

General Product Description

SSAB Laser® 275C is an advanced structural cold forming steel for laser cutting. The SSAB guarantee for flatness, both before and after laser cutting, is ≤ 3 mm/m deviation.

SSAB Laser® 275C meets and exceeds the requirements of S275J2C+N in EN 10025-2. Dual certification and CE marking are available upon request.

Dimensions

Delivery form	Thickness (mm)	Width (mm)	Length (mm)
Hot rolled sheet as rolled	2.0- 16.0	1000- 1860	1000- 16000
Hot rolled sheet pickled and oiled	2.0- 16.0	1000- 1830	1000- 16000
Hot rolled plate as rolled	8.0- 30.0	1000- 3300	2000- 15000

Mechanical Properties

Delivery form	Thickness (mm)	Yield strength R_e (min MPa)	Tensile strength R_m (MPa)	[Missing] (min %)	Elongation A_5 (min %)	Min inner bending radius $90^\circ t \leq 6\text{mm}^*$ (x t)	Min inner bending radius $90^\circ t > 6\text{mm}^*$ (x t)
Hot rolled sheet	2.0- 16.0	275	410- 560 ¹⁾	17	21	1.0	1.0
Hot rolled plate	8.0- 30.0	275	410- 560	-	21	1.0	-

The mechanical properties are tested transverse to the direction of rolling.

1) For thickness < 3 mm the tensile strength is 430-580 MPa.

2) A_{80} value applies for thicknesses < 3.00 mm.

3) A_5 value applies for thicknesses ≥ 3.00 mm.

*Bending guarantees are valid for both longitudinal and transverse direction.

Impact Properties

Grade	Min longitudinal test impact energy
SSAB Laser® 275C	40J /-20°C

Impact strength is tested by the Charpy V test in accordance with EN ISO148-1:2010. Impact energy value ≥ 40 J is guaranteed for test piece size 10 x 10 mm.

When testing thickness < 10 mm, the width of the test pieces correspond with the plate thickness. The values decrease in direct relation to the surface area of the test piece. No impact tests are carried out for thicknesses < 6 mm.

Chemical Composition (Ladle analysis)

Delivery form	C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	CEV (max)
Cut to Length	0.18	0.03	1.60	0.020	0.020	0.39
Heavy Plate	0.19	0.03	1.60	0.020	0.020	0.42

All SSAB Laser® steels are aluminum-killed (Al $\geq 0.015\%$) and grain-refined. Additionally, niobium (Nb), vanadium (V), titanium (Ti) and/or boron (B) may be used as single alloying element or in any combination.

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

Tolerances

All SSAB Laser® products are delivered with SSAB Laser® tolerances, which means increased guarantees compare to corresponding EN standards. Detailed information is available on ssab.com.

Thickness

Hot rolled sheet: SSAB Laser® tolerances correspond to ⅔ of EN 10 051:2010 as default. Tighter tolerances are available upon request.

Hot rolled plate: SSAB Laser® tolerances correspond to ¾ of EN 10 029:2011 as default.

Width

Hot rolled sheet: -0/+20 mm for mill edge sheet; -0/+2 mm for cut edge sheet. Tighter tolerances are available upon request.

Hot rolled plate: -0/+4-10mm depending on the thickness.

Length

Hot rolled sheet:

Nominal sheet length <i>l</i> (mm)	Tolerance (mm)
$l \leq 4000$	-0 /+3
$4000 < l \leq 6000$	-0 /+4
$6000 < l \leq 8000$	-0 /+5
$8000 < l \leq 13000$	-0 /+6
$13000 < l \leq 16000$	-0 /+7

Hot rolled plate:

Nominal plate length <i>l</i> (mm)	Tolerance (mm)
$2000 < l \leq 10000$	-0 /+15
$10000 < l \leq 15000$	-0 /+20

Shape

Hot rolled sheet: according to EN 10 051:2010.

Hot rolled plate: according to EN 10 029:2011.

Flatness

Hot rolled sheet: ≤ 3 mm/m flatness deviation for both delivery condition and laser cut parts.

Hot rolled plate: ≤ 3 mm/m flatness deviation for both delivery condition and laser cut parts.

Surface Properties

According to EN 10 163-2 Class A, Subclass 3.

Delivery Conditions

SSAB Laser 275C® is delivered in normalized rolled condition.

Surface and edge condition

Hot rolled sheet: as rolled or pickled and oiled surface condition with mill edge. Cut edge is available upon request.

Hot rolled plate: as rolled surface condition and cut edges as default.

Fabrication and Other Recommendations

All SSAB Laser® products have been optimized for laser cutting, cold forming and welding.

For information concerning fabrication, please visit ssab.com, consult your local contact person or contact SSAB's Tech Support organization by e-mail at techsupport@ssab.com.

Appropriate health and safety precautions must be taken when cutting, bending, machining, welding, or otherwise working on the product.

Contact Information

www.ssab.com/contact