

## SSAB Weathering Tube 355WH

### General Product Description

SSAB Weathering Tube 355WH 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 prEN 10219 and is CE marked.

SSAB Weathering Tube 355WH 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 Weathering Tube 355WH is available at circular, square and rectangular shapes.

Circular	42.4 - 323.9 mm
Square	30x30 - 300x300 mm
Rectangular	40x20 - 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)	2.5mm (kg/m)	3.0mm (kg/m)	4.0mm (kg/m)	5.0mm (kg/m)	6.0mm (kg/m)	6.3mm (kg/m)	8.0mm (kg/m)	10.0mm (kg/m)	12.5mm (kg/m)
42.4 mm	1.99	2.46	2.91	3.79						
48.3 mm	2.28	2.82	3.35	4.37						
60.3 mm	2.88	3.56	4.24	5.55	6.82					
76.1 mm	3.65	4.54	5.41	7.11	8.77		10.8			
88.9 mm		5.33	6.36	8.38	10.4	12.3	12.8			
101.6 mm		6.11	7.29	9.63	11.9	14.2	14.8			
108 mm		6.50	7.77	10.3	12.7	15.1	15.8			
114 mm		6.89	8.23	10.9	13.5	16.0	16.8			
127 mm		7.68	9.17	12.1	15.0	17.9	18.8			
133 mm		8.05	9.62	12.7	15.8	18.8	19.7			
139.7 mm			10.1	13.4	16.6	19.8	20.7	26.0	32.0	
152.4 mm			11.1	14.6	18.2	21.7	22.7			
159 mm			11.5	15.3	19.0	22.6	23.7		36.8	
168.3 mm			12.2	16.2	20.1	24.0	25.2	31.6	39.0	
193.7 mm				18.7	23.3	27.8	29.1	36.6	45.3	55.9
219.1 mm				21.2	26.4	31.5	33.1	41.7	51.6	63.7
244.5 mm						35.29		46.66	57.83	71.52
273 mm				26.5	33.1	39.5	41.4	52.3	64.9	80.3
323.9 mm					39.3	47.0	49.3	62.3	77.4	96.0

**Square**

Height x Width	2.0mm (kg/m)	2.5mm (kg/m)	3.0mm (kg/m)	4.0mm (kg/m)	5.0mm (kg/m)	6.0mm (kg/m)	7.1mm (kg/m)	8.0mm (kg/m)	8.8mm (kg/m)	10.0mm (kg/m)	12.5mm (kg/m)
30 x 30 mm	1.68	2.03	2.36								
40 x 40 mm	2.31	2.82	3.30	4.20							
50 x 50 mm	2.93	3.60	4.25	5.45	6.56						
60 x 60 mm	3.56	4.39	5.19	6.71	8.13						
70 x 70 mm		5.17	6.13	7.97	9.70						
80 x 80 mm		5.96	7.07	9.22	11.3	13.2					
90 x 90 mm		6.74	8.01	10.5	12.8	15.1					
100 x 100 mm		7.53	8.96	11.7	14.4	17.0	19.4	21.4			
110 x 110 mm		8.31	9.90	13.0	16.0	18.9					
120 x 120 mm			10.8	14.3	17.6	20.8	23.8	26.4		31.8	
140 x 140 mm				16.8	20.7	24.5	28.3	31.4	34.2	38.1	
150 x 150 mm				18.0	22.3	26.4	30.5	34.0	36.9	41.3	48.7
160 x 160 mm				19.3	23.8	28.3	32.7	36.5	39.7	44.4	52.6
180 x 180 mm					27.0	32.1	37.2	41.5	45.2	50.7	60.5
200 x 200 mm					30.1	35.8	41.6	46.5	50.8	57.0	68.3
220 x 220 mm						39.6	46.1	51.5	56.3	63.2	76.2
250 x 250 mm						45.2	52.8	59.1	64.6	72.7	88.0
260 x 260 mm						47.1	55.0	61.6	67.3	75.8	91.9
300 x 300 mm						54.7	63.9	71.6	78.4	88.4	108

**Rectangular**

Height x Width	2.0mm (kg/m)	2.5mm (kg/m)	3.0mm (kg/m)	4.0mm (kg/m)	5.0mm (kg/m)	6.0mm (kg/m)	7.1mm (kg/m)	8.0mm (kg/m)	8.8mm (kg/m)	10.0mm (kg/m)	12.5mm (kg/m)
40 x 20 mm	1.68	2.03	2.36								
40 x 30 mm	1.99	2.42	2.83								
50 x 30 mm	2.31	2.82	3.30	4.20							
60 x 40 mm	2.93	3.60	4.25	5.45	6.56						
70 x 50 mm	3.56	4.39	5.19	6.71	8.13						
80 x 40 mm	3.56	4.39	5.19	6.71	8.13						
80 x 60 mm		5.17	6.13	7.97	9.70						

Height x Width	2.0mm (kg/m)	2.5mm (kg/m)	3.0mm (kg/m)	4.0mm (kg/m)	5.0mm (kg/m)	6.0mm (kg/m)	7.1mm (kg/m)	8.0mm (kg/m)	8.8mm (kg/m)	10.0mm (kg/m)	12.5mm (kg/m)
90 x 50 mm		5.17	6.13	7.97	9.70						
100 x 40 mm		5.17	6.13	7.97	9.70						
100 x 50 mm		5.6	6.60	8.59	10.5	12.3					
100 x 60 mm		5.95	7.07	9.22	11.3	13.2					
100 x 80 mm		6.74	8.01	10.5	12.8	15.1					
120 x 40 mm		5.96	7.07	9.22	11.3	13.2					
120 x 50 mm		6.35	7.54	9.85	12.1	14.2					
120 x 60 mm		6.74	8.01	10.5	12.8	15.1					
120 x 80 mm		7.53	8.96	11.7	14.4	17.0	19.4	21.4	23.1	25.6	
120 x 100 mm		8.31	9.90	13.0	16.0	18.9					
140 x 60 mm			8.96	11.7	14.4	17.0					
140 x 70 mm		7.92	9.43	12.4	15.2	17.9					
140 x 80 mm			9.90	13.0	16.0	18.9					
150 x 50 mm		7.53	8.96	11.7	14.4	17.0					
150 x 100 mm			11.3	14.9	18.3	21.7	24.9	27.7	30.0	33.4	
160 x 70 mm				13.6	16.8	19.8		25.2			
160 x 80 mm			10.8	14.3	17.6	20.8	23.8	26.4	28.6	31.8	
160 x 90 mm			11.3	14.9	18.3	21.7	24.9	27.7	30.0		
180 x 100 mm				16.8	20.7	24.5	28.3	31.4	34.2	38.1	
180 x 120 mm				18.0	22.3	26.4	30.5	34.0	36.9	41.3	48.7
200 x 80 mm				16.8	20.7	24.5	28.3	31.4	34.2	38.1	
200 x 100 mm				18.0	22.3	26.4	30.5	34.0	36.9	41.3	48.7
200 x 120 mm					23.8	28.3	32.7	36.5	39.7	44.4	52.6
220 x 120 mm					25.4	30.2	35.0	39.0	42.5	47.5	
250 x 100 mm					26.18	31.11		40.23		49.11	
250 x 150 mm					30.1	35.8	41.6	46.5	50.8	57.0	68.3
260 x 140 mm						35.8	41.6	46.5	50.8	57.0	68.3
260 x 180 mm						39.6	46.1	51.5	56.3	63.2	

Height x Width	2.0mm (kg/m)	2.5mm (kg/m)	3.0mm (kg/m)	4.0mm (kg/m)	5.0mm (kg/m)	6.0mm (kg/m)	7.1mm (kg/m)	8.0mm (kg/m)	8.8mm (kg/m)	10.0mm (kg/m)	12.5mm (kg/m)
300 x 100 mm					30.1	35.8	41.6	46.5	50.8	57.0	68.3
300 x 150 mm						40.5	47.2	52.8		64.8	78.1
300 x 200 mm						45.2	52.8	59.1	64.6	72.7	88.0
400 x 200 mm						54.7	63.9	71.6	78.4	88.4	108

## Mechanical Properties

Yield Strength Rp0.2 (min MPa)	Tensile Strength Rm (MPa)	Elongation A <sub>5</sub> <sup>2)</sup> (min %)	Charpy-V -20°C 10x10 mm test specimen <sup>1)</sup> (J)
355	470 - 630	20	27

Mechanical properties meet the requirements of S355J2WH, prEN 10219 (2016).

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

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

<sup>2)</sup> 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 (%)	P (max %)	S (max %)	Al <sub>tot</sub> (min %)	Cr (%)	Cu (%)
0.12	0.50	0.50 - 1.50	0.020	0.010	0.020	0.40 - 0.80	0.25 - 0.55

Chemical composition meets or **exceeds** the requirements of S355J2WH, prEN 10219 (2016).

The steel is aluminium-killed.

## Carbon Equivalent Values

CEV (max %)
0.50

CEV value **exceeds** the requirements of S355J2WH, prEN 10219 (2016).

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

## Tolerances

Characteristic	Circular hollow sections Tolerances meet or exceed the requirements of EN 10219
Outside diameter (D) <sup>1)</sup>	±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 <sup>3)</sup> : ±10%, when T ≤ 5 mm / ±0.5 mm, when T > 5 mm When D > 406.4 mm <sup>3)</sup> : ±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

<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.

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 $\pm 0.5$ mm 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: $1.6 \times T - 2.4 \times T$ When $6 \text{ mm} < T \leq 10$ mm: $2.0 \times T - 3.0 \times T$ When $T > 10$ mm: $2.4 \times T - 3.6 \times T$
Squareness of side	$90^\circ \pm 1^\circ$
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, $6000 \leq L \leq 12000 - 18000$ 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.

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 $\pm 0.5$ mm 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: $1.6 \times T - 2.4 \times T$ When $6 \text{ mm} < T \leq 10$ mm: $2.0 \times T - 3.0 \times T$ When $T > 10$ mm: $2.4 \times T - 3.6 \times T$
Squareness of side	$90^\circ \pm 1^\circ$
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, $6000 \leq L \leq 12000 - 18000$ 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.

## Contact Information

[www.ssab.com/contact](http://www.ssab.com/contact)