

Strenx® 700 MC Plus

General Product Description

The high-strength structural steel with excellent formability

Strenx® 700 MC Plus is a high-strength structural steel with advanced cold formability and impact toughness for highly demanding applications.

Strenx® 700 MC Plus meets or exceeds the requirements of S700MC in EN 10149-2. It is typically used in highly demanding applications that require superior bendability, high impact toughness in cold conditions and the ability to cut mechanically. Strenx 700 MC Plus comes in cut-to-length sheets.

Dimension Range

Strenx® 700 MC Plus is available as cut to length sheets in thicknesses of 3.0- 12.0 mm, widths up to 1525 mm and lengths up to 12300 mm.

Mechanical Properties

Thickness (mm)	Yield strength R _{eH} ¹⁾²⁾ (min MPa)	Tensile strength R _m (MPa)	Elongation A ₅ (min %)	Min. inner bending radius for a 90° bend ³⁾
3- 10	700	750- 950	13	1.0 x t
10.01- 12	700	750- 950	13	1.5 x t

The mechanical properties are tested in the longitudinal direction.

¹⁾ If ReH is not applicable then Rp 0,2 is used.

²⁾ On thicknesses >8 mm the minimum yield strength may be 20MPa lower.

³⁾ For both longitudinal and transverse direction.

Impact Properties

Test direction	Min impact energy for Charpy V 10x10 mm tests specimens
Longitudinal	40 J/-60°C

Impact testing in the transverse direction is available if specified at the time of order.

Impact testing according to EN ISO 148-1 is performed on thicknesses ≥ 5mm. 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 _{tot} (min %)	Nb ¹⁾ (max %)	V ¹⁾ (max %)	Ti ¹⁾ (max %)
0.12	0.25	2.10	0.020	0.010	0.015	0.09	0.20	0.15

The steel is grain refined.

¹⁾ Sum of Nb, V and Ti = max 0.22%

Carbon equivalent CET(CEV)

Thickness (mm)	3.0 - 11.4	11.5 - 12.0
Typical CET(CEV)	0.24 (0.38)	0.26 (0.40)

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

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

Tolerances

More details are given in Strenx® Guarantees or 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

Thermomechanically Rolled. Strenx® 700 MC Plus is available in as rolled or pickled surface condition.

Fabrication and Other Recommendations

Welding, bending and machining

Strenx® 700 MC Plus has good welding, cold forming and cutting performance.

Strenx® 700 MC Plus is a cold forming steel not suited for heat treatments at temperatures above 580°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 Information

www.ssab.com/contact