COR-TEN B Tube

General Product Description

COR-TEN® B Tube is structural hollow section with anti-corrosive properties, which minimize the need for maintenance and corrosion-prevention treatment.

It is available in circular, rectangular, square and special shapes. Customized shapes and other tailoring options are available upon request. It is typically used in advanced engineering and construction where corrosion resistance is important. It meets the standard requirements of EN 10025-5 and EN 10219 and is CE marked.

COR-TEN® B Tube is manufactured by cold forming and high frequency welding from clean, high quality environmentally friendly steel by modern and efficient tube lines.

Dimension Range

COR-TEN® B Tube is available at circular, square and rectangular shapes.

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 [1] (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.

[1] Impact testing according to EN ISO 148-1 is performed on thicknesses ≥ 6mm. The specified minimum value corresponds to a full-size specimen.

Chemical Composition (ladle analysis)

C (max %)	Si (%)	Mn (%)	P (max %)	S (max %)	Al_{tot} (%)	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) [1	±1%, with a minimum of ±0.5 mm and a maximum of ±10 mm
Out-of-roundness	2%, when D/T ≤ 100
Thickness (T)	When D ≤ 323.9 mm: **-5%**/+10%, with a minimum of ±0.2 mm and maximum ±0.5 mm When 355.6 ≤ D ≤ 406.4 mm : ±10%, when T ≤ 5 mm / ±0.5 mm, when T > 5 mm When D > 406.4 mm : ±10%, with a maximum of ±2 mm
Straightness	0.20% of total length and 3 mm over any 1 m length
Mass per unit length	Individual tube: ±6%
Mill length	0/+50 mm, 6000 ≤ L ≤ 18000 mm (standard lengths 6000 & 12000 mm)
Exact length	Agreed at the time of enquiry and order

[1] 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) [1)]	When B, H < 100="" mm="" ±1="" %="" minimum="" ±0.5="" /> When 100 mm ≤ B, H ≤ 200 mm: ±0.8% When B, H > 200 mm: ±0.6%
Thickness (T)	**-5%** / +10 %, with a minimum of ±0.2 mm and maximum ±0.5 mm
External corner profile	When T ≤ 6 mm: 1.6 x T–2.4 x T When 6 mm < t="" ≤="" 10="" mm:="" 2.0="" x="" t-3.0="" x="" /> When T > 10 mm: 2.4 x T–3.6 x T
Squareness of side	90° ±1°
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: ±6%
Mill length	0/+50 mm, 6000 ≤ L ≤ 18000 mm (standard lengths 6000 & 12000 mm)
Exact length	Agreed at the time of enquiry and order

[1)] 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) [1)]	When B, H < 100="" mm="" ±1="" %="" minimum="" ±0.5="" /> When 100 mm ≤ B, H ≤ 200 mm: ±0.8% When B, H > 200 mm: ±0.6%
Thickness (T)	**-5%** / +10 %, with a minimum of ±0.2 mm and maximum ±0.5 mm
External corner profile	When T ≤ 6 mm: 1.6 x T–2.4 x T When 6 mm < t="" ≤="" 10="" mm:="" 2.0="" x="" t-3.0="" x="" /> When T > 10 mm: 2.4 x T–3.6 x T
Squareness of side	90° ±1°
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: ±6%
Mill length	0/+50 mm, 6000 ≤ L ≤ 18000 mm (standard lengths 6000 & 12000 mm)
Exact length	Agreed at the time of enquiry and order

[1)] All external dimensions are measured with a minimum distance from the end of the section. The distance must be a minimum of 100 mm.

Contact Information

www.ssab.com/contact