

# Hardox 550

## General Product Description

Hardox 550 is an abrasion resistant steel with a nominal hardness of 550 HBW. Typical applications are components with abrasion resistance. For more information on applications see [www.ssab.com](http://www.ssab.com).

### Available dimensions

Hardox 550 is supplied in plate thickness of 8.0 – 51 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 at [www.ssab.com](http://www.ssab.com).

## Mechanical Properties

Thickness mm	Hardness HBW Min - Max <sup>1)</sup>
8.0 - 51	525 – 575

<sup>1)</sup> Brinell hardness, HBW, according to EN ISO 6506-1, on a milled surface 0,5 – 3 mm below surface. At least one test specimen per heat and 40 tons. The nominal thickness will not deviate more than ±15 mm from that of the tested specimen.

The plates are through-hardened to a minimum of 90 % of guaranteed surface hardness.

Impact Properties	Hardox 550 Longitudinal test, typical
Impact energy (J) Charpy V 10x10 mm test specimen	30 J/-40 °C

## Chemical Composition (heat analysis)

C <sup>1)</sup> Max %	Si <sup>1)</sup> Max %	Mn <sup>1)</sup> Max %	P Max %	S Max %	Cr <sup>1)</sup> Max %	Ni <sup>1)</sup> Max %	Mo <sup>1)</sup> Max %	B <sup>1)</sup> Max %
0.37	0.50	1.30	0.020	0.010	1.40	1.40	0.60	0.004

The steel is grain refined. <sup>1)</sup> Intentional alloying elements.

### Carbon equivalent CET (CEV)

Thickness mm	8.0 - 51
CET (CEV) Max	0.51 (0.76)
CET (CEV) Typical	0.48 (0.72)

$$CET = C + \frac{Mn + Mo}{10} + \frac{Cr + Cu}{20} + \frac{Ni}{40}$$

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

## **Tolerances**

More details are given in SSAB's brochure 41-General product information Strenx, Hardox, Armox and Toolox-UK or at [www.ssab.com](http://www.ssab.com).

### **Thickness**

Tolerances according to SSAB EMEA thickness precision guarantee AccuRollTech.

- AccuRollTech meets the requirements of EN 10 029 Class A, but offers narrower tolerances.

### **Length and width**

According to SSAB's dimensions program.

- Tolerances according to SSAB's mill edge standards or tolerances that conform to EN 10 029.

### **Shape**

Tolerance according to EN 10 029.

### **Flatness**

Tolerances according to SSAB's flatness tolerances which are more restrictive than EN 10 029 Class N (steel type L).

### **Surface Properties**

According to EN 10 163-2, Class A Subclass 1.

## **Delivery Condition**

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 41-General product information Strenx, Hardox, Armox and Toolox-UK or at [www.ssab.com](http://www.ssab.com).

## **Fabrication and Other Recommendation**

### **Welding, bending and machining**

Recommendations can be found in SSAB's brochures at [www.hardox.com](http://www.hardox.com) or consult Tech Support, [techsupport@ssab.com](mailto:techsupport@ssab.com).

Hardox 550 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 service or preheating temperatures in excess of 250 °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 high particle concentration.

## **Contact and Information**

For information, see SSAB's brochures at [www.ssab.com](http://www.ssab.com) or consult Tech Support, [techsupport@ssab.com](mailto:techsupport@ssab.com).