

## General Product Description

Strenx® 900 E/F is a structural steel with a minimum yield strength of 830-900 MPa depending on thickness.

Strenx® 900 E fulfills the requirements for S890QL in EN 10025-6 and Strenx® 900 F for S890QL1. Typical applications include demanding load-bearing structures.

Strenx® 900 E/F 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® 900 E is available in 4.0 - 120.0 mm thickness and 900 F in 4.0 - 100.0 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 <sub>p0.2</sub> (min MPa)	Tensile strength R <sub>m</sub> (MPa)	Elongation A <sub>5</sub> (min %)
4.0 - 53.0	900	940 - 1100	12
53.1 - 120.0	830	880 - 1100	12

For transverse test pieces.

## Impact Properties

Grade	Min impact energy, transverse test, Charpy V 10x10 mm tests specimens <sup>1)</sup>	Meet Requirements For
Strenx® 900 E	27 J/ - 40 °C	S890QL
Strenx® 900 F	27 J/ - 60 °C	S890QL1

<sup>1)</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 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 %)	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	80.1 - 120.0
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 brochure 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 10029 Class A, but offers narrower tolerances.

## Length and Width

According to SSAB's dimension program. Tolerances conform with EN 10029 or to SSAB's standard after agreement.

## Shape

SSAB offers tolerances according to EN 10029.

## Flatness

Tolerances according to Strenx® Flatness Guarantee Class C, which are more narrow than EN 10029 Class N.

## Surface Properties

According to EN 10163-2 Class A, Subclass 3.

## Bending

Tolerances according to Strenx® Bending Guarantee Class B.

## Delivery Conditions

The delivery condition is 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 Strenx® Guarantees 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 E/F 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.

## Contact Information

[www.ssab.com/contact](http://www.ssab.com/contact)