Hardox® 550

General Product Description

At 550 HBW and with a toughness close to Hardox® 500

Hardox® 550, with a nominal hardness of 550 HBW and toughness close to Hardox® 500, increases wear life but not at the expense of crack integrity.

Dimension Range

Hardox® 550 is supplied in plate thickness of 8.0 – 65 mm, up to 2900 mm in width and up to 14630 mm in length. More detailed information on dimensions is provided in the dimension program.

Mechanical Properties

Product	Thickness (mm)	Hardness [1] (HBW)
Hardox® 550 plate	8.0 - 65.0	525 - 575

[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
Hardox® 550 plate	30 J / -40 °C

Chemical Composition (heat analysis)

C *) (max %)	Si *) (max %)	Mn*) (max %)	P (max %)	S (max %)	Cr*) (max %)	Ni*) (max %)	Mo*) (max %)	B*) (max %)
0.44	0.50	1.30	0.020	0.010	1.40	1.40	0.60	0.004

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

Carbon Equivalent CET(CEV)

Product type	Plate	Plate	Plate
Thickness (mm)	8.0 - 31.9	32.0 - 51.0	51.1 - 65.0
Max CET(CEV)	0.49 (0.70)	0.52 (0.75)	0.61 (0.82)
Typ CET(CEV)	0.46 (0.67)	0.49 (0.72)	0.58 (0.79)

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

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 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 D, 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 Q or QT (Quenched or Quenched and Tempered). The plates are delivered with sheared or thermally cut edges. Untrimmed mill edges 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.

Hardox® wear plate 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 250ºC .

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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