

Strenx 960 Plus

Advanced High Strength steel

General Product Description

Strenx 960 Plus is a hot-rolled structural cold-forming steel with a minimum yield strength of 960 MPa. Strenx 960 Plus has very good weldability with good toughness and strength in the welds.

Typical applications are advanced lifting devices and lighter transport solutions and components.

Available dimensions

Strenx 960 Plus is available as cut to length sheets in thicknesses of 3.00 - 6.00 mm, widths up to 1600 mm and lengths up to 16 meters.

Mechanical Properties

Yield strength R _{eH} ¹⁾ Min MPa	Tensile strength R _m MPa	Elongation A ₅ Min % Sheet thickness t ≥ 3mm
960	980 - 1250	10

The mechanical properties are tested in the longitudinal direction.

Mechanical testing in the transverse direction is available after special agreement at order.

¹⁾ If R_{eH} is not applicable then R_{p0.2} is used.

Impact properties	960 Plus -40°C
Minimum energy for test on longitudinal Charpy V 10x10 mm test specimens (J)	27

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

Bending properties	3 mm ≤ t ≤ 6 mm
Min. inner bending radius for a 90° bend	3.5xt

For both longitudinal and transverse direction.

Chemical Composition (ladle analysis)

C % Max	Si % Max	Mn % Max	P % Max	S % Max	Al _{tot} % Min
0.18	0.50	2.10	0.020	0.010	0.018

The steel is grain refined.

In addition Nb, V, Cr, Mo, B, Ti may be used.

Carbon equivalent

	3 mm ≤ t ≤ 6 mm
CET / CEV Typical	0.34 / 0.50

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

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

Tolerances

More details are given 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 960 Plus is supplied in as rolled surface condition, pickled surface is available in a limited thickness range.
The product is thermomechanically rolled and further processed for final properties.

Fabrication and Other Recommendations

Strenx 960 Plus has very good weldability with good toughness and strength in the welds.

Strenx 960 Plus has good forming and cutting performance.

Strenx 960 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 and Information

For information, see SSAB's brochures on www.ssab.com or consult Tech Support, techsupport@ssab.com.

The UK English version of this document shall prevail in case of discrepancy. Download the latest version of this document at www.ssab.com.