

Hardox 500

Page. 1 (2)

Abrasion Resistent Plate

Hardox 500 is an abrasion resistant plate with a hardness of 500 HBW, intended for applications where demands are imposed on abrasion resistance.

Applications

Crushers, sieves, feeders, measuring pockets, skips, cutting edges, conveyors, buckets, knives, gears, sprockets, etc.

Chemical Composition

(ladle analysis)

Plate thickness inch	C max %	Si max %	Mn max %	P max %	S max %	Cr max %	Ni max %	Mo max %	B max %	CEV typv.	CET typv.
$\frac{5}{32}$ – $\frac{1}{2}$	0.27	0.70	1.60	0.025	0.010	1.00	0.25	0.25	0.004	0.49	0.34
$(\frac{1}{2})$ – $\frac{1}{4}$	0.29	0.70	1.60	0.025	0.010	1.00	0.50	0.30	0.004	0.62	0.41
$(\frac{1}{4})$ – $\frac{1}{2}$	0.29	0.70	1.60	0.025	0.010	1.00	1.00	0.60	0.004	0.64	0.43
$(\frac{1}{2})$ – $3\frac{5}{32}$	0.30	0.70	1.60	0.025	0.010	1.40	1.50	0.60	0.004	0.74	0.46

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

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

The steel is grain refined.

Hardness

	HBW
$\frac{5}{32}$ – $\frac{1}{4}$ inch	470 – 530
$(\frac{1}{4})$ – $3\frac{5}{32}$ inch	450 – 540

Impact Properties

Typical value for
 $\frac{3}{4}$ inch plate thickness

Testing temperature °F	Impact energy Charpy-V, longitudinal Ft-lbs (J)
-40 (-40 °C)	22 (30)

Testing

Brinell hardness, HBW according to EN ISO 6506-1, on a milled surface 0.02–0.12 inch below plate surface per heat and 40 metric tons. Tests are made for every variation of $\frac{5}{8}$ inch in the thickness of plates from the same heat.

Delivery Conditions

Q.

Dimensions

Hardox 500 is supplied in plate thicknesses of $\frac{5}{32}$ – $3\frac{5}{32}$ inch. More detailed information on dimensions is provided in our brochure 41-General product information Weldox, Hardox, ArmoX and Toolox-UK.

Hardox 500

Page. 2 (2)

Tolerances	<p>Thickness tolerances according to SSAB Oxelösund thickness precision guarantee AccuRollTech™, Class B. - AccuRollTech™ Class B meets the requirements of ASTM A6 but offers a more narrow tolerance width. More detailed information is given in our brochure 41-General product information Weldox, Hardox, Armax and Toolox-UK.</p> <p>Flatness tolerances according to SSAB Oxelösund internal requirements, Class N. The SSAB Oxelösund requirements for Class N meet the flatness requirements of ASTM A6 but will be at least twice as close.</p>
Surface Properties	<p>According to ASTM A6.</p>
General Technical Delivery Requirements	<p>According to our brochure 41-General product information Weldox, Hardox, Armax and Toolox-UK.</p>
Heat Treatment and Fabrication	<p>Hardox 500 has obtained its mechanical properties by quenching and when necessary by means of subsequent tempering. The properties of the delivery condition can not be retained after exposed to service or preheating temperatures above 480°F (250°C). Hardox 500 is not intended for further heat treatment.</p> <p>For information concerning welding and fabrication, see our brochures on www.hardox.com or consult our Technical Customer Service.</p> <p>Appropriate health and safety precautions must be taken when welding, cutting, grinding or otherwise working on the product. Grinding, especially of primer coated plates, may produce dust with high particle concentration. Our Technical Customer Service Department will provide further information on request.</p>

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