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 as plate in thicknesses of 0.315 - 2.559", up to 114.173" in width and up to 575.984" in length. in length. More detailed information on dimensions is provided in the dimension program.

Mechanical Properties

Product	Thickness (in)	Hardness [1] (HBW)
Hardox® 550 plate	0.315 - 2.559	525 - 575

[1] Brinell hardness, HBW, according to EN ISO 6506-1, on a milled surface 0.019 – 0.118" below surface. At least one test specimen per heat and 40 tonnes. The nominal thickness of supplied plates will not deviate more than +/- 0.590" from the thickness of the test specimen used for hardness testing. For sheet the Brinell hardness test is according to EN ISO 6506-1 on each heat treatment individual/coil. Hardness is measured on a milled surface 0.012 - 0.079" below surface.

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 0.393 x 0.393" test specimen [1]
Hardox® 550 plate	22 ft-lbs / -40 °F [2]

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

[2] Typical value for 0.787".

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 (in)	0.315 - 1.256	1.260 - 2.008	2.012 - 2.559
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 meets the requirements of EN 10029 Class A, but offers 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 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® 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 482ºF .

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