



STRENX SECTION 700

General Product Description

Advanced high-strength, cold-formed steel section

Strenx™ Section 700 is a cold-formed steel section made of hot-rolled, high-strength steel with a minimum yield strength of 700 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 700 meets or exceeds the requirements of EN 10149-2. Its tolerances meet or exceed, when applicable, the requirements of EN 10162.

Strenx Section 700 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 700 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 |

STRENX SECTION 700

| 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 | 1.6 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 | 700 | 750- 950 | 10 | | 0.8 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 | 2.10 | 0.020 | 0.010 | 0.015 | 0.09 | 0.20 | 0.15 |

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

Sum of Nb, V and Ti = max 0.22%

The steel is grain refined.

Carbon equivalent CET(CEV)

| Wall thickness (mm) | 2.5 - 10 mm |
|---------------------|-------------|
| Typical CET (CEV) | 0.24 (0.38) |

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

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

STRENX SECTION 700

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.

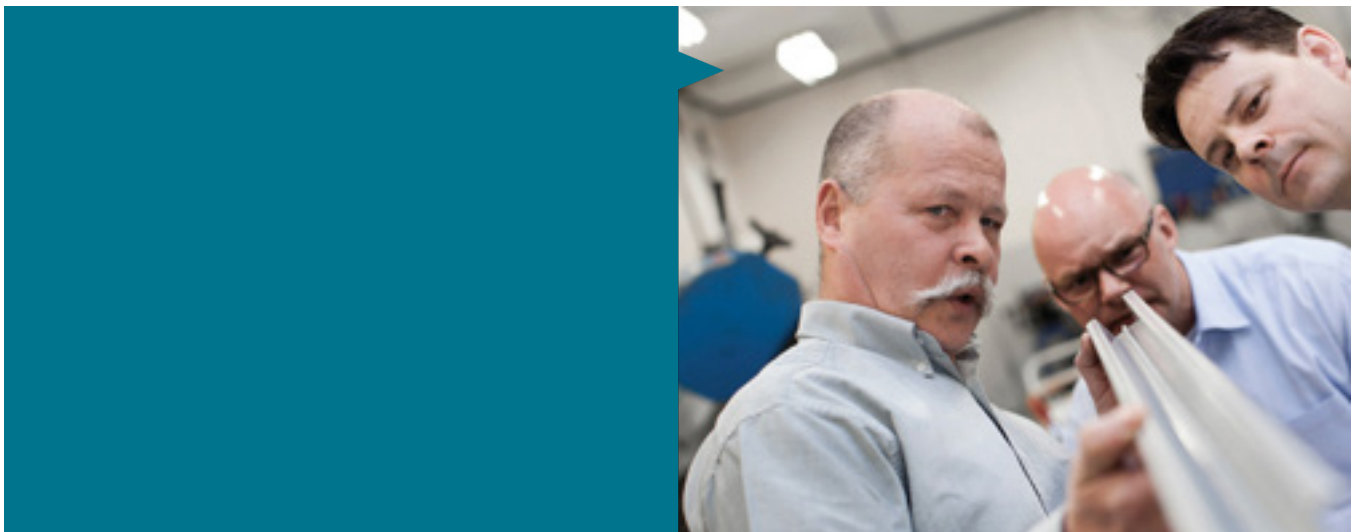
Fabrication and Other Recommendations

Welding, bending and machining

Strenx Section 700 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.



The UK English version of this document shall prevail in case of discrepancy. Download the latest version of this document at www.ssab.com
Hardox, Strenx, Docol, Dogal, Domex, Toolox, Laser, Armox, Ramor, GreenCoat are trademarks of SSAB Technology AB, Sweden