

Strenx® 100 XF

General Product Description

Strenx® 100 XF cold-forming steel is a thermomechanically rolled product with a minimum yield strength of 100 ksi. Strenx® 100 XF is a cold forming steel for light- and heavy transport solutions and components.

Available dimensions

Strenx® 100 XF is available in thicknesses of 0.079 - 0.393 inches (2-10 mm), and in widths up to 63 inches (1600 mm) as coil, slit coil and as cut to length sheets in lengths up to 630 inches (16000 mm). Strenx® 100 XF can be supplied according to ASTM A1011 or A1018 specifications if agreed up on at the time of order.

Mechanical Properties

Yield strength R_{eH} Min ksi/MPa	Tensile strength R_m Min ksi/MPa	Elongation A_{50} Min % Sheet thickness $t \geq 2$ mm
100/690	110/760	15

The mechanical properties are tested in the transverse direction.

If ordered according to ASTM A1011 specification the tensile testing is performed in the longitudinal direction and the guaranteed elongation is A50 min 14 %.

Impact properties	-40°F / (-40°C)
Minimum energy for test on longitudinal Charpy V 10x10 mm test specimens ¹⁾ ft-lbs (J)	20 / (27)

¹⁾Impact testing according to EN ISO 148-1 is performed on thicknesses ≥ 0.236 inch (6.0mm). The specified minimum value corresponds to a full-size specimen.

Bending properties	$t < 0.137$ inch	$0.137 \leq t \leq 0.236$ inch	$t > 0.236$ inch
Min. inner bending radius for a 90° bend	0.8 xt	1.2 xt	1.6 xt

For both longitudinal and transverse direction.

Chemical Composition (ladle analysis)

C Max %	Si Max %	Mn Max %	P Max %	S Max %	Al Min %	Nb Max %	V Max %	Ti Max %
0.12	0.03 ¹⁾	2.10	0.025	0.010	0.015	0.09 ²⁾	0.20 ²⁾	0.15 ²⁾

¹⁾ Strenx® 100XF is available with different levels of Si: from max 0.03%, up to max 0.28%.

Max Si 0.03% is the standard version that is suitable for hot dip galvanizing with thin Zinc layers, and for products that will not be galvanized.

If the material is to be hot-dip galvanized and a thicker Zinc layer is requested, this must be specified at the time of order.

²⁾ Sum of Nb, V and Ti = 0.22% max.

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

Thermomechanically Rolled. Strenx[®] 100 XF is available in as rolled or pickled surface condition with mill or cut edge.

Fabrication and Other Recommendations

Welding, bending and machining

Strenx[®] 100 XF has good welding, cold forming and cutting performance. Strenx[®] 100 XF is a cold forming steel not suited for heat treatments at temperatures above 1080°F (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 and Information

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