SSAB Laser® 355ML Plus

General Product Description

SSAB Laser® 355ML Plus is an advanced thermomechanically rolled weldable fine grain steel for laser cutting and cold forming. The SSAB guarantee for flatness, both before and after laser cutting, is ≤ 3 mm/m deviation.

SSAB Laser® 355ML Plus meets and exceeds the requirements of S355ML in EN 10025-4. Dual certification and CE marking are available upon request.

Dimensions

Delivery form	Thickness (mm)	Width (mm)	Length (mm)
Hot rolled plate	8.0- 30.0	1000- 3300	2000- 15000

Mechanical Properties

Delivery form	Yield strength R_{eh} (min MPa)	Tensile strength R_m (MPa)	Elongation A_5 (min %)	Min inner bending radius 90°* (x t)
Hot rolled plate	355	470- 630	22	1.0

The mechanical properties are tested transverse to the direction of rolling.
*The bending guarantee is valid for both longitudinal and transverse direction.

Impact Properties

Grade	Min longitudinal test impact energy
SSAB Laser® 355ML Plus	40J /-50°C

Impact strength is tested by the Charpy V test in accordance with EN ISO148-1:2010. Impact energy value ≥ 40J 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.

Chemical Composition (Ladle analysis)

C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	CEV (max)
0.12	0.03	1.5	0.020	0.015	0.34

All SSAB Laser® steels are aluminum-killed (Al ≥ 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

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

Width

-0/+4-10mm depending on the thickness.

Length

Nominal plate length l (mm)	Tolerance (mm)
2000 < *l* ≤ 10000	-0 / +15
10000 < *l* ≤ 15000	-0 / +20

Shape

According to EN 10 029:2011.

Flatness

≤ 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

Thermo-mechanically rolled.

Surface and edge condition

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.

SSAB Laser® 355ML Plus is a thermomechanically rolled weldable fine grain steel for laser cutting and cold forming. It is not suited for heat treatments at temperatures above 580°C, since the material then may lose its guaranteed properties.

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