

# **Austen Knapman Ltd**

FOR

STEEL APPEAL

**PRODUCT MANUAL** 



From its humble beginnings in Austen's garage in 1981, Austen Knapman Limited has grown into a highly respected family owned and run business.

Now a third-generation company started in Paignton, Devon a further branch opened in 2015 to cover Plymouth and Cornwall, which is based in Saltash, Cornwall.

Our main business is steel stockholding, we have 100's of tonnes of steel in stock, including steel beams, box sections, flats, angles, reinforcing products and palisade fencing.

Both branches have purpose-built trade counters, where we stock a large range of welding equipment, power tools, tube clamps, safety gear, industrial gases and many other products. We also keep a range of box profile steel roof sheets, galvanized corrugated sheets and Onduline to cover your roofing needs.

Due to the large variety of stock we hold we can offer a fast turnaround, whether we are supplying stock lengths or cutting your steel to size. Service is foremost in our minds and we do our best to accommodate your requirements. We also have the contacts to source any obscure items that you may need. No order too small or too large.

Our transport fleet consists of a variety of vehicles. With trucks ranging from 7.5 to 26 tonne, some fitted with hi-ab unload for sites where no lifting gear is available. Also 3.5 tonne pick-ups to get into the more "challenging" areas.

We look forward to being of service to you.

From The Team at Austen Knapman Limited.

## FOR STEEL APPEAL

## **Austen Knapman Limited**

Head Office
Ash House
Blythe Way
Yalberton Industrial Estate
Paignton
Devon
TQ4 7QP



Tel: 01803 664020

Email: sales@austenknapman.co.uk

Saltash Branch
Birch House
Forge Lane
Moorlands Trading Estate
Saltash
Cornwall
PL12 6LX



Tel: 01752 847799

Email: saltashsales@austenknapman.com

www.austenknapman.co.uk





#### **PAGE PAGE GENERAL STEEL HOLLOW STEEL** 5 **ANGLE** 27 **CIRCULAR** 6-7 **FLAT** 28 **SOUARE** 8 SQUARE, ROUND 29 **RECTANGULAR** & SPECIALS **ERW PRECISION** 30 9 **VARIOUS SHEET** WELDED STEEL TUBE 10-11 HOT ROLLED SHEET 31 GALVANIZED/ & PLATE **BLACK PIPE** 12 REINFORCING MESH **TUBECLAMPS** 13 REINFORCING BAR 33-34 TUBECLAMP FITTINGS **TOOLS & GAS** 14 SPACERS & HYSTOOLS PALISADE FENCING 15 35 **TOOLS & EQUIPMENT** 16 OPEN STEEL FLOORING 36 PAINT & FIXINGS **WELDMESH & EXPANDED** 37 **GAS CYLINDERS** 17 WALKWAY MESH 38 TYPES & USES OF GAS 18 **GALVANIZING ROOFING STRUCTURAL STEEL** 39 STEEL ROOFING 19 **DEFINITIONS** 40 COLOUR CHART 20-22 UNIVERSAL BEAMS ONDULINE ROOFING 41 23 UNIVERSAL COLUMNS & CORRUGATED 24 PARALLEL FLANGE **ROOFING SCREWS** 42 CHANNEL 25-26 **FABRICATION EXAMPLES**

All products shown in this catalogue are subject to change and not all items are kept in stock on the premises. The information presented in this catalogue is for your reference only and Austen Knapman Limited accept no liability for product specification changes or discrepancies in the details shown herein.

## **EQUAL ANGLE**

## **EQUAL ANGLE**

## **UNEQUAL ANGLE**

Kg/M	Size (r
0.55	80x8
0.88	80x8
1.11	80×80
1.77	90x9
1.36	90x9
2.18	90×90
1.84	100x1
2.97	100×10
3.52	100×10
3.38	100×10
2.33	120x1
3.77	120x12
4.47	120x12
5.82	120x12
5.42	150×15
7.09	150×15
8.69	150×15
6.38	150×15
8.36	200×20
10.3	200×20
6.86	200×20
8.8	200×20
П	200×20
	0.55 0.88 1.11 1.77 1.36 2.18 1.84 2.97 3.52 3.38 2.33 3.77 4.47 5.82 5.42 7.09 8.69 6.38 8.36 10.3 6.86 8.8

Size (mm)	Kg/M
80x80x6	7.34
80x80x8	9.63
80x80x10	11.9
90x90x6	8.3
90x90x8	10.9
90x90x10	13.4
100×100×8	12.2
100×100×10	15
100×100×12	17.8
100×100×15	21.9
120×120×8	14.7
120x120x10	18.2
120x120x12	21.6
120×120×15	26.6
150×150×10	23
150×150×12	27
150×150×15	33.8
150×150×18	40. I
200×200×12	36.74
200×200×16	48.5
200x200x18	54.2
200×200×20	59.9
200x200x24	71.1

Size (mm)	Kg/M
40×25×5	2.37
	3.37
50×40×5	
60×30×5	3.37
65×50×6	5.16
75×50×6	5.65
75×50×8	7.39
80×60×6	6.37
100×65×7	8.77
100×65×8	9.94
100×65×10	12.3
100×75×8	10.6
100×75×10	13
125×75×8	12.2
125×75×10	15
125×75×12	17.8
150×75×10	17
150×75×12	20.2
150×75×15	24.8
150×90×10	18.2
150×90×12	21.6
200×100×10	23
200×100×12	27.3
200×100×15	33.7
200×150×12	32
200×150×15	39.6
200×150×18	47. I

Size (mm)	Kg/M
10×3	0.26
13×3	0.33
16x3	0.39
20×3	0.49
25×3	0.63
30×3	0.75
40×3	0.95
50×3	1.25
60×3	1.44
65×3	1.53
80×3	1.89
100x3	2.36
130x3	3.06
150×3	3.54

Size (mm)	Kg/M
13x5	0.51
16x5	0.63
20×5	0.79
25×5	0.98
30×5	1.18
40×5	1.57
50×5	1.96
60×5	2.36
70×5	2.76
80×5	3.14
90×5	3.53
100×5	3.93
130×5	5.11
150×5	5.89

Size (mm)	Kg/M
16x6	0.75
20x6	0.94
25×6	1.18
30×6	1.41
40×6	1.88
50×6	2.36
60x6	2.83
65×6	3.06
70×6	3.31
75×6	3.55
80×6	3.77
90×6	4.24
100×6	4.71
120×6	5.66
130×6	6.12
150×6	7.09
180×6	8.48
200x6	9.42
220x6	10.36
250x6	11.78
300x6	14.13

Size (mm)	Kg/M
20x8	1.26
25x8	1.57
30x8	1.88
40x8	2.51
50x8	3.14
60x8	3.77
65x8	4.08
70x8	4.39
75x8	4.71
80x8	5.02
90x8	5.65
100x8	6.28
120x8	7.54
130x8	8.16
150×8	9.42
180×8	11.31
200x8	12.59
220x8	13.82
250×8	15.69
300x8	18.84

Size (mm)	Kg/M
20×10	1.57
25×10	1.96
30×10	2.36
40×10	3.14
50×10	3.93
60×10	4.71
65×10	5.11
70×10	5.49
75×10	5.89
80×10	6.28
90×10	7.07
100×10	7.85
120×10	9.42
130×10	10.21
150×10	11.78
160×10	12.56
180×10	14.13
200×10	15.69
220×10	17.27
250×10	19.59
275×10	21.59
300×10	23.55
350×10	27.48
400×10	31.41

Size (mm)	Kg/M
20×12	1.88
25×12	2.36
30×12	2.83
40×12	3.77
50×12	4.72
60×12	5.65
65×12	6.12
70×12	6.59
75×12	7.05
80×12	7.54
100×12	9.42
120×12	11.31
130×12	12.25
150×12	14.13
160×12	15.07
180×12	16.96
200×12	18.84
220×12	20.72
250×12	23.55
300×12	28.26
350×12	33.01
400×12	37.68
450×12	42.39

Size (mm)	Kg/M
40×20	6.28
50×20	7.85
60×20	9.42
65×20	10.21
70×20	10.99
75×20	11.81
80×20	12.56
100×20	15.72
120×20	18.84
130×20	20.41
150×20	23.55
180×20	28.26
200×20	31.41
220×20	34.54
250×20	39.25
300×20	47.15
350×20	54.95
400×20	62.81

Size (mm)	Kg/M
40×25	7.85
50×25	9.81
60×25	11.78
65×25	12.76
70×25	13.74
75×25	14.71
80×25	15.71
90×25	17.68
100×25	19.63
120×25	23.55
130×25	25.51
140×25	27.48
150×25	29.44
180×25	35.33
200×25	39.25
220×25	43.18
250×25	59.97
300×25	58.88
400×25	78.5 I

Size (mm)	Kg/M
40×30	9.42
45×30	10.65
50×30	11.78
60×30	14.13
65×30	15.31
70×30	16.49
75×30	17.71
80×30	18.84
90×30	21.22
100×30	23.55
120x30	28.35
130×30	30.62
150×30	35.33
180×30	42.39
200×30	47.11
220×30	51.81
250×30	58.88
300×30	70.65
350×30	82.43
400×30	94.21

Size (mm)	Kg/M
40×15	4.71
50×15	5.89
60×15	7.07
80×15	9.42
100×15	11.78
120×15	14.09
130×15	15.31

150×15	17.66
180×15	21.22
200×15	23.55
220×15	25.91
250×15	29.44
300×15	35.33
350×15	41.25
400×15	47.09

Kg/M
15.71
18.84
20.41
21.96
25.12
31.41
47.11
56.52

Size (mm)	Kg/M
100×50	39.25
150×50	58.88
200×50	78.51

## **SQUARE SOLID**

#### Size (mm) Kg/M 10 0.79 12 1.13 16 2.01 20 3.14 25 4.91 30 7.07 35 9.62 40 12.6 45 15.9 19.62 50 28.4 60 33.16 65 70 39.1 75 44.2 80 50.2 90 63.6 100 78.5

#### ROUND SOLID

Size (mm)	Kg/M
6	0.22
8	0.39
10	0.62
12	0.89
16	1.58
20	2.47
22	2.98
25	3.85
30	5.55
32	6.31
35	7.55
40	9.86
50	15.41

## **BRIGHT CARBON ROUND**

Size (inches)	Size (mm)	Kg/M
	3	0.06
1/8		0.06
3/16		0.14
1/4		0.25
5/16		0.39
	8	0.39
3/8		0.56
7/16		0.76
1/2		0.99
5/8		1.55
3/4		2.23
	20	2.46
7/8		3.04
1 5/16		3.49
	25	3.85
I		3.97
I I/8		5.02
	30	5.54
I I/4		6.2
I I/2		8.93
2		15.9
2 1/2		24.8

Various sizes, sections and grades are available to order.

## HALF ROUND SQUARE EDGE

Size (mm)	Kg/M
40×12×6	3.18
51x13x6	4.17

#### **TEE SECTION**

Size (mm)	Kg/M
40×40×5	2.96
50×50×6	4.76

## **GALVANIZED SHEET**

Thickness (mm)	Size (mm)	Weight Kg/m2
0.8	2000×1000	6.28
	2500×1250	
0.9	2000×1000	7.07
	2500×1250	
1.0	2000×1000	7.85
	2500×1250	
1.2	2000×1000	9.42
	2500×1250	
1.5	2000×1000	11.78
	2500×1250	
1.6	2000×1000	12.56
	2500×1250	
2.0	2000×1000	15.7
	2500×1250	
3.0	2000×1000	23.55
	2500×1250	

## **DURBAR SHEET**

Thickness (mm)	Size (mm)	Weight Kg/m2
3	2000×1000	26.19
	2500×1250	
4.5	2000×1000	37.97
	2500×1250	
6	2000×1000	49.74
	2500×1250	
8	2000×1000	65.44
	2500×1250	
10	2000×1000	81.14
	2500×1250	
12.5	2000×1000	100.71
	2500×1250	

## **ZINTEC SHEET**

Thickness (mm)	Size (mm)	Weight Kg/m2
0.8	2500×1250	6.28
0.9	2500×1250	7.07
I	2500×1250	7.85
1.2	2500×1250	9.42
1.5	2500×1250	11.78
2	2500×1250	15.7
2.5	2500×1250	19.62
3	2500×1250	23.55

## **COLD REDUCED SHEET**

Thickness (mm)	Size (mm)	Weight Kg/m2
0.8	2000×1000	6.28
	2500×1250	
1.0	2000×1000	7.85
	2500×1250	
1.2	2000×1000	9.42
	2500×1250	
1.6	2000×1000	12.56
	2500×1250	
	3000×1500	
2	2000×1000	15.7
	2500×1250	
	3000×1500	
2.5	2000×1000	19.63
	2500×1250	
	3000×1500	
3	2000×1000	23.55
	2500×1250	
	3000×1500	

Thickness (mm)	Size (mm)	Weight Kg/m2
1.6	2000×1000	12.56
	2500×1250	
	3000×1500	
2.0	2000×1000	15.7
	2500×1250	
	3000×1500	
2.5	2000×1000	19.63
	2500×1250	
3	2000×1000	23.55
	2500×1250	
	3000×1500	
4	2000×1000	31.4
	2500×1250	
	3000×1500	
5	2000×1000	39.25
	2500×1250	
	3000×1500	
6	2000×1000	47. I
	2500×1250	
	3000×1500	
8	2000×1000	62.8
	2500×1250	
	3000×1500	
10	2000×1000	78.5
	2500×1250	
	3000×1500	
12	2000×1000	98.12
	2500×1250	
	3000×1500	
15	2000×1000	117.75
	2500×1250	
	3000×1500	

Thickness (mm)	Size (mm)	Weight Kg/m2
20	2000×1000	157
	2500×1250	
	3000×1500	
25	2000×1000	196.25
	2500×1250	
	3000×1500	
30	2000×1000	235.5
	2500×1250	
	3000×1500	
35	2000×1000	274.8
	2500×1250	
	3000×1500	
40	2000×1000	314
	2500×1250	
	3000×1500	
45	2000×1000	353.3
	2500×1250	
	3000×1500	
50	2000×1000	392.5
	2500×1250	
	3000×1500	
55	2000×1000	431.8
	2500×1250	
	3000×1500	
60	2000×1000	471
	2500×1250	
	3000×1500	
65	2000×1000	510.3
	2500×1250	
	3000×1500	

Thickness (mm)	Size	Weight Kg/m2
70	(mm) 2000×1000	549.5
70		347.3
	2500×1250	
	3000×1500	500.0
75	2000×1000	588.8
	2500×1250	
	3000×1500	
80	2000×1000	628
	2500×1250	
	4000×2000	
85	2000×1000	667.3
	2500×1250	
	4000×2000	
90	2000×1000	706.5
	2500×1250	
	4000×2000	
95	2000×1000	745.8
	2500×1250	
	4000×2000	
100	2000×1000	785
	2500×1250	
	4000×2000	
120	2500×1250	942
	4000×2000	
130	2500×1250	1020
	4000×2000	
150	2500×1250	1177.5

		Mesh Size Nominal Diame Pitch of Wires of Wir			Nominal Weight	Sheets per	Weight per
Mesh Reference	main mm	cross mm	main	cross	per m2	pack	sheet kgs
A393	200	200	10	10	6.16	20	70.96
A393S *	200	200	10	10	6.16	20	44.35
A252	200	200	8	8	3.95	30	45.5
A193	200	200	7	7	3.02	40	34.79
A142	200	200	6	6	2.22	50	25.57
A142S *	200	200	6	6	2.22	50	15.98
BII3I	200	200	12	8	10.9		125.57
B785	200	200	10	8	8.14		93.57
B503	100	200	8	8	5.93		68.31
D49	100	100	2.5	2.5	0.77		8.87

Standard sheet size  $4.8m \times 2.4m$  (A sizes have Flying Ends) Coverage area approx. 10 sq/mtrs.

\*A142S & A393S 3.6mx2.0m Coverage area approx. 7.2 sq/mtrs.

#### **FLYING ENDED MESH LAYOUT**



#### STANDARD MESH LAYOUT

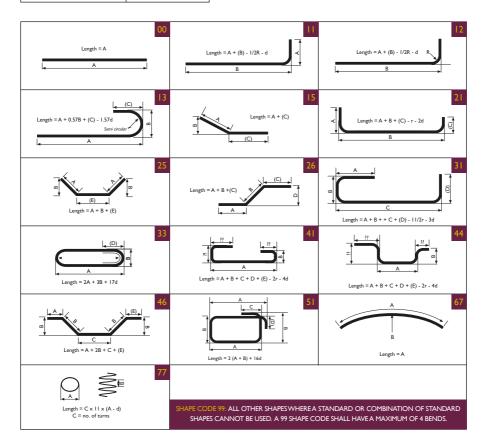


#### HIGH YIELD REINFORCING BAR

Diameter (mm)	Kg/M
8	0.39
10	0.62
12	0.89
16	1.58
20	2.47
25	3.86
32	6.31
40	9.87

Standard 6m lengths.

Can be cut and bent as per schedule if required.



Rebar and Mesh spacers are used to keep steel a certain distance away from the edge of the concrete once it has been poured.

Below are a few examples of what we keep in stock and their usage.

#### **GRADE PLATE SPACERS - STYROFIX**

A lightweight option for the spacing of fabric at the bottom of slabs. Their wide base gives extra stability and are ideal for use on damp proof membrane. Fixes to the mesh by clipping in, can be used vertically or horizontally.

Usage: 4 spacers per m2.



A more flexible spacer for the vertical and horizontal spacing of reinforcement bar providing maximum stability under normal loading conditions. Tied to the mesh by tie wire through the hole in the middle.

Usage: 4 spacers per m2.



Two metre long continuous hystools are particularly useful for supporting single layers and separating top and bottom layers of mesh in slab construction.

Usage: 5 per sheet

#### **DOUBLE LOOP TIES & TYING TOOL**

(wire twister)

We also stock 16gTieWire in 2kg or 10kg rolls.

Below is an example layout for a double layer mesh system: To Calculate: overall slab depth - top and bottom cover - total thickness of mesh sheets = spacing required between the two sheets.

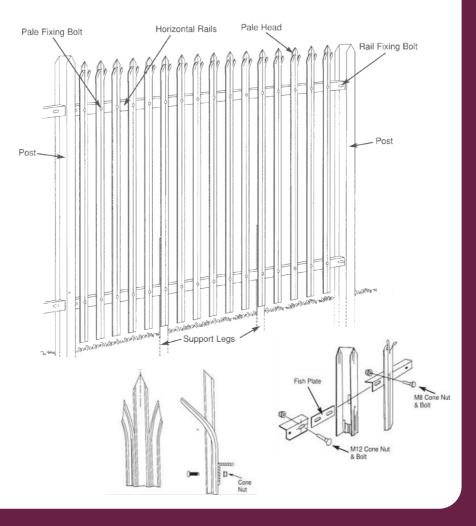






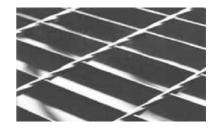
Palisade fencing is a high security fencing system that comes in an easy to assemble kit form of vertical steel pales and horizontal rails that bolt together into panels that mount onto RSJ posts. This allows for the panels to easily follow the contours of the ground where it is erected.

Palisade fencing is supplied with concrete in posts or bolt down posts. The standard finish is a galvanized coating to BS EN ISO 1461:2009 to give a long lasting, corrosion resitant coating. Palisade fencing can also be supplied powder coated to a RAL colour of your choice.



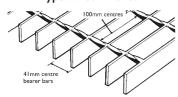
#### STANDARD PANELS

- 6 metres x I metre
- The bearer bars run the length of the panel
- Flooring can also be cut to size and shaped to suit your individual requirements
- Galvanized or self colour

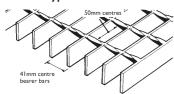


#### **BAR ARRANGEMENTS:**

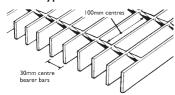
Type W100 - 41/100



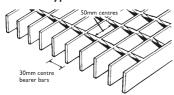
Type W50 - 41/50



Type N100 - 30/100



Type N50 - 30/50

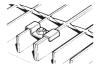


#### **OPEN MESH FLOORING**

Sect	41/100	41/50	31/100	30/50
(mm)	kg/m	kg/m	kg/m	kg/m
20x3	13.44	15.25	17.70	19.50
25×3	16.39	18.19	21.64	23.44
30×3	19.34	21.14	25.73	27.54
40×3	25.25	27.05	33.61	35.40
20×5	21.31	23.11	28.36	30.16
25×5	26.22	28.03	35.08	36.88
30×5	31.15	32.95	41.63	43.44
35×5	36.06	37.87	48.36	50.16
40×5	40.98	42.78	55.08	56.88
45×5	45.90	47.70	61.64	63.44
50×5	50.82	52.62	68.36	70.16
55×5	55.74	57.37	75.08	76.88
60×5	60.65	62.29	81.63	83.44

FIXING CLIPS: Galvanized For type W (41 mm between bars) For type N (30mm between bars)





Specification (Mesh x Wire dia)	Shee 4'x8'	t Size 6'x I 2'
l"xl"xl2g	9.3	20.9
l"xl"xl0g	14.1	31.9
2"x2"x12g	4.8	10.8
2"x2"x10g	7.1	15.9
2"x2"x8g	12.2	27.4
3"x3"x6g	11.5	25.9
3"x3"x8g	8.0	18.0
3"x3"x10g	4.8	10.8

Welded meshes are available either self-colour or galvanized finish.

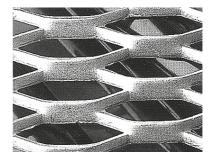
Weights quoted are approximate.

Other sizes are available.

Gauge	mm
12	2.5
10	3.0
8	4.0
6	4.88

#### **EXPANDED METAL WALKWAY MESH:**

Available in steel, aluminium and stainless steel.



#### **FIXING CLIPS:** Galvanized

For use with Ref. 4896 - Code No. 020217 For use with Ref. 2496 consisting of Hook, Bolt and Clamp.

Plain - Code No. 0201943 Galvanized - Code No. 0202943



Ref No.	Туре	of Aperture	(mm)	Overall Thickness	Weight Uncoated	Standard (mm) LW x SW
4896	Plain	79.4×23.8	6.35 4.70	13.50	13.82	2440×1220
2496	Plain	44.5×12.70	6.10 4.70	12.70	17.69	2440×1220

Once your item is manufactured we offer a galvanizing service, providing your items with a long life and relatively maintenance free finish. Hot dip galvanizing has long been seen as the most environmentally friendly process available to prevent corrosion.

#### THE GALVANIZING PROCESS

The process consisits of three distinct phases:

#### **Pre-Treatment**

Pre-Treatment consists of four seperate stages:

Inspection - Items are inspected to ensure they are safe and suitable to galvanize. This may involve checking whether they are adequately vented. Surfaces are checked for signs of contamination with paint, grease etc. as these will not be removed in the process and would cause the process to fail.

Degreasing - Steel is immersed in a degreasing solution that removes light oil contamination.

Pickling - Acid strips the steel surface back to clean base steel.

Fluxing - A flux solution is applied to the steel to assist with the galvanizing reaction.

## Galvanizing

Material is loaded on to jigs before being immersed in molten zinc at a temperature of around 450 degrees until the temperature of the work is the same as the zinc. During this process, the molten zinc reacts with the surface of the steel to form a series of zinc/iron alloys.

As work is removed, the zinc on its surface will begin to solidify and, as this happens, excess zinc is removed to ensure a smooth finish. Work is then usually transferred to a quench tank, where it is cooled to allow handling.

## Inspection

The galvanized steel is first visually inspected for its appearance and conformity to standard. Batches may then be non-destructively tested for coating thickness and uniformity.

### UNIVERSAL BEAMS (UB) & UNIVERSAL COLUMNS (UC)

Also known as an H or I section beams, or the older term RSJ's

The first dimension is the height; the second dimension is the width, and the third dimension is the kilograms per metre weight.

As the weight of these structural steels increase more material is added to the outside of the bar. This means actual height and width may differ from the size of the steel that is listed, see tables overleaf for actual dimensions.

Beams and columns are steel grade S355, and can be supplied as a bare metal finish, shotblasted and primer painted or galvanized depending on your specifications.

#### PARALLEL FLANGE CHANNEL (PFC)

Also known as a C shaped beam, or the older term RSC or rolled steel channel.

#### **RETAINING SLEEPER WALLS**

As well as being used structurally these steels can also be used for making retaining walls with wooden sleepers. The most used sizes for this purpose are:

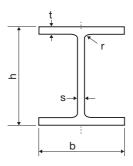
127x76x13 Universal Beam, internal measurement 110mm approx.

 $125 x 65 x 15 \ Parallel \ Flange \ Channel, internal \ measurement \ 105 mm \ approx.$ 

152x152x23 Universal Column, internal measurement 135mm approx.

150x75x18 Parallel Flange Channel, internal measurement 130mm approx.

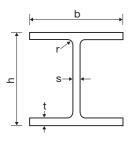
The above is a guide, different sizes maybe recommended by your structural engineer.



		Depth h	Width b	Web s	Flange t	Root
Size (mm)	Kg/M	(mm)	(mm)	(mm)	(mm)	Radius r
127×76×13	13	127	76	4	7.6	7.6
152x89x16	16	152.4	88.7	4.5	7.7	7.6
178x102x19	19	177.8	101.2	4.8	7.9	7.6
203×102×23	23	203.2	101.8	5.4	9.3	7.6
203×133×25	25	203.2	133.2	5.7	7.8	7.6
203×133×30	30	206.8	133.9	6.4	9.6	7.6
254x102x22	22	254	101.6	5.7	6.8	7.6
254x102x25	25	257.2	101.9	6	8.4	7.6
254×102×28	28	260.4	102.2	6.3	10	7.6
254x146x31	31	251.4	146.1	6	8.6	7.6
254x146x37	37	256	146.4	6.3	10.9	7.6
254x146x43	43	259.6	147.3	7.2	12.7	7.6
305×102×25	25	305. I	101.6	5.8	7	7.6
305×102×28	28	308.7	101.8	6	8.8	7.6
305×102×33	33	312.7	102.4	6.6	10.8	7.6
305×127×37	37	304.4	123.4	7.1	10.7	8.9
305×127×42	42	307.2	124.3	8	12.1	8.9
305×127×48	48	311	125.3	9	14	8.9
305×165×40	40	303.4	165	6	10.2	8.9
305×165×46	46	306.6	165.7	6.7	11.8	8.9
305×165×54	54	310.4	166.9	7.9	13.7	8.9

Size (mm)	Kg/M	Depth h (mm)	Width b (mm)	Web s (mm)	Flange t (mm)	Root Radius r
356×127×33	33	349	125.4	6	8.5	10.2
356x127x39	39	353.4	126	6.6	10.7	10.2
356x171x45	45	351.4	171.1	7	9.7	10.2
356x171x51	51	355	171.5	7.4	11.5	10.2
356x171x57	57	358	172.2	8.1	13	10.2
356x171x67	67	363.4	173.2	9.1	15.7	10.2
406×140×39	39	398	141.8	6.4	8.6	10.2
406×140×46	46	403.2	142.2	6.8	11.2	10.2
406x178x54	54	402.6	177.7	7.7	10.9	10.2
406×178×60	60	406.4	177.9	7.9	12.8	10.2
406x178x67	67	409.4	178.8	8.8	14.3	10.2
406×178×74	74	412.8	179.5	9.5	16	10.2
457x152x52	52	449.8	152.4	7.6	10.9	10.2
457x152x60	60	454.6	152.9	8.1	13.3	10.2
457x152x67	67	458	153.8	9	15	10.2
457x152x74	74	462	154.4	9.6	17	10.2
457x152x82	82	465.8	155.3	10.5	18.9	10.2
457x191x67	67	453.4	189.9	8.5	12.7	10.2
457x191x74	74	457	190.4	9	14.5	10.2
457x191x82	82	460	191.3	9.9	16	10.2
457x191x89	89	463.4	191.9	10.5	17.7	10.2
457x191x98	98	467.2	192.8	11.4	19.6	10.2
533x210x82	82	528.3	208.8	9.6	13.2	12.7
533x210x92	92	533.1	209.3	10.1	15.6	12.7
533x210x101	101	536.7	210	10.8	17.4	12.7
533x210x109	109	539.5	210.8	11.6	18.8	12.7
533×210×122	122	544.5	211.9	12.7	21.3	12.7

Size (mm)	Kg/M	Depth h (mm)	Width b (mm)	Web s (mm)	Flange t (mm)	Root Radius r
610×229×101	101	602.6	227.6	10.5	14.8	12.7
610×229×113	113	607.6	228.2	11.1	17.3	12.7
610×229×125	125	612.2	229	11.9	19.6	12.7
610x229x140	140	617.2	230.2	13.1	22.1	12.7
610x305x149	149	612.4	304.8	11.8	19.7	16.5
610x305x179	179	620.2	307. I	14.1	23.6	16.5
610x305x238	238	635.8	311.4	18.4	21.4	16.5
686×254×125	125	677.9	253	11.7	16.2	15.2
686×254×140	140	683.5	253.7	12.4	19	15.2
686×254×152	152	687.5	254.5	13.2	21	15.2
686×254×170	170	962.9	255.8	14.5	23.7	15.2
762×267×147	147	754	265.2	12.8	17.5	16.5
762×267×173	173	762.2	266.7	14.3	21.6	16.5
762×267×197	197	769.8	268	15.6	25.4	16.5
838x292x176	176	834.9	291.7	14	18.8	17.8
838x292x194	194	840.7	292.4	14.7	21.7	17.8
838x292x226	226	850.9	293.8	16.1	26.8	17.8
914x305x201	201	903	303.3	15.1	20.2	19.1
914x305x224	224	910.4	304. I	15.9	23.9	19.1
914x305x253	253	918.4	305.5	17.3	27.9	19.1
914x305x289	289	926.8	307.7	19.5	32	19.1
914x419x343	343	911.8	418.5	19.4	32	24.1
914x419x388	388	921	420.5	21.4	36.6	24.1

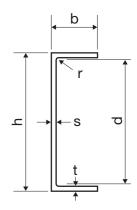


<b>.</b>		Depth h	Width b	Web s	Flange t	Root
Size (mm)	Kg/M	(mm)	(mm)	(mm)	(mm)	Radius r
152×152×23	23	152.4	152.2	5.8	6.8	7.6
152×152×30	30	157.6	152.9	6.5	9.4	7.6
152×152×37	37	161.8	154.4	8	11.5	7.6
203×203×46	46. I	203.2	203.6	7.2	П	10.2
203×203×52	52	206.2	204.3	7.9	12.5	10.2
203×203×60	60	209.6	205.8	9.4	14.2	10.2
203×203×71	71	215.8	206.4	10	17.3	10.2
203×203×76	86. I	222.2	209.1	12.7	20.5	10.2
254×254×73	73.I	254.1	254.6	8.6	14.2	12.7
254×254×89	88.9	260.3	256.3	10.3	17.3	12.7
254×254×107	107.1	266.7	258.8	12.8	20.5	12.7
254x254x132	132	276.3	261.3	15.3	25.3	12.7
254×254×167	167.1	289.1	265.2	19.2	31.7	12.7
305×305×97	96.9	307.9	305.3	9.9	15.4	15.2
305x305x118	117.9	314.5	307.4	12	18.7	15.2
305×305×137	136.9	320.5	309.2	13.8	21.7	15.2
305x305x158	158.1	327.I	311.2	15.8	25	15.2
305×305×198	198.1	339.9	314.5	19.1	31.4	15.2
305×305×240	240	352.5	318.4	23	37.7	15.2
305×305×283	282.9	365.3	322.2	26.8	44.I	15.2
356x368x129	129	355.6	368.5	10.4	17.5	15.2
356x368x153	152.9	362	370.5	12.3	20.7	15.2
356x368x177	177	368.2	372.6	14.4	23.8	15.2
356×368×202	201.9	374.6	374.7	16.5	27	15.2

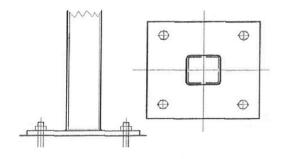
Size (mm)	Kg/M	Depth h (mm)	Width b (mm)	Web s (mm)	Flange t (mm)	Root Radius r	Depth d Between
100×50×10	10.2	100	50	5	8.5	9	65
125×65×15	14.8	125	65	5.5	9.5	12	82
150x75x18	17.9	150	75	5.5	10	12	106
150×90×24	23.9	150	90	6.5	12	12	102
180×75×20	20.3	180	75	6	10.5	12	135
180×90×26	26.1	180	90	6.5	12.5	12	131
200×75×23	23.4	200	75	6	12.5	12	151
200×90×30	29.7	200	90	7	14	12	148
230×75×26	25.7	120	75	6.5	12.5	12	181
230×90×32	32.2	230	90	7.5	14	12	178
260×75×28	27.6	260	75	7	12	12	212
260×90×35	34.8	260	90	8	14	12	208
300×90×41	41.4	300	90	9	15.5	12	245
300×100×46	45.5	300	100	9	16.5	15	237
380×100×54	54	380	100	9.5	17.5	15	315
430×100×64	64.4	380	100	11	19	15	362

## **ROLLED STEEL CHANNEL**

Size (mm)	Kg/M
40×20×5	2.87
51x25x5	3.86
51x38x5	5.59
76×38×7	6.9



## THE FOLLOWING ARE COMMON EXAMPLES OF FABRICATION DETAILS WE CAN PROVIDE.

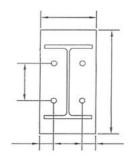


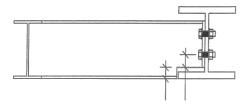
## **FABRICATION DETAIL: A**

### BOX WELDED TO BASE PLATE.

N.B. Box may be positioned anywhere on the base plate.







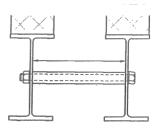
## FABRICATION DETAIL: C

BEAM TO BEAM CONNECTION
PLATED AND BOLTED.

CAN BE LEVEL TOP OR BOTTOM OR
FLUSH DEPENDING ON BEAM SIZE.

FABRICATION DETAIL: D

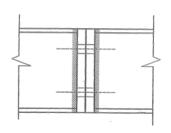
SPACE BOLT CONNECTION

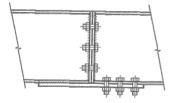




FABRICATION DETAIL: E

SPLICE CONNECTION.
2 END PLATES BOLTED.





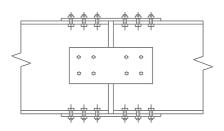


FABRICATION DETAIL: F

SPLICE CONNECTION WITH

TOP AND/OR BOTTOM PLATE - WELDED.

FABRICATION DETAIL: G
SPLICE CONNECTION PLATED.







CLEAT







Size (mm)	Kg/M
21.3x3	1.43
26.9x3	1.87
33.7×2.5	1.99
33.7x3	2.41
33.7x4	2.93
42.4×2.5	2.55
42.4x3	3.09
42.4x4	3.79
48.3×3	3.56
48.3×4	4.37
48.3×5	5.34
60.3x3	4.51
60.3x4	5.55
60.3×5	6.82
76.1x3	5.75
76.1x4	7.11
76.1x5	8.77
88.9x3	6.76
88.9x4	8.38
88.9x5	10.3
114.3×3.5	9.83
114.3x5	13.5
114.3×6	16.8
139.7×5	16.6
139.7×6	20.7
139.7x8	26
139.7×10	32
168.3×5	20.1
168.3×6	25.2
168.3x8	31.6
168.3×10	39

Size (mm)	Kg/M
193.7x5	23.3
193.7x6	29.1
193.7x8	36.6
193.7×10	45.3
219.1×5	26.4
219.1x6	33.1
219.1x8	41.6
219.1×10	51.6
219.1×12.5	63.7
273.0×6	41.4
273.0x8	52.3
273.0×10	64.9
273.0×12.5	80.3
273.0x16	101
323.9x6	49.3
323.9x8	62.3
323.9×10	77.4
323.9×12.5	96
323.9×16.0	121
406.4×10	97.8
406.4×12.5	121
406.4×16.0	154
457.0×10	110
457.0×12.5	137
457.0×16	154
508.0×10	123
508.0×12.5	153
508.0×16.0	194

Size (mm)	Kg/M
20×20×2	1.12
25×25×2	1.43
25×25×2.5	1.74
25×25×3	2.04
30×30×2.5	2.14
30×30×3	2.51
40×40×2.5	2.92
40×40×3	3.45
40×40×4	4.46
50×50×2.5	3.71
50×50×3	4.39
50×50×4	5.72
50×50×5	6.97
60×60×3	5.43
60×60×4	6.97
60×60×5	8.54
60×60×6	9.45
70×70×3	6.28
70×70×3.5	7.46
70×70×5	10.11
80×80×3	7.22
80×80×3.6	8.59
80×80×5	11.7
80×80×6	13.9
80×80×6.3	14.4
90×90×3.6	9.72
90×90×5	13.3
90×90×6	15.76
100×100×3	8.96
100×100×4	12
100×100×5	14.8
100×100×6	17.6

Size (mm)	Kg/M
100×100×6.3	18.4
100×100×8	22.9
100×100×10	27.9
120×120×5	18
120×120×6	21.3
120×120×6.3	22.3
120×120×8	27.9
120×120×10	34.2
150×150×5	22.7
150×150×6	27
150×150×6.3	28.3
150×150×8	35.4
150×150×10	43.6
180×180×5	27.4
180×180×6.3	34.2
180×180×8	43
180×180×10	53
180×180×12.5	65.2
200×200×6.3	38.2
200×200×8	48
200×200×10	59.3
200×200×12.5	73
250×250×6.3	48. I
250×250×8	60.5
250×250×10	75
250×250×12.5	92.6
300×300×8	73.I
300×300×10	90.7
300×300×12.5	112

Size (mm)	Kg/M
50x25x2.5	2.72
50×25×3	3.22
50×30.25	2.92
50x30x3	3.45
60×40×3	4.39
60×40×4	5.72
75×50×3	6.02
80×40×3	5.34
90×50×3	6.28
90x50x3.6	7.46
90×50×5	10.11
100×50×3	6.75
100×50×4	8.86
100×50×5	10.9
100×50×6	12.9
100×60×3.6	8.59
100×60×5	11.7
100×60×6	13.9
120x60x3.6	9.72
120×60×5	13.3
120×60×6	15.7
120x60x6.3	164
120x80x5	14.8
120x80x6	17.6
120x80x8	22.9
150×100×5	18.7
150×100×6	22.3
150×100×8	29.1
150x100x10	35.7

Size (mm)	Kg/M
160×80×5	18
160×80×6	21.3
160×80×8	27.9
200×100×5	22.7
200×100×6.3	27
200×100×8	35.4
200×100×10	43.6
250×150×5	30.5
250×150×6.3	38.2
250×150×8	48
250×150×10	59.3
250×150×12.5	73
300×200×6.3	48. I
300×200×8	60.5
400×200×8	73. I
400×200×10	90.7

ERW steel box is so called because of the electronic resistance welding method employed in its manufacture, which uses a combination of heat and pressure resulting in a very consistent and strong forged weld seam.

## **SQUARE**

Size (mm)	Weight Kg/M
12.7×12.7×1.5	0.53
16×16×1.5	0.67
19x19x1.5	0.84
20×20×1.5	0.87
22×22×1.5	0.98
25×25×1.5	1.15
30×30×1.5	1.40
40×40×1.5	1.81
50×50×1.5	2.28

#### **RECTANGULAR**

Size (mm)	Weight Kg/M
40×20×1.5	1.40
50×25×1.5	1.72

#### **CIRCULAR**

Size (mm)	Weight Kg/M
12.7×1.5	0.45
16×1.5	0.53
19×1.5	0.65
20×1.5	0.69
20×2.0	0.92
22×1.5	0.78
25.4×1.5	0.89
31.75×1.5	1.20
31.75×2.0	1.82
38×1.5	1.40
40×2.0	1.90
44.45×2.0	2.40
50×1.5	1.80
63.5×1.5	3.50

Available in Black or Galvanized, screwed and socketed or plain ended.

## LIGHT

Nominal Bore (mm)	Outside Diameter (mm)	Thickness (mm)
8	13.2 to 13.6	1.80
10	16.7 to 17.1	1.80
15	21.0 to 21.4	2.00
20	26.4 to 26.9	2.35
25	33.2 to 33.8	2.65
32	41.9 to 42.5	2.65
40	47.8 to 48.4	2.90
50	59.6 to 60.2	2.90
65	75.4 to 76.0	3.25
80	87.9 to 88.7	3.25
100	113.0 to 113.8	3.65

## **MEDIUM**

Nominal Bore (mm)	Outside Diameter (mm)	Thickness (mm)
8	13.3 to 13.9	2.35
10	16.8 to 17.4	2.35
15	21.1 to 21.7	2.65
20	26.6 to 27.2	2.65
25	33.4 to 34.2	3.25
32	40.1 to 42.9	3.25
40	48.0 to 48.8	3.25
50	59.8 to 60.8	3.65
65	75.4 to 76.6	3.65
80	88.1 to 89.5	4.05
100	113.3 to 114.9	4.05
125	138.7 to 140.6	4.85
150	164.1 to 166.1	4.85

#### **HEAVY**

LIEWA I		
Nominal Bore (mm)	Outside Diameter (mm)	Thickness (mm)
8	13.3 to 13.9	2.90
10	16.8 to 17.4	2.90
15	21.1 to 21.7	3.25
20	26.6 to 27.2	3.25
25	33.4 to 34.2	4.05
32	40.1 to 42.9	4.05
40	48.0 to 48.8	4.05
50	59.8 to 60.8	4.50
65	75.4 to 76.6	4.50
80	88.1 to 89.5	4.55
100	113.3 to 114.9	5.40
125	138.7 to 140.6	5.40
150	164.1 to 166.1	5.40
	!	

For matching Tubeclamp Fittings see pages 33-34



PANEL CLIP

PANEL CLIP

We carry a wide range of Tubeclamp fittings in stock. These are available in the following tube sizes: 27mm, 33mm, 42mm, 48mm & 60mm. However, the main sizes we stock are 33mm, 42mm & 48mm.

#### **TUBECLAMP**

Tube (O/D)	Size
26.9mm	Α
33.7mm	В
42.4mm	С
48.3mm	D
60.3mm	Е

132

RAILING

**BASE FLANGE** 

149

**EXTERNAL** 

SLEEVE JOINT

150

166



**SWIVEL** 

**BASE** 

**SWIVEL** 



The Interclamp Assist range has been especially designed to help compliance with the public access requirements of the Equality Act 2010 (formerly DDA) and Building Regulations Part M 2013. No other special fittings are required, which enables full integration with both new Interclamp systems and the refurbishment or upgrading of existing tubular structures to help meet the newer access specifications.



PLEASE NOTE THAT THE DDA RANGE IS ONLY AVAILABLE TO SUIT 42mm O/D TUBE UNLESS OTHERWISE STATED. We also stock black plastic end caps to suit all tube sizes.

Please visit our trade counter, where our professional and friendly staff can serve you with your steel requirements and also offer help and advice on the following products.

#### **POWER TOOLS**

- Main agents for Hikoki, Dewalt, Bosch, Makita, Milwaukee, Metabo, Alfra and Panasonic
- From 12v drill drivers to demolition hammers, angle grinders to bench grinders or circular saws to bandsaws, we can supply whatever you need
- Power tool repairs and servicing

#### **HAND TOOLS**

- Stockists for Irwin, Stanley, Bahco, Wera, Faithfull, Draper, Knipex, Gedore, Bessey clamps and Roughneck
- Wide range of hand tools in stock Cutting, grinding, TCT blades, abrasive mop and sanding discs

#### **SAFETY EQUIPMENT**

- Safety footwear
- Face, eye and ear protection
- Gloves
- Hi-Vis coats, trousers and vests
- Waterproof clothing

#### **WELDING EQUIPMENT**

#### MIG • ARC • TIG • PLASMA • GAS

- Main agents for Jasic, Parweld, Autostar and SifWeld
- Large range of machines in stock
- Demonstrations upon request
- Wide range of automatic helmets in stock
- Full range of consumables
- Wide range of mig wire, welding rods and tig / brazing rods











#### **PAINT**

#### Stockists of:

- Red and grey zinc phosphate primer (oxide)
- Galvanizing paint
- Black gloss
- Thinners
- · Aluminium paint
- · Paint brushes, rollers and refills
- · Bags of wiping rags



#### **FIXINGS**

We can supply a wide range of fixings to suit all your needs

- · High tensile bolts, set screws, nuts and washers
- Carriage bolts
- Coach screws
- Thunder bolts
- Sleeve anchors
- Threaded bar
- Hook bolts
- Gate fittings
- Roofing screws
- · Pop rivets and rivet guns
- Chemical anchor resin
- Sealants
- Adhesives















We offer a range of industrial gases without the need to enter into a contract. Just pay an initial VAT free deposit on the cylinder and gas, then pay for refills of the gas as you use it.

### NO ANNUAL FEE, JUST PAY FOR WHAT YOU USE.

If you no longer need the gas, return the cylinder for a full refund of your deposit. IT'S AS SIMPLE AS THAT!

We are also an agent and stockist of Propane for Calor Gas.

#### **GAS TYPES AND CYLINDER SIZES:**

- 5% Argon/CO2 mix. I 0ltr, 20ltr & 50ltr
- 12% Argon/CO2 mix. 10ltr, 20ltr & 50ltr
- 20% Argon/CO2 mix. I 0ltr, 20ltr & 50ltr
- Pure Argon 10ltr, 20ltr & 50ltr
- Oxygen 10ltr, 20ltr & 50ltr
- Oxygen free Nitrogen. 2ltr, 10ltr & 20ltr
- CO2 gas offtake 1.5kg, 3.15kg & 6.35kg
- Propylene 2ltr, 10ltr & 20ltr
- CO2/Nitrogen 30/70 mix 2ltr & 10ltr
- CO2/Nitrogen 60/40 mix 10ltr
- Helium balloon gas 9ltr & 20ltr
   We also carry Helium balloon gas inflators in stock.
- Propane 6kg, 13kg, 19kg & 47kg
- Automotive Propane 18kg





#### CO2/ARGON MIX 5

93% Argon, 2% Oxygen, 5% Carbon Dioxide MIG welding mild steel up to 6mm thick

#### CO2/ARGON MIX 12

86% Argon, 2% Oxygen, 12% Carbon Dioxide MIG welding mild steel 4-12mm thick

#### CO2/ARGON MIX 20

78% Argon, 2% Oxygen, 20% Carbon Dioxide MIG Welding mild steel Material thickness between 6mm-14mm+

#### **ARGON**

99.9% Argon

Material thickness Imm-I2mm.Used for thin and medium sections. Good arc control, used with or without pulse.

#### **OXYGEN**

Widely used with a fuel gas for cutting, welding, brazing and soldering. Also fish keeping and farming.

#### **OXYGEN FREE NITROGEN**

For use in air conditioning, racing tyres, aircraft tyres, food preservation and paint ball.

#### CARBON DIOXIDE GAS OFF TAKE

For use in MIG welding, hydroponics & plant horticulture, aquatic plants.

#### **PROPYLENE**

For use in heating, cutting, welding and brazing.

#### CO2/NITROGEN 30/70 MIX

For use with bitters and Guinness.

#### CO2/NITROGEN 60/40 MIX

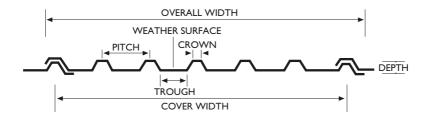
For use with lagers and ciders.



#### STEEL ROOFING

- Steel profiled sheet with Polyester or Plastisol finish. Available in 0.5mm or 0.7mm
- Any length to order
- Anti-condensation finish available
- Composite Panel sheets made to order
- GRPTranslucents
- Fibre Cement
- · Flashings and gutters
- Steel Purlins

There are over 300 different profiles available, to identify an existing profile for matching we need the following information:



## COLOURCOAT® LG PRE FINISHED STEEL FOR ROOF AND WALL CLADDING



#### **NOTES:**

- The standard colour references shown above are the nearest equivalents.
- The printed colours shown for Colourcoat® LG are for guidance only.
   For a true representation of colour and effect, please obtain colour samples.
- If an exact match between components and Colourcoat® LG is essential, this is best achieved by matching to the actual cladding delivered to site.



## ONDULINE LIGHTWEIGHT CORRUGATED BITUMEN ROOFING SHEETS

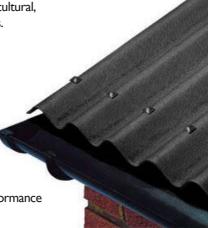
Onduline Roofing is an attractive, lightweight but extremely tough corrugated cladding which is manufactured from bitumen-saturated organic fibres.

They are stocked in 2 metre lengths with an overall width of 950mm, finished in black.

Suitable for a wide range of applications in agricultural, industrial, domestic and environmental projects.

#### SYSTEM BENEFITS

- · Easy to cut, shape and fix
- 15 year insurance-backed water proofing guarantee\*
- Excellent colour retention properties
- Withstands wind speeds of up to 120mph
- European CE Declaration of Conformity
- High insulation and sound absorbency performance
- Does not rust, rot or become brittle



#### **CORRUGATED SHEETS**

We stock galvanized corrugated sheets in 6', 7', 8', 9' 10' and 12' lengths. Sheets cover 600mm and are 8/3 corrugations.

We also keep in stock 6', 8' and 10' HD clear corrugated sheets to match the above profile and 6"x6" roll top ridges in 6' lengths with a range of fixings to suit.

We stock a wide range of roofing screws or Tex fixings. These are used secure steel roof sheets and flashings to either timber, steel or even concrete. Tex fixings are designed to fix sheets in the "valley" section of the profile.

#### **TEX FOR ZED PURLIN**

- 8mm Hex Head
- No.3 drill tip for self-drilling in heavy gauge steel up to 3.2mm
- Complete with 19mm EPDM rubber washer

Available in the following lengths: 25mm, 65mm, 70mm, 85mm, 105mm, 115mm & 135mm



#### TEX STITCHER

Used for joining metal roofing sheet panels together

- Self-Drilling in Roofing Sheet Steel up to 2.5mm
- 8mm Hex Head
- Smaller No. I drill tip can drill through two sheets then engage the threads to clamp the sheets together under the head

#### TEX FOR THICK STEEL OR HEAVY SECTION

- 8mm Hex Head
- No.5 drill tip for self-drilling in heavy gauge steel up to 12.5mm
- Complete with 19mm EPDM rubber washer

Available in the following lengths: 38mm, 55mm, 76mm, 85mm, 105mm & 125mm



#### TEX FOR TIMBER

- 8mm Hex Head
- No pre-drilling is required and the self-drilling T17 Gash Point on screws makes for a rapid installation
- Complete with 19mm EPDM rubber washer
- Suitable for a steel thickness of 0.5-1.2mm

Available in the following lengths: 32mm, 45mm, 60mm, 80mm, 100mm & 125mm



#### COUNTERSUNK TEX FOR FIXING TIMBER TO STEEL

- Screw fitted with breakaway wings that create a clearance hole to protect thread from engaging timber when drilling through
- Breakaway wings will ream a hole then break-off when they contact the metal surface to be drilled. Thread will then engage with metal

Available in the following lengths: 38mm, 50mm, 60mm, 85mm & 105mm

We also carry plastic caps in a wide range of colours to fit our Tex screws.

PLEASE FEEL FREE TO CONTACT US IF YOU NEED ANY TECHNICAL ADVICE.





#### **Head Office**

Ash House Blythe Way Yalberton Industrial Estate Paignton Devon TQ4 7QP

Tel: 01803 664020

Email: sales@austenknapman.co.uk

## www.austenknapman.co.uk

### Saltash Branch

Birch House Forge Lane Moorlands Trading Estate Saltash Cornwall PL12 6LX

Tel: 01752 847799

Email: saltashsales@austenknapman.com