



STRENX SECTION 650

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General Product Description

Advanced high-strength, cold-formed steel section

Strenx™ Section 650 is a cold-formed steel section made of hot-rolled, high-strength steel with a minimum yield strength of 650 MPa.

Its high-strength combined with naturally stiff form enables construction of stronger and lighter structures. Typical applications include demanding load-bearing structures in the lifting, handling and transportation segments.

The steel in Strenx Section 650 meets or exceeds the requirements of EN 10149-2. Its tolerances meet or exceed, when applicable, the requirements of EN 10162.

Strenx Section 650 is available as U-section. Other shapes and variations are available upon request. The maximum length of the sections is 21 meters, cut-to-length sections are available upon request.

Dimension Range

Strenx Section 650 is available as U-section. Other shapes and variations are available upon request.

Bottom length	50 - 400 mm
Side length	30- 200 mm
Wall thickness	2.5- 10.0 mm
Max. length	21 000 mm

Dimensions

t = wall thickness.

Dimensions

Product Type	Bottom Length (mm)	Side Length (mm)	Wall thickness (mm)
U-Section	50- 400	30- 200	2.5- 10

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Corner Radius	2.50 - 2.99 Thickness mm	3.00 - 6.00 Thickness mm	6.01 - 10.00 Thickness mm
Minimum inner corner radius for a 90° corner	0.8 x t	1.2 x t	1.5 x t

t = wall thickness.

Mechanical Properties

Wall thickness (mm)	Yield strength $R_{eH}^{1)2)}$ (min MPa)	Tensile strength R_m (MPa)	Elongation A_{80} (%)	Elongation A_5 (%)	Minimum inner corner radius for a 90° corner
2.50- 2.99	650	700- 850	12		0.8 x t
3.00- 6.00	650	700- 850		14	1.2 x t
6.01- 10.00	650	700- 850		14	1.5 x t

The mechanical properties are tested in the longitudinal direction.

- 1) If ReH is not applicable then Rp 0,2 is used.
- 2) On thicknesses >8 mm the minimum yield strength may be 20MPa lower.

Impact Properties

Test temperature	Minimum energy for test on longitudinal Charpy V 10x10 mm test specimens (J)
-40 °C	27 J

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

Chemical Composition (ladle analysis)

C (max %)	Si ¹⁾ (max %)	Mn (max %)	P (max %)	S (max %)	Al _{tot} (min %)	Nb ²⁾ (max %)	V ²⁾ (max %)	Ti ²⁾ (max %)
0.12	0.21	2.00	0.025	0.010	0.015	0.09	0.20	0.15

- 1) If the material is to be hot-dip galvanized according to category A or category B in EN 10149-2 this must be specified at the time of order.
- 2) Sum of Nb, V and Ti = max 0.22%.

The steel is grain refined.

Carbon equivalent

Wall thickness (mm)	2.5 - 10 mm
Typical CET	0.22
Typical CEV	0.34

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

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

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Tolerances

Tolerances according to EN 10162 when applicable. For Strenx Sections with material thickness over 8 mm SSAB guarantees same tolerances as given in EN 10162 for thickness range 6-8 mm. Narrower tolerances are available upon request.

Delivery Conditions

The sections are roll formed from thermomechanically rolled steel.

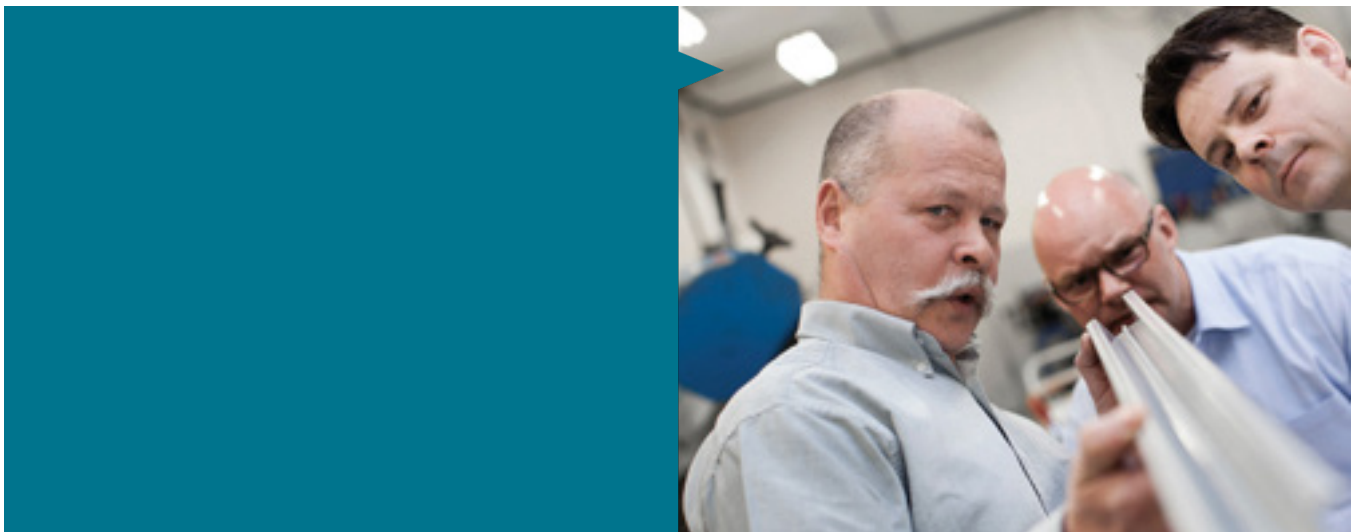
Fabrication and Other Recommendations

Welding, bending and machining

Strenx Section 650 has good weldability, including corner region, and it is suitable for thermal cutting. All the common welding methods are suitable with matching or undermatching consumables.

Sections can also be sawed and machined with regular tools. Bending of the sections is also possible, please contact Tech Support for further instructions.

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.



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