

## Corten B Tube

Shapes	Dimensions
Circular (mm)	42.4 - 323.9
Square (mm)	40x40 - 300x300
Rectangular (mm)	50x30 - 400x200
Wall thickness (mm)	2.0 - 12.5
Mill length (mm)	6000/12 000 mm

Other shapes, sizes and lengths are available upon request.

### Circular Dimensions

Outer diameter (mm)	2.0 mm (kg/m)	2.5 mm (kg/m)	3.0 mm (kg/m)	4.0 mm (kg/m)	5.0 mm (kg/m)	6.0 mm (kg/m)	8.0 mm (kg/m)	10.0 mm (kg/m)	12.5 mm (kg/m)
42.4	1.99	2.46	2.91	3.79	—	—	—	—	—
48.3	2.28	2.82	3.35	4.37	—	—	—	—	—
60.3	2.88	3.56	4.24	5.55	6.82	—	—	—	—
76.1	3.65	4.54	5.41	7.11	8.77	—	—	—	—
88.9	—	—	6.36	8.38	10.4	12.3	—	—	—
101.6	—	—	7.29	9.63	11.9	14.2	—	—	—
108.0	—	—	7.77	10.3	12.7	15.1	—	—	—
114	—	—	8.23	10.9	13.5	16.0	—	—	—
127.0	—	—	9.17	12.1	15.0	17.9	—	—	—
139.7	—	—	—	13.4	16.6	19.8	26.0	32.0	—
168.3	—	—	—	16.2	20.1	24.0	31.6	39.0	—
219.1	—	—	—	21.2	26.4	31.5	41.7	51.6	63.7
273.0	—	—	—	26.5	33.1	39.5	52.3	64.9	80.3
323.9	—	—	—	—	39.3	47.0	62.3	77.4	96.0

### Square Dimensions

Height x Width (mm)	2.0 mm (kg/m)	2.5 mm (kg/m)	3.0 mm (kg/m)	4.0 mm (kg/m)	5.0 mm (kg/m)	6.0 mm (kg/m)	8.0 mm (kg/m)	10.0 mm (kg/m)	12.5 mm (kg/m)
40 x 40	2.31	2.82	3.30	4.20	—	—	—	—	—
50 x 50	2.93	3.60	4.25	5.45	6.56	—	—	—	—
60 x 60	3.56	4.39	5.19	6.71	8.13	—	—	—	—
70 x 70	—	5.17	6.13	7.97	9.70	—	—	—	—
80 x 80	—	5.96	7.07	9.22	11.3	13.2	—	—	—
90 x 90	—	6.74	8.01	10.5	12.8	15.1	—	—	—
100 x 100	—	7.53	8.96	11.7	14.4	17.0	21.4	—	—
120 x 120	—	—	—	14.3	17.6	20.8	26.4	31.8	—
140 x 140	—	—	—	16.8	20.7	24.5	31.4	38.1	—
150 x 150	—	—	—	18.0	22.3	26.4	34.0	41.3	48.7
160 x 160	—	—	—	19.3	23.8	28.3	36.5	44.4	52.6
180 x 180	—	—	—	—	27.0	32.1	41.5	50.7	60.5
200 x 200	—	—	—	—	30.1	35.8	46.5	57.0	68.3
220 x 220	—	—	—	—	—	39.6	51.5	63.2	76.2
250 x 250	—	—	—	—	—	45.2	59.1	72.7	88.0
300 x 300	—	—	—	—	—	54.7	71.6	88.4	108

**Rectangular Dimensions**

Height x Width (mm)	2.0 mm (kg/m)	2.5 mm (kg/m)	3.0 mm (kg/m)	4.0 mm (kg/m)	5.0 mm (kg/m)	6.0 mm (kg/m)	8.0 mm (kg/m)	10.0 mm (kg/m)	12.5 mm (kg/m)
50 x 30	2.31	2.82	3.30	4.20	—	—	—	—	—
60 x 40	2.93	3.60	4.25	5.45	6.56	—	—	—	—
80 x 40	3.56	4.39	5.19	6.71	8.13	—	—	—	—
80 x 60	—	5.17	6.13	7.97	9.70	—	—	—	—
100 x 40	—	5.17	6.13	7.97	9.70	—	—	—	—
100 x 50	—	5.6	6.60	8.59	10.5	12.3	—	—	—
100 x 60	—	5.95	7.07	9.22	11.3	13.2	—	—	—
100 x 80	—	6.74	8.01	10.5	12.8	15.1	—	—	—
120 x 60	—	6.74	8.01	10.5	12.8	15.1	—	—	—
120 x 80	—	7.53	8.96	11.7	14.4	17.0	21.4	25.6	—
140 x 60	—	—	—	11.7	14.4	17.0	—	—	—
140 x 80	—	—	—	13.0	16.0	18.9	—	—	—
150 x 50	—	—	—	11.7	14.4	17.0	—	—	—
150 x 100	—	—	—	14.9	18.3	21.7	27.7	33.4	—
160 x 80	—	—	—	14.3	17.6	20.8	26.4	31.8	—
180 x 100	—	—	—	16.8	20.7	24.5	31.4	38.1	—
200 x 100	—	—	—	18.0	22.3	26.4	34.0	41.3	48.7
200 x 120	—	—	—	—	23.8	28.3	36.5	44.4	52.6
250 x 100	—	—	—	—	26.2	31.1	40.2	49.1	—
250 x 150	—	—	—	—	30.1	35.8	46.5	57.0	68.3
260 x 180	—	—	—	—	—	39.6	51.5	63.2	—
300 x 100	—	—	—	—	30.1	35.8	46.5	57.0	68.3
300 x 150	—	—	—	—	—	40.5	52.8	64.8	78.1
300 x 200	—	—	—	—	—	45.2	59.1	72.7	88.0
400 x 200	—	—	—	—	—	54.7	71.6	88.4	108

## Mechanical Properties

Yield strength $R_{p0.2}$ (min MPa)	Tensile strength $R_m$ (MPa)	Elongation $A_5$ (min %)	Charpy-V -20°C 10x10 mm test specimen <sup>1)</sup> (J)
355	510 - 630	20	27

Mechanical properties meet the requirements of S355J2W, EN 10025-5.

The mechanical properties for rectangular hollow sections are tested by SSAB on the longer side of the cross section according to EN 10219.

<sup>1)</sup> Impact testing according to EN ISO 148-1 is performed on thicknesses  $\geq 6$  mm. The specified minimum value corresponds to a full-size specimen.

## Chemical Composition (ladle analysis)

C (max %)	Si (%)	Mn (%)	P (max %)	S (max %)	Al <sub>tot</sub> (%)	Cr (%)	Cu (%)
0.16	0.30 - 0.50	0.80 - 1.25	0.030	0.030	0.020 - 0.10	0.40 - 0.65	0.25 - 0.40

Chemical composition meets the requirements of S355J2W, EN 10025-5.

The steel is aluminium-killed.

## Carbon Equivalent

Wall Thickness (mm)	2.0 - 12.5
CEV (max %)	0.50

CEV value meet the requirements of S355J2W, EN 10025-5.

$$CEV = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Cu + Ni}{15}$$

## Tolerances

### Tolerance Circular

Characteristic	Circular hollow sections Tolerances meet or exceed the requirements of EN 10219
Outside diameter (D) <sup>(1)</sup>	$\pm 1\%$ , with a minimum of $\pm 0.5$ mm and a maximum of $\pm 10$ mm
Out-of-roundness	2%, when $D/T \leq 100$
Thickness (T)	When $D \leq 323.9$ mm: $-5\%/+10\%$ , with a minimum of $\pm 0.2$ mm and maximum $\pm 0.5$ mm When $355.6 \leq D \leq 406.4$ mm : $\pm 10\%$ , when $T \leq 5$ mm / $\pm 0.5$ mm, when $T > 5$ mm When $D > 406.4$ mm : $\pm 10\%$ , with a maximum of $\pm 2$ mm
Straightness	0.20% of total length and 3 mm over any 1 m length
Mass per unit length	Individual tube: $\pm 6\%$
Mill length	0/+50 mm, $6000 \leq L \leq 18000$ mm (standard lengths 6000 & 12000 mm)
Exact length	Agreed at the time of enquiry and order

<sup>1)</sup> All external dimensions are measured with a minimum distance from the end of the section. The distance must be a minimum of 100 mm.

### Tolerance Square

Characteristic	Square hollow sections Tolerances meet or exceed the requirements of EN 10219
Outside dimensions (B, H) <sup>1)</sup>	When B, H < 100 mm: $\pm 1\%$ minimum $\pm 0.5\%$ /> When 100 mm $\leq$ B, H $\leq$ 200 mm: $\pm 0.8\%$ When B, H > 200 mm: $\pm 0.6\%$
Thickness (T)	-5% / +10 %, with a minimum of $\pm 0.2$ mm and maximum $\pm 0.5$ mm
External corner profile	When T $\leq$ 6 mm: 1.6 x T-2.4 x T When 6 mm < t $\leq$ 10 mm: 2.0 x t-3.0 x t /> When T > 10 mm: 2.4 x T-3.6 x T
Squareness of side	90° $\pm 1^\circ$
Concavity/convexity	0.8%, with a minimum of 0.5 mm
Twist	2 mm + 0.5 mm/m
Straightness	0.15% of total length and 3 mm over any 1 m length
Mass per unit length	Individual tube: $\pm 6\%$
Mill length	0/+50 mm, 6000 $\leq$ L $\leq$ 18000 mm (standard lengths 6000 & 12000 mm)
Exact length	Agreed at the time of enquiry and order

<sup>1)</sup> All external dimensions are measured with a minimum distance from the end of the section. The distance must be a minimum of 100 mm.

### Tolerance Rectangular

Characteristic	Rectangular hollow sections Tolerances meet or exceed the requirements of EN 10219
Outside dimensions (B, H) <sup>1)</sup>	When B, H < 100 mm: $\pm 1\%$ minimum $\pm 0.5\%$ /> When 100 mm $\leq$ B, H $\leq$ 200 mm: $\pm 0.8\%$ When B, H > 200 mm: $\pm 0.6\%$
Thickness (T)	-5% / +10 %, with a minimum of $\pm 0.2$ mm and maximum $\pm 0.5$ mm
External corner profile	When T $\leq$ 6 mm: 1.6 x T-2.4 x T When 6 mm < t $\leq$ 10 mm: 2.0 x t-3.0 x t /> When T > 10 mm: 2.4 x T-3.6 x T
Squareness of side	90° $\pm 1^\circ$
Concavity/convexity	0.8%, with a minimum of 0.5 mm
Twist	2 mm + 0.5 mm/m
Straightness	0.15% of total length and 3 mm over any 1 m length
Mass per unit length	Individual tube: $\pm 6\%$
Mill length	0/+50 mm, 6000 $\leq$ L $\leq$ 18000 mm (standard lengths 6000 & 12000 mm)
Exact length	Agreed at the time of enquiry and order

<sup>1)</sup> All external dimensions are measured with a minimum distance from the end of the section. The distance must be a minimum of 100 mm.