HARDOX®
WEAR PLATE

Hardox® HiTemp

General Product Description

The Hardox® wear plate that can take the heat

Hardox® HiTemp is a high-heat grade of Hardox® wear plate that provides a cost-efficient solution for wear resistance at high temperatures in the 300 - 500°C range (570 - 930°F).

Whereas traditional quenched and tempered wear-resistant steels lose hardness at higher temperatures, Hardox® HiTemp high-temperature steel delivers extreme wear resistance. Its properties are achieved by using high-quality raw material combined with a carefully controlled manufacturing process.

Hardox® HiTemp is delivered as 4.7 - 51.0 mm (0.185"- 2") plate. It can be cut, welded and machined using the same kind of machinery and technology as for conventional steel.

Dimension Range

Hardox® HiTemp is available in thicknesses of 4.7 – 51.0 mm. Hardox® HiTemp is available in widths up to 3350 mm and lengths up to 14630 mm. More detailed information on dimensions is provided in the dimension program.

Mechanical Properties

Product	Thickness (mm)	Hardness [1] (HBW)	Typical yield strength (MPa), not guaranteed
Hardox® HiTemp	4.7 - 51.0	375 - 425	1100

[1] Brinell hardness, HBW, according to EN ISO 6506-1, on a milled surface 0.5 – 3 mm below surface for plate. At least one test specimen per heat and 40 tons.

The nominal material thickness will not deviate more than ± 15 mm from that of the test specimen.

Hardox® wear plate is through-hardened. Minimum core hardness is 90 % of the guaranteed minimum hardness.

Impact Properties

Product	Longitudinal test, typical impact energy, Charpy V 10x10 mm test specimen [1]
Hardox® HiTemp	60 J / -40 °C

[1] Impact toughness measured upon agreement. Impact testing according to ISO EN 148 per heat and thickness group. Average of three test.

Chemical Composition (heat analysis)

C *) (max %)	Si *) (max %)	Mn*) (max %)	P (max %)	S (max %)	Cr*) (max %)	Ni*) (max %)	Mo*) (max %)	B*) (max %)
0.25	0.70	1.60	0.025	0.010	1.40	1.50	1.50	0.004

The steel is grain refined. *) Intentional alloying elements.

Carbon Equivalent CET(CEV)

Thickness (mm)	4.7 - 51.0
Max CET(CEV)	0.47 (0.70)
Typ CET(CEV)	0.40 (0.59)

$$CET = C + \frac{Mn + Mo}{10} + \frac{Cr + Cu}{20} + \frac{Ni}{40} \qquad CEV = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Cu + Ni}{15}$$

SSAB

Tolerances

More details are given in SSAB's brochure Hardox® Guarantees or at www.ssab.com.

Thickness

Tolerances according to Hardox® Thickness Guarantees.

Hardox® Guarantees meet the requirements of EN 10029 Class A, but offer more narrow tolerances.

Length and Width

According to SSAB's dimension program.

Tolerances according to SSAB´s mill edge standards or tolerances that conform to EN 10029.

Shape

Tolerances according to EN 10029.

Flatness

Tolerances according to Hardox® Flatness Guarantees Class C, which are more restrictive than EN 10029 class N.

Surface Properties

According to EN 10163-2 Class A, Subclass 1.

Delivery Conditions

The delivery condition is QT (Quenched and Tempered). The plates are delivered with sheared or thermally cut edges. Untrimmed mill edges are available by agreement.

Delivery requirements can be found in SSAB's brochure Hardox® Guarantees or www.ssab.com.

Fabrication and Other Recommendations

Welding, bending and machining

Recommendations can be found in SSABs brochures at www.hardox.com or consult Tech Support.

Bendability according to Hardox® Bending Guarantees Class E.

Hardox® HiTemp is not intended for further heat treatment. It has obtained its mechanical properties by quenching and when necessary by means of subsequent tempering. The properties of the delivery condition cannot be retained after exposure to temperatures in excess of 500°C.

Appropriate health and safety precautions must be taken when welding, cutting, grinding or otherwise working on this product. Grinding, especially of primer coated plates, may produce dust with a high particle concentration.

Contact Information

www.ssab.com/contact

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