

SSAB BORON 33Cr

General Product Description

SSAB Boron 33Cr 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 33Cr 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 (typical values)

Condition	Yield strength (MPa)	Tensile strength (MPa)	Elongation A (%)	Hardness (HBW)
Hot rolled	420	620	20	190
Hot rolled annealed	365	560	24	175
Hot rolled water quenched	1290	1850	7	570
Hot rolled oil quenched	1050	1520	8	465

BENDING RADIUS

Minimum bending radius of hot rolled SSAB Boron 33Cr 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 Technical Customer Service at techsupport@ssab.com.

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 (%)
Hot Rolled Strip	0.31- 0.36	0.10- 0.30	1.00- 1.20	0.010	0.020	0.30- 0.60	0.0008- 0.0050

The steel is grain refined.

Carbon Equivalent Values

Condition	Hot Rolled Strip
Typical CEV	0.60

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

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 10051:2010 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 10051:2010. 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 products: According to EN 10 163-2 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, 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