

General Product Description

SSAB Laser[®] 355C 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[®] 355C meets and exceeds the requirements of S355K2C+N in EN 10025-2. Dual certification and CE marking are available upon request.

Dimension Range

Delivery form	Thickness (mm)	Width (mm)	Length (mm)
Hot rolled sheet as rolled	3.0 - 15.0	1000 - 1860	1000 - 16000
Hot rolled sheet pickled and oiled	3.0 - 15.0	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)	Elongation A ₅ (min %)	Min. inner bending radius 90° t ≤ 6mm ¹⁾ (x t)	Min. inner bending radius 90° t > 6mm ¹⁾ (x t)
Hot rolled sheet	3.0 - 15.0	355	490 - 630	20	1.5	1.5
Hot rolled plate	8.0 - 30.0	355	490 - 630	20	—	1.5

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

¹⁾ The bending guarantee is valid for both longitudinal and transverse direction.

Impact Properties

Min. impact energy for longitudinal testing, Charpy V 10x10 mm test specimens

40 J / -20 °C

Impact testing according to EN ISO 148-1 is performed on thicknesses ≥ 6 mm. The specified minimum value corresponds to a full-size specimen.

Chemical Composition (heat analysis)

Delivery form	C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	CEV (max)
Hot rolled sheet	0.18	0.03	1.6	0.020	0.020	0.45
Hot rolled plate	0.2	0.03	1.6	0.020	0.020	0.45

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 compared to corresponding EN standards. Detailed information is available on ssab.com.

Thickness

Hot rolled sheet: SSAB Laser[®] tolerances correspond to $\frac{2}{3}$ of EN 10051 as default. Tighter tolerances are available upon request.

Hot rolled plate: SSAB Laser[®] tolerances correspond to $\frac{3}{4}$ of EN 10029 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 length (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 / + 8

Hot rolled plate:

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

Shape

Hot rolled sheet: according to EN 10051.

Hot rolled plate: according to EN 10029.

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 10163-2 Class A, Subclass 3.

Delivery Conditions

Normalized rolled.

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, see SSAB's brochures on www.ssab.com or consult Tech Support.

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

Contact Information

www.ssab.com/contact