SSAB Domex Tube 550MH

General Product Description

SSAB Domex Tube 550MH is extra high strength structural hollow section.

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 weight reduction, lower costs and safety are important. It meets the standard requirements of EN 10219 when applicable and is CE marked according to EN 1090-2.

SSAB Domex Tube 550MH is manufactured by cold forming and high frequency welding from clean, high quality environmentally friendly steel by modern and efficient tube lines.

Dimension Range

SSAB Domex Tube 550MH is available at circular, square and rectangular shapes.

Circular	42.4 - 323.9 mm
Square	40x40 - 300x300 mm
Rectangular	50x30 - 400x200 mm
Wall thickness	2.0 - 12.50 mm
Mill length	6000 - 12 000/18 000 mm

Other shapes and sizes are available upon request.

Dimensions

Circular

Diameter	2.0mm (kg/m)	3.0mm (kg/m)	4.0mm (kg/m)	5.0mm (kg/m)	6.0mm (kg/m)	8.0mm (kg/m)	10.0mm (kg/m)	12.5mm (kg/m)
42.4 mm	1.99	2.19						
48.3 mm	2.28	3.35	4.37					
60.3 mm	2.88	4.24	5.55	6.82				
76.1 mm		5.41	7.11					
88.9 mm		6.36	8.38	10.4				
101.6 mm		7.29	9.63	11.9				
108 mm		7.77	10.3	12.7				
114.3 mm		8.23	10.9	13.5				
127 mm		9.17	12.1	15.0				
139.7 mm			13.4	16.6	19.8			
168.3 mm			16.2	20.1	24.0	31.6	39.0	
193.7 mm				23.3	27.8	36.6	45.3	
219.1 mm				26.4	31.5	41.7	51.6	
273 mm				33.1	39.5	52.3	64.9	80.3
323.9 mm					47.0	62.3	77.4	96.0

Square

Height x Width	2.0mm (kg/m)	3.0mm (kg/m)	4.0mm (kg/m)	5.0mm (kg/m)	6.0mm (kg/m)	8.0mm (kg/m)	10.0mm (kg/m)	12.5mm (kg/m)
40 x 40 mm	2.31	3.30	4.20					
50 x 50 mm	2.93	4.25	5.45					
60 x 60 mm	3.56	5.19	6.71	8.13				
70 x 70 mm		6.13	7.97	9.70				
80 x 80 mm		7.07	9.22	11.3	13.2			
90 x 90 mm		8.01	10.5	12.8	15.1			
100 x 100 mm		8.96	11.7	14.4	x	21.4		
120 x 120 mm			14.3	17.6	20.8	26.4		
140 x 140 mm			16.8	20.7	24.5	31.4	38.1	
150 x 150 mm			18.0	22.3	24.5	31.4	41.3	
160 x 160 mm				23.8	28.3	36.5	44.4	52.6
180 x 180 mm				27.0	32.1	41.5	50.7	60.5
200 x 200 mm						46.5	57.0	68.3
250 x 250 mm						59.1	72.7	
300 x 300 mm						71.6	88.4	

Rectangular

Height x Width	2.0mm (kg/m)	3.0mm (kg/m)	4.0mm (kg/m)	5.0mm (kg/m)	6.0mm (kg/m)	8.0mm (kg/m)	10.0mm (kg/m)
50 x 30 mm	2.31	3.30	4.20				
60 x 40 mm	2.93	4.25	5.45	6.56			
80 x 40 mm	3.56	5.19	6.71	8.13			
80 x 60 mm		6.13	7.97	9.70			
100 x 50 mm		6.60	8.59	10.5			
100 x 60 mm		7.07	9.22	11.3			
100 x 80 mm		8.01	10.5	12.8			
120 x 60 mm		8.01	10.5	12.8			
120 x 80 mm		8.96	11.7	14.4			
140 x 80 mm			13.0	16.0			
150 x 100 mm			14.9	18.3	21.7	27.7	
160 x 80 mm			14.3	17.6	20.8	26.4	
180 x 100 mm				20.7	24.5	31.4	38.1
200 x 100 mm				22.3	26.4	34.0	41.3
200 x 120 mm				23.8	28.3	36.5	44.4
250 x 100 mm				26.2	31.1	40.2	49.1
250 x 150 mm				30.1	35.8	46.5	57.0
300 x 200 mm					45.2	59.1	72.7
400 x 200 mm					54.7	71.6	88.4

Mechanical Properties

Yield Strength Rp0.2 (min MPa)	Tensile Strength Rm (MPa)	Elongation A_5 [2)] (min %)	Charpy-V -40°C 10x10 mm test specimen [1)] (J)
550	600 - 760	14	27

Mechanical properties meet or **exceed** the requirements of prEN 10219 (2016).

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

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

[2)] The hollow sections with D/T < 15 (round) or (B + H)/2T < 12,5 (rectangular and square), the minimum value of elongation is reduced by 2.

Chemical Composition

C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	Al_{tot} (min %)	Nb (max %)	V (max %)	Ti (max %)
0.16	0.25	1.80	0.020	0.012	0.015	0.090	0.20	0.150

Chemical composition meets or **exceeds** the requirements of prEN 10219 (2016).

The steel is aluminium-killed.

Carbon Equivalent Values

CEV (max %)	0.42

CEV value **exceeds** the requirements of prEN 10219 (2016).

CEV=C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

Tolerances

Characteristic	Circular hollow sections Tolerances meet or **exceed** the requirements of EN 10219
Outside diameter (D) [1]	±1%, however 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[3]: ±10%, when T ≤ 5 mm / ±0.5 mm, when T > 5 mm When D > 406.4 mm[3]: ±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 ≤ 12000 - 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.

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 mm 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 T 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 ≤ 12000 - 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.

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 mm 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 T 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 ≤ 12000 - 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