

## SSAB Boron 38

### General Product Description

SSAB Boron 38 is steel for quench- and press hardening. The degree of hardness and toughness that can be achieved after heat-treatment will provide the final products with wear- and shock resistance properties that assure longer lifetime.

### Dimension Range

SSAB Boron 38 is available in thickness range 1.00-15.00 mm and widths up to 1800 mm as coils, slit coils and CTL. Lengths up to 16 meters as cut to length.

### Mechanical Properties (typical values)

Condition	Yield strength (MPa)	Tensile strength (MPa)	Elongation A (%)	Hardness (HBW)
Cold rolled annealed	350	500	27	160
Cold rolled water quenched		2050		585
Cold rolled oil quenched		1845		530
Hot rolled	430	630	19	190
Hot rolled annealed	370	570	24	175
Hot rolled water quenched	1310	1920	6	590
Hot rolled oil quenched	1090	1600	7	490

### BENDING RADIUS

Minimum bending radius of hot rolled strip products is 2 x sheet thickness. A tighter bending radius, 1 x sheet thickness, can be guaranteed for the annealed strip products.

### Materials testing

A test certificate according to EN 10204/2.2 (chemical composition) is part of the delivery.

A test certificate according to EN 10204/3.1 can be provided by special agreement only.

### Chemical Composition

Condition	C (%)	Si (%)	Mn (%)	S (max %)	P (max %)	Cr (%)	B (%)
Cold Rolled	0.36- 0.41	0.10- 0.30	1.20- 1.40	0.010	0.020	0.10- 0.40	0.0008- 0.0050
Hot Rolled Strip	0.36- 0.41	0.10- 0.30	1.20- 1.40	0.010	0.020	0.10- 0.40	0.0008- 0.0050

The steel is grain refined.

### Carbon Equivalent Values

Condition	Hot Rolled Strip
Typical CEV	0.64

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

## Tolerances

SSAB Boron steels are delivered with SSAB Boron tolerances which meet and exceed the requirements in corresponding EN standards. Tighter tolerances are available on request.

### Thickness

Cold rolled coils and sheet products: according to EN 10 131:2006. Tighter tolerances are available on request.

Hot rolled coils and sheet products: according to SSAB Boron thickness tolerances that exceed EN 10051 and correspond to 2/3 of EN 10051:2010 as default value.

### Length and width

Cold rolled coils and sheet products: according to EN 10 131:2006. Tighter tolerances are available on request.

Hot rolled coils and sheets with mill edges: SSAB Boron width tolerances are corresponding to -0/+20 mm.

Hot rolled coils and sheets with cut edges: SSAB Boron width tolerances are corresponding to -0/+2 mm.

### Shape

Hot rolled coils and sheets: SSAB Boron is delivered with shape tolerances according to EN 10051:2010. Tighter shape tolerances are available on request.

### Flatness

Hot rolled sheets: SSAB Boron tolerances correspond to SSAB Flatness Guarantees Class B. SSAB Boron tolerances guarantee a maximum flatness deviation of 6 mm/m in addition to the EN 10051:2010 flatness requirements. Flatness guarantees only apply for cut to length sheets.

### Surface Properties

Hot rolled strip products: According to EN 10 163-2 Class A, Subclass 3.

## Delivery Conditions

Cold rolled coils and sheets are delivered in annealed condition.

Hot rolled coils and sheets are delivered in as-rolled or by separate agreement annealed condition.

### SURFACE CONDITION

Cold rolled products are available with oiled or dry surface.

Hot rolled strip products are available in non-pickled, pickled dry or pickled & oiled condition.

## Fabrication and Other Recommendations

For information concerning fabrication, see SSAB's brochures on [www.ssab.com](http://www.ssab.com) or consult Tech Support, [techsupport@ssab.com](mailto:techsupport@ssab.com).

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

## Contact Information

[www.ssab.com/contact](http://www.ssab.com/contact)