

## Hardox Tube 500

### General Product Description

Abrasion-resistant tubes for extreme performance and extended service life

Hardox® Tube 500, as hard and tough as our wear plates, offer outstanding performance when you need both high wear resistance and a lighter product.

Despite its hardness, Hardox Tube 500 can be weld, cut, milled and drilled using standard workshop practices. It can replace costly wear products like hard-faced overlay plates and high chrome white iron.

### Dimension Range

Hardox® 500 tubes are available in circular shape.

Circular	76.1- 133 mm
Wall thickness	3- 6 mm
Mill length	6000 mm

Other lengths are available upon request.

### Circular

Diameter	3.0 mm	4.0 mm	5.0 mm	6.0 mm
76.1 mm	5.41	7.11	8.77	10.4
88.9 mm	6.36	8.38	10.4	12.3
101.6 mm	7.29	9.63	11.9	14.2
108 mm	7.77	10.3	12.7	15.1
114.3 mm	8.23	10.9	13.5	16.0
121 mm	8.73	11.5	14.3	17.0
133 mm	9.62	12.7	15.8	18.8

### Mechanical Properties

Wall Thickness (mm)	Hardness <sup>1)</sup> (HBW)
3.0- 6.0	470- 530

<sup>1)</sup> Brinell hardness test, HBW, according to EN ISO 6506-1.

### Chemical Composition

C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	Cr (max %)	Ni (max %)	Mo (max %)	B (max %)
0.30	0.70	1.60	0.020	0.010	1.50	1.5	0.60	0.005

The steel is grain refined.

## Carbon Equivalent Values

Wall Thickness (mm)	3 - 6
CET	0.41
CEV	0.62

$$CET = C + \frac{Mn + Mo}{10} + \frac{Cr + Cu}{20} + \frac{Ni}{40}$$

## Tolerances

Characteristic	Circular wear tube Tolerances based on the requirements of EN 10210
Outside diameter (D) <sup>1)</sup>	±1%, with a minimum of ±0.5 mm and a maximum of ±10 mm
Out-of-roundness	2%, when D/T ≤ 100
Thickness (T)	±10% when T ≤ 5 mm and ±0.5 mm when T > 5 mm
Straightness	0.20% of total length and 3 mm over any 1 m length
Mass per unit length	Individual tube: ±6%
Standard length	≥ 6000 mm: 0/+50 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.

## Delivery Conditions

The delivery condition is Q (Quenched).

The Hardox Tube 500 is delivered in as-rolled condition lightly oiled.

Delivery requirements can be found in SSAB's brochure 41-General product information Strenx, Hardox, ArmoX and Toolox-UK or at [www.ssab.com](http://www.ssab.com).

## Fabrication and Other Recommendations

Recommendations can be found in SSAB's brochures at [www.hardox.com](http://www.hardox.com) or consult Tech Support, [techsupport@ssab.com](mailto:techsupport@ssab.com).

Hardox Tube 500 has obtained its mechanical properties by quenching and after roll forming and plasma welding. The properties of the delivery condition cannot be retained after exposure to service or preheating temperatures in excess of 250°C. Hardox Tube 500 is not intended for further heat treatment.

Appropriate health and safety precautions must be taken when welding, cutting, grinding or otherwise working on this product. Grinding, especially of primer coated plates, may produce dust with a high particle concentration.

## Contact Information

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