



## STRENX 900

### GENERAL PRODUCT DESCRIPTION

The high-strength structural steel at 900 MPa

Strenx™ 900 is a structural steel that guarantees a minimum yield strength of up to 900 MPa depending on thickness.

Strenx 900 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 meets the requirements of EN 10 025-6 for the S890 grade and thicknesses. Strenx 900E (complies with S 890 QL) is available in plate thicknesses of 4–100 mm, while Strenx 900F (complies with S 890 QL1) is available in the thickness range up to 80 mm.

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 plate guaranteed by close tolerances

### Dimension Range

Strenx 900E is available in plate thicknesses of 4 – 100 mm and Strenx 900F is available in the thickness range up to 80 mm. Both grades are available in widths up to 3350 mm and lengths up to 14630 mm depending on thickness. More detailed information on dimensions is provided in the dimension program.

### MECHANICAL PROPERTIES

Thickness (mm)	Yield strength $R_{p0.2}$ <sup>1)</sup> (min MPa)	Tensile strength $R_m$ <sup>1)</sup> (MPa)	Elongation $A_5$ (min %)
4.0- 53.0	900	940- 1100	12
53.1- 100	830	880- 1100	12

<sup>1)</sup> For transverse test pieces according to EN 10 025.

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## Impact Properties

Grade	Impact energy for tests on transverse Charpy V 10 x10 mm test specimens <sup>2)</sup>	Test temperature	Meet Requirements For
Strenx 900 E	27 J	-40 °C	S 890 QL
Strenx 900 F	27 J	-60 °C	S 890 QL1

<sup>2)</sup> Unless otherwise agreed, transverse impact testing according to EN 10025-6 option 30 will apply. For thicknesses between 6 - 11.9 mm, sub-size Charpy V-specimens are used. The specified minimum value is then proportional to the cross-sectional area of the specimen compared to a full-size specimen (10 x 10 mm).

## 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	0.50	1.60	0.020	0.010	0.80	0.3	2.0	0.70	0.005

The steel is grain refined. \*) Intentional alloying elements.

## Maximum Carbon equivalent CET(CEV)

Thickness (mm)	4.0 - 80.0 mm	80.1 - 100.0 mm
CET (CEV)	0.39 (0.58)	0.41 (0.63)

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

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

## TOLERANCES

More details are given in SSAB's brochures 41-General product information Strenx, Hardox, Armox and Toolox-UK and Strenx™ Guarantees or on [www.ssab.com](http://www.ssab.com).

### Thickness

Tolerances according to Strenx Thickness Guarantees. Strenx Guarantees meets the requirements of EN 10 029 Class A, but offers narrower tolerances.

### Length and Width

According to SSAB's dimension program. Tolerances conform with EN 10 029 or to SSAB's standard after agreement.

### Shape

SSAB offers tolerances according to EN 10 029

### Flatness

Tolerances according to Strenx Flatness Guarantee Class C, which are more narrow than EN 10 029 Class N.

### Surface Properties

According to EN 10 163-2 Class A, Subclass 1.

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## Bending

Tolerances according to Strenx Bending Guarantee Class B.

## DELIVERY CONDITIONS

The delivery condition is Q+T (Quenched and Tempered). The plates are delivered with sheared or thermally cut edges. Untrimmed edges after agreement. Delivery requirements can be found in SSAB's brochure 41-General product information Strenx, Hardox, ArmoX and Toolox-UK or on [www.ssab.com](http://www.ssab.com).

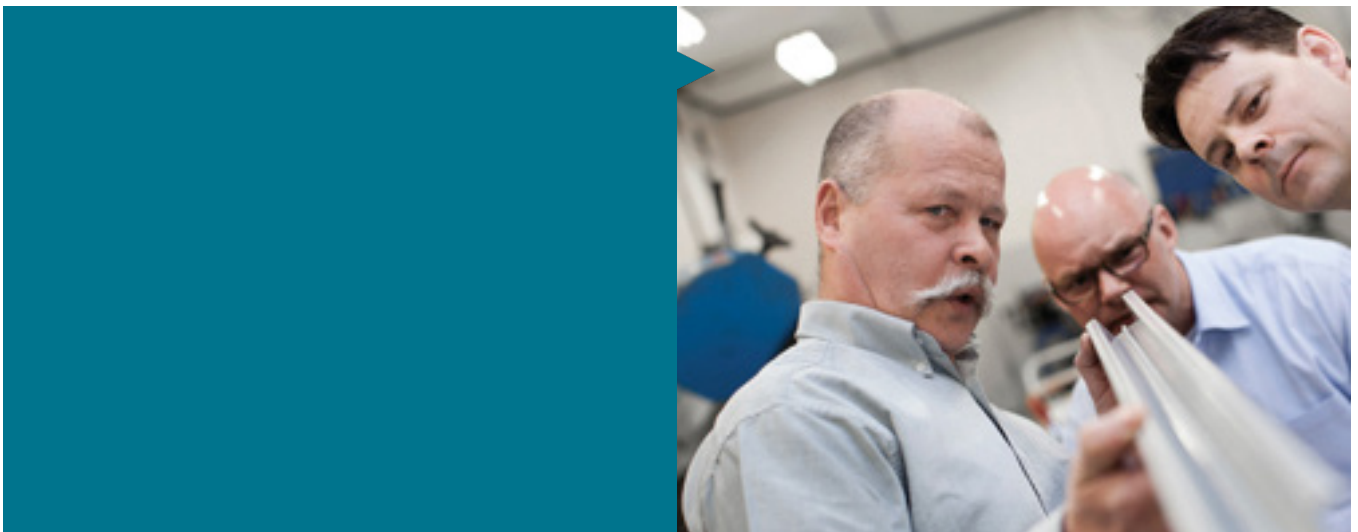
## FABRICATION AND OTHER RECOMMENDATIONS

### Welding, bending and machining

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

Strenx 900 has obtained its mechanical properties by quenching and subsequent tempering. The properties of the delivery condition cannot be retained after exposure to temperatures in excess of 550°C.

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.



The UK English version of this document shall prevail in case of discrepancy. Download the latest version of this document at [www.ssab.com](http://www.ssab.com)

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