

## General Product Description

The high-strength structural steel at 1100 MPa

Strenx® 1100MC is a hot-rolled structural steel made for cold forming, with a minimum yield strength of 1100 MPa for stronger and lighter structures.

These cut-to-length sheets feature excellent thickness accuracy and surface quality in relation to strength level, providing an outstanding finish to the final products.

Typical applications include a wide range of parts and components such as demanding load-bearing structures.

## Dimension Range

Strenx® 1100MC is available as cut to length sheets in thicknesses of 3.00 to 8.00 mm, widths up to 1700mm and lengths up to 16 meters.

## Mechanical Properties

Thickness (mm)	Yield strength R <sub>eH</sub> <sup>1)</sup> (min MPa)	Tensile strength R <sub>m</sub> (MPa)	Elongation A <sub>5</sub> (min %)	Min. inner bending radius for a 90° bend <sup>2)</sup>
3 - 8	1100	1250 - 1450	7	4.0 x t

The mechanical properties are tested in the longitudinal direction.

<sup>1)</sup> If R<sub>eH</sub> is not applicable then R<sub>p0.2</sub> is used.

<sup>2)</sup> For both longitudinal and transverse direction.

## Impact Properties

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

Impact testing according to EN ISO 148-1 is performed on thicknesses ≥ 6mm.

The specified minimum value corresponds to a full-size specimen.

## Chemical Composition (ladle analysis)

C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	Al (min %)
0.15	0.5	1.8	0.020	0.005	0.015

The steel is grain refined.

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

## Carbon equivalent CET(CEV)

Thickness (mm)	3.0 - 8.0
Typical CET(CEV)	0.33 (0.56)

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

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

## Tolerances

More details are given in SSAB's brochures Strenx® Guarantees or on [www.ssab.com](http://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.

### 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

Thermomechanically Rolled. Strenx® 1100MC is available in as rolled surface condition.

Delivery requirements can be found in SSAB's brochure Strenx® Guarantees or on [www.ssab.com](http://www.ssab.com).

### Fabrication and Other Recommendations

Strenx® 1100MC has good welding, cold forming and cutting performance.

Strenx® 1100MC is not suited for applications requiring hot working or heat treatments at temperatures above 200°C since the material then may lose its guaranteed properties.

For information concerning fabrication, see SSAB's brochures on [www.ssab.com](http://www.ssab.com) or consult Tech Support, [techsupport@ssab.com](mailto: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](http://www.ssab.com/contact)