

### General Product Description

SSAB Boron 22 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 22 is available in thickness range 0.70-80.00 mm and widths up to 1800 mm as coils, slit coils and CTL and 3300 mm as plate. Lengths up to 16 meters as cut to length.

### Mechanical Properties

Condition	Typical yield strength (MPa), not guaranteed	Typical tensile strength (MPa), not guaranteed	Typical Elongation A (%), not guaranteed	Typical hardness (HBW), not guaranteed
Cold rolled annealed	350	500	27	160
Cold rolled water quenched	–	1580	–	460
Cold rolled oil quenched	–	1400	–	415
Hot rolled	400	600	22	170
Hot rolled annealed	350	530	25	165
Hot rolled water quenched	1080	1500	10	460
Hot rolled oil quenched	920	1170	11	360

### 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.

Minimum bending radius of hot rolled SSAB Boron 22 heavy plate is 3 x plate thickness up to 16 mm thickness. For bending instructions of thicker plates, please contact SSAB's Tech Support.

### Material 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 (heat analysis)

Condition	C (%)	Si (%)	Mn (%)	S (max %)	P (max %)	Cr (%)	B (%)
Cold rolled	0.20 - 0.25	0.10 - 0.40	1.10 - 1.40	0.010	0.020	0.10 - 0.30	0.0008 - 0.0050
Hot rolled strip	0.20 - 0.25	0.10 - 0.30	1.10 - 1.30	0.010	0.020	0.10 - 0.40	0.0008 - 0.0050
Hot rolled plate	0.20 - 0.26	0.10 - 0.40	1.10 - 1.30	0.010	0.020	0.20 - 0.50	0.0008 - 0.0050

The steel is grain refined.

### Carbon Equivalent CEV

Condition	Hot rolled strip	Hot rolled plate
Typical CEV (%)	0.47	0.50

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

### 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 10131. 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 as default value.

Hot rolled plate products: are delivered with tolerances that correspond to 3/4 of EN 10029 as default value.

### Length and Width

Cold rolled coils and sheet products: according to EN 10131. 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.

Hot rolled plate products: width tolerance -0/+4-10 mm depending on the thickness. Length tolerance -0/+15-75 mm depending on length.

### Shape

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

Hot rolled plate products: Shape tolerances according to EN 10029.

### Flatness

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

Hot rolled plate products: Maximum flatness deviation 6 mm/m.

### Surface Properties

Hot rolled strip products and hot rolled plate products: According to EN 10163-2 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.

Heavy plates are as-rolled.

### 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.

Heavy plates are available in as rolled, shot-blasted or shot-blasted & primed 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.

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)