

# Strenx 1100 MC

## Advanced High Strength steel

### General Product Description

Strenx 1100 MC is a hot-rolled structural cold-forming steel with a minimum yield strength of 1100 MPa intended to give stronger and lighter structures.

Typical applications are a wide range of parts and components for example demanding load bearing structures.

#### Available dimensions

Strenx 1100 MC is available as cut to length sheets in thicknesses of 3.00 to 8.00 mm, widths up to 1560 mm and lengths up to 13 meters.

### Mechanical Properties

| Yield strength<br>R <sub>eH</sub> <sup>1)</sup> Min MPa | Tensile strength<br>R <sub>m</sub> MPa | Elongation<br>A <sub>5</sub> Min %<br>Sheet thickness t ≥ 3mm |
|---|--|---|
| 1100  | 1200 - 1460                            | 6   |

The mechanical properties are tested in the transverse direction.

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

| Impact properties   | 1100 MC -20°C |
|---|---------------|
| Minimum energy for test on longitudinal Charpy V<br>10x10 mm test specimens (J) | 27            |

Impact testing according to EN ISO 148-1 is performed on thicknesses ≥ 5mm.

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

| Bending properties                       | 3 mm ≤ t ≤ 8 mm |
|--|-----------------|
| Min. inner bending radius for a 90° bend | 4.0xt           |

For both longitudinal and transverse direction.

### Chemical Composition (ladle analysis)

| C %<br>Max | Si %<br>Max | Mn %<br>Max | P %<br>Max | S %<br>Max | Al <sub>tot</sub> %<br>Min | Nb %<br>Max        | V %<br>Max         | Ti %<br>Max        |
|------------|-------------|-------------|------------|------------|----------------------------|--------------------|--------------------|--------------------|
| 0.16       | 0.30        | 1.30        | 0.015      | 0.010      | 0.015                      | 0.05 <sup>1)</sup> | 0.05 <sup>1)</sup> | 0.07 <sup>1)</sup> |

<sup>1)</sup> Sum of Nb, V and Ti is max 0,18%

The steel is grain refined.

In addition Cr, Mo, B may be used.

#### Carbon equivalent

|                   | 3 mm ≤ t ≤ 8 mm |
|-------------------|-----------------|
| CET / CEV Typical | 0.30 (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](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.  
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

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

## Fabrication and Other Recommendations

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

Strenx 1100 MC is not suited for applications requiring hot working or heat treatments at temperatures above 300°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 and Information

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