

General Product Description

Strenx® 900 Plus is a structural steel that guarantees a minimum yield strength of 900 MPa.

Strenx® 900 Plus provides a unique combination of strength and toughness together with first-rate workshop properties. Typical applications include load-bearing structures, where low weight is needed.

Strenx® 900 Plus meets the requirements of EN 10 025-6 for the S890QL grade.

Benefits include:

- High impact toughness which provides for good resistance to fractures
- Superior bendability and surface quality
- Weldability with excellent HAZ strength and toughness
- Exceptional consistency within a sheet guaranteed by close tolerances

Dimension Range

Strenx® 900 Plus is available as cut to length sheets in thicknesses of 2.0 - 8.0 mm. Strenx 900 Plus is available in widths up to 1600 mm and lengths up to 16000 meters depending on thickness. Please contact your sales representative for more information regarding dimensions.

Mechanical Properties

Thickness (mm)	Yield strength R _{eH} ¹⁾ (min MPa)	Tensile strength R _m (MPa)	Elongation A ₅ (min %)	Min. inner bending radius for a 90° bend
2.0 - 8.0	900	940 - 1100	11	3.0 x t

The mechanical properties are tested and guaranteed in both longitudinal and transverse direction.

¹⁾ If R_{eH} is not applicable then Rp0.2 is used.

Impact Properties

Test direction	Min. impact energy for Charpy V 10x10 mm tests specimens
Longitudinal	30 J/ -40°C
Transverse	27 J/ -40°C

Impact testing according to EN ISO 148-1 is performed on thicknesses ≥ 6mm. For thicknesses between 6.0 - 7.0 mm, sub-size Charpy V-specimens are used. The specified min value is then proportional to the cross-sectional area of the specimen compared to a full-size specimen (10x10 mm).

Chemical Composition (ladle analysis)

C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	Al _{tot} (min %)
0.18	0.50	1.70	0.020	0.010	0.018

The steel is grain refined. ^{*)} Intentional alloying elements.

Carbon equivalent CET(CEV)

Thickness (mm)	2.0 - 8.0
Typical CET(CEV)	0.34 (0.50)

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

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

Tolerances

More details are given in Strenx® Guarantees or on www.ssab.com.

Thickness

Tolerances according to Strenx® Thickness Guarantees. Strenx® Guarantees offer considerably narrower thickness tolerances compared to EN 10 051.

Length and Width

Width and length tolerances according to SSAB standard. The SSAB standard offer narrower width and length tolerances compared to EN 10 051. Length tolerances only apply for cut to length sheets.

Shape

Tolerances according to EN 10 051. Narrower tolerances according to the SSAB standard are available on request.

Flatness

Tolerances according to Strenx® Flatness Guarantees Class A. Strenx® Flatness Guarantees offer narrower tolerances compared to EN 10 051. Flatness guarantees only apply for cut to length sheets.

Surface Properties

According to EN 10 163-2 Class A, Subclass 3.

Delivery Conditions

Strenx® 900 Plus is supplied in as rolled surface condition, pickled surface is available in a limited thickness range. The delivery condition is Q+T (Quenched and Tempered).

Fabrication and Other Recommendations

Welding, bending and machining

Strenx® 900 Plus has very good weldability with good toughness and strength in the welds.

Strenx® 900 Plus has good forming and cutting performance. Strenx® 900 Plus is not suited for applications requiring hot working or heat treatments at temperatures above 400°C, since the material then may lose its guaranteed properties.

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