

General Product Description

SSAB Boron 33 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 33 is available in thickness range 2.00-16.00 mm and widths up to 1800 mm as coils, slit coils and CTL. Lengths up to 16 meters as cut to length.

Mechanical Properties

Condition	Typical yield strength (MPa), not guaranteed	Typical tensile strength (MPa), not guaranteed	Typical Elongation A (%), not guaranteed	Typical hardness (HBW), not guaranteed
Hot rolled	420	620	20	190
Hot rolled annealed	365	560	24	175
Hot rolled water quenched	1270	1830	7	565
Hot rolled oil quenched	1030	1500	8	460

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.

For further information, 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 (%)
Hot rolled strip	0.31 - 0.36	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 CEV

Condition	Hot rolled strip
Typical CEV (%)	0.59

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

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

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.

Length and Width

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. Tighter shape tolerances are available on request.

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.

Surface Properties

Hot rolled strip products: According to EN 10163-2 Class A, Subclass 3.

Delivery Conditions

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

Surface Condition

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 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