Hardox® HiTuf

General Product Description

The extra-high tough steel for structural wear parts

Hardox® HiTuf is an abrasion-resistant plate with guaranteed impact toughness. With a nominal hardness of 350 HBW, it's a good choice for structural wear parts like thick cutting edges, demolition tools and rippers.

Dimension Range

Hardox® HiTuf is available in thicknesses of 40.0 - 160.0 mm. Hardox® HiTuf is available in widths up to 3350 mm and lengths up to 14630 mm. For thicknesses over 125 mm preferred width is 1650 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® HiTuf	40.0 - 160.0	310 - 370	850

[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	Transverse test, guaranteed impact energy, Charpy V 10x10 mm test specimen [1]
Hardox® HiTuf	40 J / -40 °C

[1] Impact testing according to ISO EN 148 per heat and thickness group. Average of three tests. Single value minimum 70% of specified average.

Chemical Composition (heat analysis)

C *) (max %)	Si *) (max %)	Mn*) (max %)	P (max %)	S (max %)	Cr*) (max %)	Ni*) (max %)	Mo*) (max %)	B*) (max %)
0.20	0.60	1.60	0.050	0.020	0.70	2.0	0.70	0.005

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

Carbon Equivalent CET(CEV)

Thickness (mm)	40.0 - 70.0	70.1 - 160.0
Max CET(CEV)	0.38 (0.56)	0.41 (0.67)
Typ CET(CEV)	0.36 (0.55)	0.39 (0.64)

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

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 conforms to EN 10029 or to SSAB's standard after agreement.

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 Quenched. The plates are delivered with sheared or thermally cut edges. Untrimmed edges after 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.

Hardox® HiTuf is not intend 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 450ºC .

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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