

## SSAB Weathering Tube 500WH

### General Product Description

SSAB Weathering Tube 500WH is extra high strength 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 weight reduction, lower costs, safety and specially corrosion resistance are important. It meets the standard requirements of prEN 10219 when applicable.

SSAB Weathering Tube 500WH 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 500WH is available at circular, square and rectangular shapes.

Circular	42.4 - 323.9 mm
Square	30x30 - 300x300 mm
Rectangular	50x30 - 400x200 mm
Wall thickness	2.0 - 12.50 mm

### 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	x	x						
48.3 mm	x	x	x					
60.3 mm	x	x	x	x				
76.1 mm		x	x					
88.9 mm		x	x	x				
101.6 mm		x	x	x				
108 mm		x	x	x				
114.3 mm		x	x	x				
127 mm		x	x	x				
133 mm		x	x	x				
139.7 mm		x	x	x	x	x	x	
152.4 mm			x	x				
159 mm			x	x	x	x	x	
168.3 mm			x	x	x	x	x	
193.7 mm				x	x	x	x	
219.1 mm				x	x	x	x	
273 mm				x	x	x	x	x
323.9 mm					x	x	x	x

**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)
30 x 30 mm	x	x						
40 x 40 mm	x	x	x					
50 x 50 mm	x	x	x					
60 x 60 mm	x	x	x	x				
70 x 70 mm		x	x	x				
80 x 80 mm		x	x	x	x			
90 x 90 mm		x	x	x	x			
100 x 100 mm		x	x	x	x	x		
110 x 110 mm		x	x					
120 x 120 mm		x	x	x	x	x		
140 x 140 mm			x	x	x	x	x	
150 x 150 mm			x	x	x	x	x	
160 x 160 mm				x	x	x	x	x
180 x 180 mm				x	x	x	x	x
200 x 200 mm				x	x	x	x	x
250 x 250 mm					x	x	x	x
300 x 300 mm					x	x	x	x

**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)	12.5mm (kg/m)
50 x 30 mm	x	x	x					
60 x 40 mm	x	x	x	x				
70 x 50 mm	x	x	x	x				
80 x 40 mm	x	x	x	x				
80 x 60 mm		x	x	x				
90 x 50 mm		x	x	x				
100 x 50 mm		x	x	x				
100 x 60 mm		x	x	x				
100 x 80 mm		x	x	x				
120 x 50 mm		x	x	x				
120 x 60 mm		x	x	x				
120 x 80 mm		x	x	x				
120 x 100 mm		x	x	x				
140 x 80 mm		x	x	x				
150 x 100 mm		x	x	x	x	x		
160 x 80 mm			x	x	x	x		
160 x 90 mm			x	x	x	x		
180 x 100 mm				x	x	x	x	
200 x 100 mm				x	x	x	x	
200 x 120 mm				x	x	x	x	x
250 x 100 mm				x	x	x	x	x
250 x 150 mm				x	x	x	x	x
300 x 200 mm					x	x	x	x
400 x 200 mm					x	x	x	x

## Mechanical Properties

Yield Strength Rp0.2	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)
500	580 - 760	15	40

Mechanical properties meet the requirements of S500K2WH, 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 (max %)	P (max %)	S (max %)	Al <sub>tot</sub> (min %)	Cr (max %)	Cu (max %)
0.20	0.65	0.50 - 1.50	0.020	0.020	0.020	0.40 - 0.80	0.25 - 0.55

Chemical composition meets or **exceeds** the requirements of S500K2WH, prEN 10219 (2016).

The steel is aluminium-killed.

## Carbon Equivalent Values

CEV (max %)	0.50
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CEV value **exceeds** the requirements of S500K2WH, 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)