465.8	155.3	10.5	18.9	10.2	407.6	38.8	3.29	7	84	30	1.51	18.4	36600	1180	18.7	3.37	1570	153	1810	240	0.870	27.5	0.591	89.2	105
457 x 191	x 67	67.1	453.4	189.9	8.5	12.7	10.2	407.6	48.0	6.34	6	102	24	1.63	24.3	29400	1450	18.5	4.12	1300	153	1470	237	0.872	37.9	0.705	37.1	85.5
	x 74	74.3	457.0	190.4	9.0	14.5	10.2	407.6	45.3	5.55	7	102	26	1.64	22.1	33300	1670	18.8	4.20	1460	176	1650	272	0.876	33.8	0.818	51.8	94.6
	x 82	82.0	460.0	191.3	9.9	16.0	10.2	407.6	41.2	5.03	7	102	28	1.65	20.1	37100	1870	18.8	4.23	1610	196	1830	304	0.879	30.8	0.922	69.2	104
	x 89	89.3	463.4	191.9	10.5	17.7	10.2	407.6	38.8	4.55	7	102	28	1.66	18.6	41000	2090	19.0	4.29	1770	218	2010	338	0.877	28.3	1.04	90.7	114
	x 98	98.3	467.2	192.8	11.4	19.6	10.2	407.6	35.8	4.11	8	102	30	1.67	17.0	45700	2350	19.1	4.33	1960	243	2230	379	0.881	25.8	1.18	121	125
	x 106	105.8	469.2	194.0	12.6	20.6	10.2	407.6	32.3	3.91	8	102	32	1.67	15.8	48900	2510	19.0	4.32	2080	259	2390	405	0.876	24.5	1.27	146	135
	x 133	133.3	480.6	196.7	15.3	26.3	10.2	407.6	26.6	3.06	10	102	38	1.70	12.8	63800	3350	19.4	4.44	2660	341	3070	535	0.880	19.6	1.73	292	170
x 161	161.4	492.0	199.4	18.0	32.0	10.2	407.6	22.6	2.52	11	102	44	1.73	10.7	79800	4250	19.7	4.55	3240	426	3780	672	0.881	16.5	2.25	515	206	

Universal Beams (continued)

Dimensions and properties to BS 4: Part 1: 1993



533 x 165 x 66 - 1016 x 305 x 438

* These sections are in addition to the range of BS EN 10365 sections

533 x 165	x 66	65.7	524.7	165.1	8.9	11.4	12.7	476.5	53.5	5.74	6	90	26	1.67	25.4	35000	859	20.5	3.20	1340	104	1560	166	0.847	47.0	0.566	32.0	83.7
	x 75	74.7	529.1	165.9	9.7	13.6	12.7	476.5	49.1	4.81	7	90	28	1.68	22.5	41100	1040	20.8	3.30	1550	125	1810	200	0.853	41.1	0.691	47.9	95.2
	x 85	84.8	534.9	166.5	10.3	16.5	12.7	476.5	46.3	3.96	7	90	30	1.69	19.9	48500	1270	21.2	3.44	1820	153	2100	243	0.859	35.5	0.857	73.8	108
533 x 210	x 82	82.2	528.3	208.8	9.6	13.2	12.7	476.5	49.6	6.58	7	110	26	1.85	22.5	47500	2010	21.3	4.38	1800	192	2060	300	0.864	41.5	1.33	51.5	105
	x 92	92.1	533.1	209.3	10.1	15.6	12.7	476.5	47.2	5.57	7	110	30	1.86	20.2	55200	2390	21.7	4.51	2070	228	2360	355	0.873	36.4	1.60	75.7	117
	x 101	101.0	536.7	210.0	10.8	17.4	12.7	476.5	44.1	4.99	7	110	32	1.87	18.5	61500	2690	21.9	4.57	2290	256	2610	399	0.873	33.2	1.81	101	129
	x 109	109.0	539.5	210.8	11.6	18.8	12.7	476.5	41.1	4.62	8	110	32	1.88	17.2	66800	2940	21.9	4.60	2480	279	2830	436	0.875	30.9	1.99	126	139
	x 122	122.0	544.5	211.9	12.7	21.3	12.7	476.5	37.5	4.08	8	110	34	1.89	15.5	76000	3390	22.1	4.67	2790	320	3200	500	0.878	27.6	2.32	178	155
x 138	138.3	549.1	213.9	14.7	23.6	12.7	476.5	32.4	3.68	9	110	38	1.90	13.7	86100	3860	22.1	4.68	3140	361	3610	568	0.873	25.0	2.67	250	176	
533 x 312	x 151	150.6	542.5	312.0	12.7	20.3	12.7	476.5	37.5	6.75	8	160	34	2.29	15.2	101000	10300	22.9	7.32	3710	659	4150	1010	0.886	27.8	7.01	216	192
	x 182	181.5	550.7	314.5	15.2	24.4	12.7	476.5	31.3	5.61	10	160	38	2.31	12.7	123000	12700	23.1	7.40	4480	806	5040	1240	0.887	23.4	8.77	373	231
	x 219	218.8	560.3	317.4	18.3	29.2	12.7	476.5	26.0	4.69	11	160	42	2.33	10.6	151000	15600	23.3	7.48	5400	982	6120	1510	0.884	19.8	11.0	642	279
	x 273	273.3	577.1	320.2	21.1	37.6	12.7	476.5	22.6	3.64	13	160	52	2.37	8.67	199000	20600	23.9	7.69	6890	1290	7870	1990	0.891	15.9	15.0	1290	348
610 x 178	x 82	81.8	598.6	177.9	10.0	12.8	12.7	547.6	54.8	5.57	7	94	26	1.87	22.9	55900	1210	23.2	3.40	1870	136	2190	218	0.843	48.4	1.04	48.8	104
	x 92	92.2	603.0	178.8	10.9	15.0	12.7	547.6	50.2	4.75	7	94	28	1.88	20.4	64600	1440	23.4	3.50	2140	161	2510	258	0.850	42.6	1.24	71.0	117
	x 100	100.3	607.4	179.2	11.3	17.2	12.7	547.6	48.5	4.14	8	94	30	1.89	18.8	72500	1660	23.8	3.60	2390	185	2790	296	0.855	38.7	1.44	95.0	128
610 x 229	x 101	101.2	602.6	227.6	10.5	14.8	12.7	547.6	52.2	6.48	7	120	28	2.07	20.5	75800	2910	24.2	4.75	2520	256	2880	400	0.863	43.1	2.52	77.0	129
	x 113	113.0	607.6	228.2	11.1	17.3	12.7	547.6	49.3	5.54	8	120	30	2.08	18.4	87300	3430	24.6	4.88	2870	301	3280	469	0.870	38.0	2.99	111	144
	x 125	125.1	612.2	229.0	11.9	19.6	12.7	547.6	46.0	4.89	8	120	34	2.09	16.7	98600	3930	24.9	4.97	3220	343	3680	535	0.875	34.1	3.45	154	159
	x 140	139.9	617.2	230.2	13.1	22.1	12.7	547.6	41.8	4.34	9	120	36	2.11	15.1	112000	4510	25.0	5.03	3620	391	4140	611	0.875	30.5	3.99	216	178
610 x 305	x 149	149.2	612.4	304.8	11.8	19.7	16.5	540.0	45.8	6.60	8	158	38	2.39	16.0	126000	9310	25.7	7.00	4110	611	4590	937	0.886	32.7	8.17	200	190
	x 179	179.0	620.2	307.1	14.1	23.6	16.5	540.0	38.3	5.51	9	158	42	2.41	13.5	153000	11400	25.9	7.07	4930	743	5550	1140	0.885	27.7	10.2	340	228
	x 238	238.1	635.8	311.4	18.4	31.4	16.5	540.0	29.3	4.14	11	158	48	2.45	10.3	209000	15800	26.3	7.23	6590	1020	7490	1570	0.886	21.3	14.5	785	303

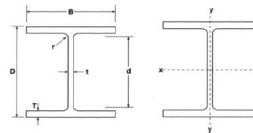
686 x 254	x 125	125.2	677.9	253.0	11.7	16.2	15.2	615.1	52.6	6.51	8	132	32	2.32	18.5	118000	4380	27.2	5.24	3480	346	3990	542	0.862	43.8	4.80	116	159
	x 140	140.1	683.5	253.7	12.4	19.0	15.2	615.1	49.6	5.55	8	132	36	2.33	16.6	136000	5180	27.6	5.39	3990	409	4560	638	0.870	38.6	5.72	169	178
	x 152	152.4	687.5	254.5	13.2	21.0	15.2	615.1	46.6	5.02	9	132	38	2.34	15.4	150000	5780	27.8	5.46	4370	455	5000	710	0.871	35.4	6.42	220	194
	x 170	170.2	692.9	255.8	14.5	23.7	15.2	615.1	42.4	4.45	9	132	40	2.35	13.8	170000	6630	28.0	5.53	4920	518	5630	811	0.872	31.8	7.42	308	217
762 x 267	x 134	133.9	750.0	264.4	12.0	15.5	16.5	686.0	57.2	7.08	8	138	32	2.51	18.7	151000	4790	29.7	5.30	4020	362	4640	570	0.853	49.8	6.46	119	171
	x 147	146.9	754.0	265.2	12.8	17.5	16.5	686.0	53.6	6.27	8	138	34	2.51	17.1	169000	5460	30.0	5.40	4470	411	5160	647	0.859	45.2	7.40	159	187
	x 173	173.0	762.2	266.7	14.3	21.6	16.5	686.0	48.0	5.08	9	138	40	2.53	14.6	205000	6850	30.5	5.58	5390	514	6200	807	0.865	38.0	9.39	267	220
	x 197	196.8	769.8	268.0	15.6	25.4	16.5	686.0	44.0	4.32	10	138	42	2.55	13.0	240000	8170	30.9	5.71	6230	610	7170	958	0.869	33.2	11.3	404	251
838 x 292	x 176	175.9	834.9	291.7	14.0	18.8	17.8	761.7	54.4	6.44	9	150	38	2.78	15.8	246000	7800	33.1	5.90	5890	535	6810	842	0.856	46.5	13.0	221	224
	x 194	193.8	840.7	292.4	14.7	21.7	17.8	761.7	51.8	5.58	9	150	40	2.79	14.4	279000	9070	33.6	6.06	6640	620	7640	974	0.862	41.6	15.2	306	247
	x 226	226.5	850.9	293.8	16.1	26.8	17.8	761.7	47.3	4.52	10	150	46	2.81	12.4	340000	11400	34.3	6.27	7980	773	9160	1210	0.870	34.9	19.3	514	289
914 x 305	x 201	200.9	903.0	303.3	15.1	20.2	19.1	824.4	54.6	6.19	10	156	40	2.96	14.7	325000	9420	35.7	6.07	7200	621	8350	982	0.853	46.9	18.4	291	256
	x 224	224.2	910.4	304.1	15.9	23.9	19.1	824.4	51.8	5.23	10	156	44	2.97	13.2	376000	11200	36.3	6.27	8270	739	9530	1160	0.860	41.4	22.1	422	286
	x 253	253.4	918.4	305.5	17.3	27.9	19.1	824.4	47.7	4.48	11	156	48	2.99	11.8	436000	13300	36.8	6.42	9500	871	10900	1370	0.864	36.2	26.4	626	323
	x 289	289.1	926.6	307.7	19.5	32.0	19.1	824.4	42.3	3.91	12	156	52	3.01	10.4	504000	15600	37.0	6.51	10900	1010	12600	1600	0.868	31.9	31.2	926	368
914 x 419	x 343	343.3	911.8	418.5	19.4	32.0	24.1	799.6	41.2	5.48	12	210	58	3.42	9.96	626000	39200	37.8	9.46	13700	1870	15500	2890	0.884	30.1	75.8	1190	437
	x 388	388.0	921.0	420.5	21.4	36.6	24.1	799.6	37.4	4.79	13	210	62	3.44	8.87	720000	45400	38.2	9.59	15600	2160	17700	3340	0.885	26.7	88.9	1730	494
1016 x 305	x 222	222.0	970.3	300.0	16.0	21.1	30.0	868.1	54.3	5.31	10	152	52	3.06	13.8	408000	9550	38.0	5.81	8410	636	9810	1020	0.850	45.7	21.5	390	283
	x 249	248.7	980.1	300.0	16.5	26.0	30.0	868.1	52.6	4.30	10	152	56	3.08	12.4	481000	11800	39.0	6.09	9820	784	11300	1240	0.860	39.8	26.8	582	317
	x 272	272.3	990.1	300.0	16.5	31.0	30.0	868.1	52.6	3.60	10	152	62	3.10	11.4	554000	14000	40.0	6.35	11200	934	12800	1470	0.871	35.0	32.2	835	347
	x 314	314.3	999.9	300.0	19.1	35.9	30.0	868.1	45.5	3.08	12	152	66	3.11	9.90	644000	16200	40.1	6.37	12900	1080	14800	1710	0.870	30.7	37.7	1260	400
	x 350	350.0	1008.0	302.0	21.1	40.0	30.0	868.1	41.1	2.76	13	152	70	3.13	8.94	723000	18500	40.3	6.44	14300	1220	16600	1940	0.872	27.8	43.3	1720	445
	x 393	392.7	1015.9	303.0	24.4	43.9	30.0	868.1	35.6	2.49	14	150	74	3.14	8.00	808000	20500	40.2	6.40	15900	1350	18500	2170	0.867	25.5	48.4	2330	500
	x 438	438.0	1026.0	305.0	26.9	49.0	30.0	868.1	32.3	2.23	15	150	80	3.17	7.24	910000	23400	40.4	6.49	17700	1540	20800	2470	0.869	23.1	56.0	3190	556

Universal Columns

Dimensions and properties to BS 4: Part 1: 1993

152 x 152 x 23 - 356 x 406 x 634

* These sections are in addition to the range of BS EN 10365 sections



Section Designation	Dimensions														Properties													
	Mass per metre kg/m	Depth of section h mm	Width of section b mm	Thickness		Root radius r mm	Depth between fillets d mm	Ratios for local buckling		Dimensions for detailing			Surface area		Second moment of area		Radius of gyration		Elastic modulus		Plastic modulus		Buckling parameter U	Torsional index X	Warping constant I _w cm ⁴	Torsional constant I _T cm ⁴	Area of section A cm ²	
				Web t _w mm	Flange t _f mm			Web c _w /t _w	Flange c _f /t _f	End clearance C mm	Notch		Per metre m ²	Per tonne m ²	Axis y-y cm ⁴	Axis z-z cm ⁴	Axis y-y cm	Axis z-z cm	Axis y-y cm ³	Axis z-z cm ³	Axis y-y cm ³	Axis z-z cm ³						
											N mm	n mm																
152 x 152	x 23	23.0	152.4	152.2	5.8	6.8	7.6	123.6	21.3	9.65	5	84	16	0.889	38.7	1250	400	6.54	3.70	164	52.6	182	80.1	0.842	20.6	0.0210	4.63	29.2
	x 30	30.0	157.6	152.9	6.5	9.4	7.6	123.6	19.0	6.98	5	84	18	0.901	30.0	1750	560	6.76	3.83	222	73.3	248	112	0.847	16.1	0.0310	10.5	38.3
	x 37	37.0	161.8	154.4	8.0	11.5	7.6	123.6	15.5	5.70	6	84	20	0.912	24.6	2210	706	6.85	3.87	273	91.5	309	140	0.848	13.3	0.0400	19.2	47.1
	x 44	44.0	166.0	155.9	9.5	13.6	7.6	123.6	13.0	4.82	7	84	22	0.924	21.0	2700	860	6.94	3.92	326	110	372	169	0.847	11.5	0.0500	31.7	56.1
	x 51	51.2	170.2	157.4	11.0	15.7	7.6	123.6	11.2	4.18	8	84	24	0.935	18.3	3230	1020	7.04	3.96	379	130	438	199	0.848	10.1	0.0610	48.8	65.2
203 x 203	x 46	46.1	203.2	203.6	7.2	11.0	10.2	160.8	22.3	8.00	6	110	22	1.19	25.8	4570	1550	8.82	5.13	450	152	497	231	0.847	17.7	0.143	22.2	58.7
	x 52	52.0	206.2	204.3	7.9	12.5	10.2	160.8	20.4	7.04	6	110	24	1.20	23.1	5260	1780	8.91	5.18	510	174	567	264	0.847	15.8	0.167	31.8	66.3
	x 60	60.0	209.6	205.8	9.4	14.2	10.2	160.8	17.1	6.20	7	110	26	1.21	20.2	6120	2060	8.96	5.20	584	201	656	305	0.846	14.1	0.197	47.2	76.4
	x 71	71.0	215.8	206.4	10.0	17.3	10.2	160.8	16.1	5.09	7	110	28	1.22	17.2	7620	2540	9.18	5.30	706	246	799	374	0.853	11.9	0.250	80.2	90.4
	x 86	86.1	222.2	209.1	12.7	20.5	10.2	160.8	12.7	4.29	8	110	32	1.24	14.4	9450	3130	9.28	5.34	850	299	977	456	0.849	10.2	0.318	137	110
	x 100	99.6	228.6	210.3	14.5	23.7	10.2	160.8	11.1	3.70	9	108	34	1.25	12.6	11300	3680	9.44	5.39	988	350	1150	534	0.852	9.01	0.386	210	127
	x 113	113.5	235.0	212.1	16.3	26.9	10.2	160.8	9.87	3.26	10	108	38	1.27	11.2	13300	4290	9.59	5.45	1130	404	1330	618	0.852	8.11	0.464	305	145
x 127	127.5	241.4	213.9	18.1	30.1	10.2	160.8	8.88	2.91	11	108	42	1.28	10.0	15400	4920	9.75	5.50	1280	460	1520	704	0.856	7.36	0.549	427	162	
254 x 254	x 73	73.1	254.1	254.6	8.6	14.2	12.7	200.3	23.3	7.77	6	134	28	1.49	20.4	11400	3910	11.1	6.48	898	307	992	465	0.849	17.2	0.562	57.6	93.1
	x 89	88.9	260.3	256.3	10.3	17.3	12.7	200.3	19.4	6.38	7	134	30	1.50	16.9	14300	4860	11.2	6.55	1100	379	1220	575	0.850	14.5	0.717	102	113
	x 107	107.1	266.7	258.8	12.8	20.5	12.7	200.3	15.6	5.38	8	134	34	1.52	14.2	17500	5930	11.3	6.59	1310	458	1480	697	0.848	12.4	0.898	172	136
	x 132	132.0	276.3	261.3	15.3	25.3	12.7	200.3	13.1	4.36	10	134	38	1.55	11.7	22500	7530	11.6	6.69	1630	576	1870	878	0.850	10.3	1.19	319	168

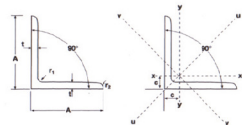
	x 167	167.1	289.1	265.2	19.2	31.7	12.7	200.3	10.4	3.48	12	134	46	1.58	9.46	30000	9870	11.9	6.81	2080	744	2420	1140	0.851	8.48	1.63	626	213
305 x 305	x 97	96.9	307.9	305.3	9.9	15.4	15.2	246.7	24.9	8.60	7	158	32	1.79	18.5	22200	7310	13.4	7.69	1450	479	1590	726	0.851	19.2	1.56	91.2	123
	x 118	117.9	314.5	307.4	12.0	18.7	15.2	246.7	20.6	7.09	8	158	34	1.81	15.4	27700	9060	13.6	7.77	1760	589	1960	895	0.852	16.1	1.98	161	150
	x 137	136.9	320.5	309.2	13.8	21.7	15.2	246.7	17.9	6.11	9	158	38	1.82	13.3	32800	10700	13.7	7.83	2050	692	2300	1050	0.852	14.1	2.39	249	174
	x 158	158.1	327.1	311.2	15.8	25.0	15.2	246.7	15.6	5.30	10	158	42	1.84	11.6	38700	12600	13.9	7.90	2370	808	2680	1230	0.852	12.4	2.87	378	201
	x 198	198.1	339.9	314.5	19.1	31.4	15.2	246.7	12.9	4.22	12	158	48	1.87	9.44	50900	16300	14.2	8.04	3000	1040	3440	1580	0.854	10.2	3.88	734	252
	x 240	240.0	352.5	318.4	23.0	37.7	15.2	246.7	10.7	3.51	14	158	54	1.91	7.96	64200	20300	14.5	8.15	3640	1280	4250	1950	0.854	8.74	5.03	1270	306
	x 283	282.9	365.3	322.2	26.8	44.1	15.2	246.7	9.21	3.00	15	158	60	1.94	6.86	78900	24600	14.8	8.27	4320	1530	5110	2340	0.856	7.65	6.35	2030	360
356 x 368	x 129	129.0	355.6	368.6	10.4	17.5	15.2	290.2	27.9	9.37	7	190	34	2.14	16.6	40200	14600	15.6	9.43	2260	793	2480	1200	0.845	19.8	4.18	153	164
	x 153	152.9	362.0	370.5	12.3	20.7	15.2	290.2	23.6	7.92	8	190	36	2.16	14.1	48600	17600	15.8	9.49	2680	948	2960	1430	0.843	17.0	5.11	251	195
	x 177	177.0	368.2	372.6	14.4	23.8	15.2	290.2	20.2	6.89	9	190	40	2.17	12.3	57100	20500	15.9	9.54	3100	1100	3460	1670	0.843	15.0	6.09	381	226
	x 202	201.9	374.6	374.7	16.5	27.0	15.2	290.2	17.6	6.07	10	190	44	2.19	10.8	66300	23700	16.1	9.60	3540	1260	3970	1920	0.844	13.3	7.16	558	257
356 x 406	x 235	235.1	381.0	394.8	18.4	30.2	15.2	290.2	15.8	5.73	11	200	46	2.28	9.70	79100	31000	16.3	10.2	4150	1570	4690	2380	0.835	12.0	9.54	812	299
	x 287	287.1	393.6	399.0	22.6	36.5	15.2	290.2	12.8	4.74	13	200	52	2.31	8.05	99900	38700	16.5	10.3	5070	1940	5810	2950	0.835	10.2	12.3	1440	366
	x 340	339.9	406.4	403.0	26.6	42.9	15.2	290.2	10.9	4.03	15	200	60	2.35	6.91	123000	46900	16.8	10.4	6030	2330	7000	3540	0.836	8.85	15.5	2340	433
	x 393	393.0	419.0	407.0	30.6	49.2	15.2	290.2	9.48	3.52	17	200	66	2.38	6.06	147000	55400	17.1	10.5	7000	2720	8220	4150	0.837	7.85	18.9	3550	501
	x 467	467.0	436.6	412.2	35.8	58.0	15.2	290.2	8.11	2.98	20	200	74	2.42	5.18	183000	67800	17.5	10.7	8380	3290	10000	5030	0.839	6.85	24.3	5810	595
	x 551	551.0	455.6	418.5	42.1	67.5	15.2	290.2	6.89	2.56	23	200	84	2.48	4.49	227000	82700	18.0	10.9	9960	3950	12100	6060	0.842	6.05	31.1	9240	702
	x 634	633.9	474.6	424.0	47.6	77.0	15.2	290.2	6.10	2.25	26	200	94	2.52	3.98	275000	98100	18.4	11.0	11600	4630	14200	7110	0.842	5.46	38.8	13700	808

Equal Angles

Dimensions and properties to BS EN 10056 - 1: 1993

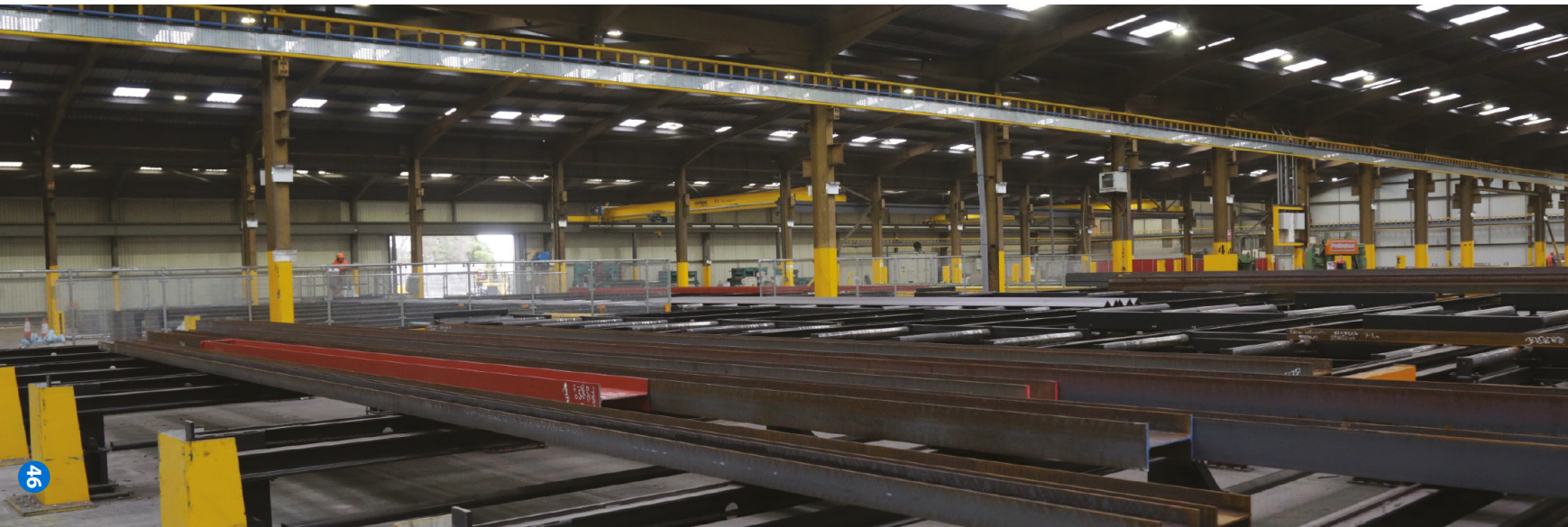
90 x 90 x 6 - 200 x 200 x 24

*These sizes are in addition to our standard range to BS EN 10056-1: 1999 Specification



Designation Serial Size A x A x t mm x mm x mm	Mass per metre kg/m	Root Radius r1 mm	Toe Radius r2 m	Area of Section cm ²	Distance of centre of gravity C cm	Second Moment of Area			Radius of Gyration			Elastic Modulus axis x-x, y-y cm ³ m ³	Torsional Constant J cm ⁴	Equivalent Slenderness Coefficient ϕa	
						Axis x-x, y-y cm ⁴	Axis u-u cm ⁴	Axis v-v cm ⁴	Axis x-x, y-y cm ⁴	Axis u-u cm ⁴	Axis v-v cm ⁴				
90 x 90	x 6	9.60	11.00	5.50	12.20	2.45	92.60	147.00	38.30	2.75	3.46	1.77	14.10	2.24	2.80
	x 8	10.90	11.00	5.50	13.90	2.50	104.00	166.00	43.10	2.74	3.45	1.76	16.10	3.28	3.33
	x 10	13.40	11.00	5.50	17.10	2.58	127.00	201.00	52.60	2.72	3.42	1.75	19.80	6.20	2.64
	x 12	15.90	11.00	5.50	20.30	2.66	148.00	234.00	61.70	2.70	3.40	1.74	23.40	10.46	2.17
100 x 100	x 10	15.00	12.00	6.00	19.20	2.82	177.00	280.00	73.00	3.04	3.83	1.95	24.60	6.97	2.94
	x 12	17.80	12.00	6.00	22.70	2.90	207.00	328.00	85.70	3.02	3.80	1.94	29.10	11.80	2.44
	x 15	21.90	12.00	6.00	27.90	3.02	249.00	393.00	105.00	2.98	3.76	1.93	35.60	22.30	1.92
120 x 120	x 8	14.70	13.00	6.50	18.70	3.23	255.00	405.00	104.00	3.69	5.00	2.37	29.10	4.44	4.56
	x 10	18.20	13.00	6.50	23.20	3.31	313.00	497.00	129.00	3.67	4.65	2.36	36.00	8.41	3.61
	x 12	21.60	13.00	6.50	27.50	3.40	368.00	584.00	152.00	3.65	4.60	2.35	42.70	14.20	2.99
	x 15	26.60	13.00	6.50	33.90	3.51	445.00	705.00	186.00	3.62	4.57	2.33	52.40	27.00	2.37
150 x 150	x 10	23.00	16.00	8.00	29.30	4.03	624.00	990.00	258.00	4.62	5.82	2.97	56.90	10.80	4.51
	x 12	27.30	16.00	8.00	34.80	4.12	737.00	1170.00	303.00	4.60	5.80	2.95	67.80	18.20	3.77
	x 15	33.80	16.00	8.00	43.00	4.25	898.00	1430.00	370.00	4.57	5.76	2.93	83.50	34.60	3.01
	x 18	40.10	16.00	8.00	51.00	4.37	1050.00	1670.00	435.00	4.54	5.71	2.92	98.80	58.60	2.48
200 x 200	x 16	48.50	18.00	9.00	61.80	5.52	2340.00	3720.00	960.00	6.16	7.76	3.94	162.00	56.10	3.85

x 18	54.20	18.00	9.00	69.10	5.60	2600.00	4150.00	1050.00	6.13	7.75	3.90	181.00	78.90	3.43
x 20	59.90	18.00	9.00	76.30	5.68	2851.00	4530.00	1170.00	6.11	7.70	3.92	199.00	107.00	3.05
x 24	71.10	18.00	9.00	90.60	5.84	3331.00	5280.00	1380.00	6.06	7.64	3.90	235.00	182.00	2.50

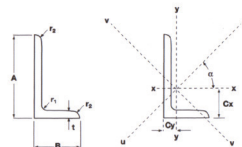


Unequal Angles

Dimensions and properties to BS EN 10056 - 1: 1999

100 x 65 x 7 - 200 x 150 x 18

*These sizes are in addition to our standard range to BS EN 10056-1: 1999 Specification



Designation Serial Size	Mass per metre kg/m	Root Radius r1 mm	Toe Radius r2 mm	Area of Section cm ²	Distance of centre of gravity		Second Moment of Area				Radius of Gyration				Elastic Modulus		Angle Axis x-x to Axis y-y Tan α	Torsional Constant J cm ⁴	Equivalent Slenderless Coefficient		Mono Symmetry Index Ψ α	
					Cx cm	Cy cm	Axis x-x cm ⁴	Axis y-y cm ⁴	Axis u-u cm ⁴	Axis v-v cm ⁴	Axis x-x cm ⁴	Axis y-y cm ⁴	Axis u-u cm ⁴	Axis v-v cm ⁴	Axis x-x Cx cm ³	Axis y-y Cy cm ³			Min. φ α	Max. φ α		
																						Min. φ α
100 x 65 x 7	8.80	10.00	5.00	11.20	3.23	1.51	113.00	37.60	128.00	22.00	3.17	1.83	3.39	1.40	16.60	7.53	0.42	2.02	3.58	5.00	7.85	
	x 8	9.90	10.00	5.00	12.70	3.27	1.55	127.00	42.20	144.00	24.80	3.16	1.83	3.37	1.40	18.90	8.54	0.41	2.96	3.14	4.35	6.86
	x 10	12.30	10.00	5.00	15.60	3.36	1.63	154.00	51.00	175.00	30.10	3.14	1.81	3.35	1.39	23.20	10.50	0.41	5.61	2.62	3.43	5.45
100 x 75 x 8	10.60	10.00	5.00	13.50	3.10	1.87	133.00	64.10	162.00	34.60	3.14	2.18	3.47	1.60	19.30	11.40	0.55	3.13	3.18	4.08	5.24	
	x 10	13.00	10.00	5.00	16.60	3.19	1.95	162.00	77.60	197.00	42.20	3.12	2.16	3.45	1.59	23.80	14.00	0.54	5.95	2.54	3.22	4.17
	x 12	15.40	10.00	5.00	19.70	3.27	2.03	189.00	90.20	230.00	49.50	3.10	2.14	3.42	1.59	28.00	16.50	0.54	10.05	2.10	2.64	3.46
125 x 75 x 8	12.20	11.00	5.50	15.50	4.15	1.68	247.00	67.60	274.00	40.90	4.00	2.09	4.21	1.63	29.60	11.60	0.36	3.62	4.00	5.75	9.43	
	x 10	15.00	11.00	5.50	19.10	4.23	1.75	302.00	82.10	334.00	49.90	3.97	2.07	4.18	1.61	36.50	14.30	0.36	6.87	3.21	4.55	7.50
	x 12	17.80	11.00	5.50	22.70	4.31	1.84	354.00	95.50	391.00	58.50	3.95	2.05	4.15	1.61	43.20	16.90	0.35	11.60	2.66	3.73	6.23
150 x 75 x 10	17.00	12.00	6.00	21.70	5.31	1.61	501.00	85.40	531.00	55.10	4.81	1.99	4.95	1.60	51.70	14.50	0.26	7.80	3.95	5.83	10.40	
	x 12	20.20	12.00	6.00	25.70	5.40	1.69	589.00	99.60	623.00	64.70	4.78	1.97	4.92	1.59	61.30	17.10	0.26	13.20	3.30	4.79	8.60
	x 15	24.80	12.00	6.00	31.70	5.52	1.81	713.00	119.00	753.00	78.60	4.75	1.94	4.88	1.58	75.20	21.00	0.25	25.10	2.62	3.74	6.84
150 x 90 x 10	18.20	12.00	6.00	23.20	5.00	2.04	533.00	146.00	591.00	88.30	4.80	2.51	5.05	1.95	53.30	21.00	0.36	8.30	3.89	5.56	9.03	
	x 12	21.60	12.00	6.00	27.50	5.08	2.12	627.00	171.00	694.00	104.00	4.78	2.49	5.02	1.94	63.30	24.80	0.36	14.10	3.24	4.58	7.50
	x 15	26.60	12.00	6.00	26.60	5.21	2.23	761.00	205.00	841.00	126.00	4.74	2.46	4.98	1.93	77.70	30.40	0.35	26.80	2.58	3.59	5.96

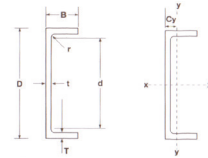
200 x 100	x 10	23.00	15.00	7.50	29.20	6.93	2.01	1219.00	210.00	1290.00	135.00	6.46	2.68	6.65	2.15	93.30	26.30	0.26	10.66	5.26	7.92	13.90
	x 12	27.30	15.00	7.50	34.80	7.03	2.10	1441.00	247.00	1530.00	159.00	6.43	2.67	6.63	2.14	111.00	31.30	0.26	18.00	4.42	6.57	11.50
	x 15	33.70	15.00	7.50	43.00	7.16	2.22	1759.00	299.00	1860.00	193.00	6.40	2.64	6.59	2.12	137.00	38.40	0.26	34.30	3.54	5.17	9.19
200 x 150	x 12	32.00	15.00	7.50	40.80	6.08	3.61	1653.00	803.00	2030.00	430.00	6.36	4.44	7.04	3.25	119.00	70.50	0.55	20.90	4.43	5.70	6.97
	x 15	39.60	15.00	7.50	50.50	6.21	3.73	2023.00	979.00	2480.00	526.00	6.33	4.40	7.00	3.23	119.00	86.90	0.55	39.90	3.53	4.50	5.55
	x 18	47.10	15.00	7.50	60.00	6.33	3.85	2376.00	1146.00	2904.00 618.00	618.00	6.29	4.37	6.97	3.22	174.00	103.00	0.55	67.90	2.93	3.72	4.60



Parallel Flange Channels

Dimensions and properties to BS 4: Part 1: 1993

100 x 50 x 10 - 430 x 100 x 64



Designation Serial Size	Mass per metre kg/m	Depth of Section D mm	Width of Section B mm	Thickness of Web t mm	Thickness of Flange T mm	Distance of Cy cm	Root Radius r mm	Depth between fillets d mm	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter u	Torsional Index x	Warping Constant H dm ⁴	Torsional Constant J cm ⁴	Area of Section cm ²
									Flange B/2T	Web d/t	Axis x-x cm ⁴	Axis y-y cm ⁴	Axis x-x cm	Axis y-y cm	Axis x-x cm ³	Axis y-y cm ³	Axis x-x cm ³	Axis y-y cm ³					
100 x 50 x 10	10.20	100.00	50.00	5.50	8.50	1.73	9.00	65.00	5.88	13.00	208.00	32.30	4.00	1.58	41.50	9.89	48.90	17.50	0.94	10.00	0.00050	2.53	13.00
125 x 65 x 15	14.80	125.00	65.00	5.50	9.50	2.25	12.00	82.00	6.84	14.90	483.00	80.00	5.07	2.06	77.30	18.80	89.90	33.20	0.94	11.10	0.00190	4.72	18.80
150 x 75 x 18	17.90	150.00	75.00	5.50	10.00	2.58	12.00	106.00	7.50	19.30	861.00	131.00	6.15	2.40	115.00	26.60	132.00	47.20	0.95	13.10	0.00470	6.10	22.80
150 x 90 x 24	23.90	150.00	90.00	6.50	12.00	3.30	12.00	102.00	7.50	157.00	1162.00	253.00	6.18	2.89	155.00	44.40	179.00	76.90	0.94	10.80	0.00890	11.80	30.40
180 x 75 x 20	20.30	180.00	75.00	6.00	10.50	2.41	12.00	135.00	7.14	22.50	1370.00	146.00	7.27	2.38	152.00	28.80	176.00	51.80	0.95	15.30	0.00750	7.34	25.90
180 x 90 x 26	26.10	180.00	90.00	6.50	12.50	3.17	12.00	131.00	7.20	20.20	1817.00	277.00	7.40	2.89	202.00	47.40	232.00	83.50	0.95	12.80	0.01410	13.30	33.20
200 x 75 x 23	23.40	200.00	75.00	6.00	12.50	2.48	12.00	151.00	6.00	25.20	1963.00	170.00	8.11	2.39	196.00	33.80	227.00	60.60	0.96	14.80	0.01070	11.10	29.90
200 x 90 x 30	29.70	200.00	90.00	7.00	14.00	3.12	12.00	148.00	6.43	21.10	2523.00	314.00	8.16	2.88	252.00	53.40	291.00	94.50	0.95	12.90	0.01970	18.30	37.90
230 x 75 x 26	25.70	230.00	75.00	6.50	12.50	2.30	12.00	181.00	6.00	27.80	2748.00	181.00	9.17	2.35	239.00	34.80	278.00	63.20	0.95	17.30	0.01530	11.80	32.70
230 x 90 x 32	32.20	230.00	90.00	7.50	14.00	2.92	12.00	178.00	6.43	23.70	3518.00	334.00	9.27	2.86	306.00	55.00	355.00	98.90	0.95	15.10	0.02790	19.30	41.00
260 x 75 x 28	27.60	260.00	75.00	7.00	12.00	2.10	12.00	212.00	6.25	30.30	3619.00	185.00	10.10	2.30	278.00	34.40	328.00	62.00	0.93	20.50	0.02030	11.70	35.10
260 x 90 x 35	34.80	260.00	90.00	8.00	14.00	2.74	12.00	208.00	6.43	26.00	4728.00	353.00	10.30	2.82	364.00	56.30	425.00	102.00	0.94	17.20	0.03790	20.60	44.40
300 x 90 x 41	41.40	300.00	90.00	9.00	15.50	2.60	12.00	245.00	5.81	27.20	7218.00	404.00	11.70	2.77	481.00	63.10	568.00	114.00	0.93	18.40	0.05810	28.80	52.70
300 x 100 x 46	45.50	300.00	100.00	9.00	16.50	3.05	15.00	237.00	6.06	26.30	8229.00	568.00	11.90	3.13	549.00	81.70	641.00	148.00	0.94	17.00	0.08130	36.80	58.00
380 x 100 x 54	54.00	380.00	100.00	9.50	17.50	2.79	15.00	315.00	5.71	33.20	15030.00	643.00	14.80	3.06	791.00	89.20	933.00	161.00	0.93	21.20	0.15000	45.70	68.70
430 x 100 x 64	64.40	430.00	100.00	11.00	19.00	2.62	15.00	362.00	5.26	32.90	21940.00	722.00	16.30	2.97	1020.00	97.90	1222.00	176.00	0.92	22.50	0.21900	63.00	82.10

AJN Steelstock Limited

Icknield Way

Kentford

Newmarket

Suffolk CB8 7QT

Tel: 01638 555 500

Gibbs Marsh Trading Estate

Henstridge

Templecombe

Somerset BA8 0TN

Tel: 01963 365 210

sales@ajnsteelstock.co.uk

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