

Strenx® Tube 700QLH

General Product Description

Strenx® Tube 700QLH is plasma-welded, quenched and tempered hollow section with a minimum yield strength of 700 MPa.

Its high strength, combined with naturally stiff form of the welded hollow section, enables construction of stronger and lighter structures. Strenx® Tube 700QLH meets or exceeds the requirements of prEN 10210 (2016).

Typical applications are load-bearing lattice structures in the lifting, material handling and transportation sectors, especially in conditions where extremely good toughness is needed.

Dimension Range

Strenx® Tube 700QLH is available at circular shape.

Circular	76.1- 133.0 mm
Wall thickness	2.0- 6.0 mm
Mill length	6000- 12 000 mm

Dimensions

Circular

Diameter	2.3mm (kg/m)	2.6mm (kg/m)	3.0mm (kg/m)	3.2mm (kg/m)	4.0mm (kg/m)	5.0mm (kg/m)	6.0mm (kg/m)	6.3mm (kg/m)
76.1 mm	4.19	4.71		5.75	7.11			
88.9 mm				6.76	8.38	10.4		12.8
101.6 mm				7.77	9.63	11.9		14.8
108 mm				8.27	10.3	12.7		15.8
114.3 mm				8.77	10.9	13.5		15.8
121 mm			8.73		11.5	14.3	17.0	
133 mm				10.24	12.7	15.8		19.7

Mechanical Properties

Yield Strength Rp0.2 (min MPa)	Tensile Strength Rm (MPa)	Elongation A ₅ (min %)	Charpy-V -40°C 10x10 mm test specimen ¹⁾ (J)
700	780- 930	14	40

Mechanical properties meet the requirements of prEN 10210 (2016).

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 (max %)	Mn (max %)	P (max %)	S (max %)	Cr (max %)	Cu (max %)	Ni (max %)	Mo (max %)	B (max %)
0.20	0.60	1.60	0.020	0.010	0.80	0.30	2.0	0.70	0.0050

In addition, boron (B), molybdenum (Mo), nickel (Ni) or copper (Cu) may be used as alloying elements either singly or in combination.

The steel is grain refined.

Typical Carbon equivalent

Typical CET	0.34
Typical CEV	0.48

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

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

Tolerances

Characteristic	Circular hollow sections Tolerances meet or exceed the requirements of EN 10210
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)	-10%
Straightness	0.20% of total length and 3 mm over any 1 m length
Mass per unit length	Individual tube: ±6%
Mill length	≥ 6000 mm: 0/+50 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.

Delivery Conditions

The tubes are plasma welded quenched and tempered.

Fabrication and Other Recommendations

Welding, bending and machining

Strenx® Tube 700 QLH has good weldability and it is suitable for thermal cutting. All the common welding methods are suitable with matching or undermatching consumables.

Tubes can also be sawed and machined with regular tools. Bending of the tubes is also possible, typically at least 5xD (five times the diameter) bending radius can be achieved with regular draw bending tooling.

Hot dip galvanizing Strenx® Tube 700 QLH hollow sections may lead to cracking. Please consult Tech Support prior galvanization.

For information concerning fabrication, see SSAB's brochures on www.ssab.com or consult Tech Support, techsupport@ssab.com.

Appropriate health and safety precautions must be taken when bending, welding, cutting, grinding or otherwise working on the product.

Contact Information

www.ssab.com/contact