

## SSAB Laser<sup>®</sup> 355ML Plus

### General Product Description

SSAB Laser<sup>®</sup> 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  $\leq 3$  mm/m deviation.

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

### Dimension Range

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

### Mechanical Properties

Yield strength $R_{eH}$ (min MPa)	Tensile strength $R_m$ (MPa)	Elongation $A_5$ (min %)	Min. inner bending radius for a 90° bend <sup>1)</sup> (x t)
355	470 - 630	22	1.0

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

<sup>1)</sup> 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 / -50 °C

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

### Chemical Composition (heat analysis)

C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	CEV (max)
0.12	0.03	1.60	0.020	0.015	0.38

All SSAB Laser<sup>®</sup> 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<sup>®</sup> products are delivered with SSAB Laser<sup>®</sup> tolerances, which means increased guarantees compared to corresponding EN standards. Detailed information is available on [ssab.com](http://ssab.com).

#### Thickness

SSAB Laser<sup>®</sup> tolerances correspond to  $\frac{3}{4}$  of EN 10029 as default.

#### Width

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

#### Length

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

#### Shape

According to EN 10029.

#### Flatness

$\leq 3$  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

Thermomechanically 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® ML Plus products are thermomechanically rolled weldable fine grain steels 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, see SSAB's brochures on [www.ssab.com](http://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](http://www.ssab.com/contact)