

ABRASION RESISTANT PLATE

Hardox HiTuf is an abrasion resistant plate with an extremely high crack resistance. Hardox HiTuf has a hardness of 350 HBW and is intended for applications with extra high demands on the combination of toughness and abrasion resistance.

Applications Cutting edges, demolition tools and rippers.

Chemical Composition (ladle analysis)	Plate thickness	C	Si	Mn	P	S	Cr	Ni	Mo	V	Nb	B	CEV	CET
	inch	max	max	max	max	max	max	max	max	max	max	max	typv.	typv.
	1½-2¾/₄	0.20	0.50	1.60	0.020	0.010	0.70	2.0	0.70	0.060	0.04	0.005	0.55	0.36
	(2¾/₄)-4¾/₄	0.20	0.60	1.60	0.020	0.010	0.70	2.0	0.70	0.090	0.04	0.005	0.64	0.39

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

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

The steel is grain refined.

Hardness HBW
310-370

Mechanical Properties Typical values	Plate thickness	Yield strength	Tensile strength	Elongation
	inch	R _{p0.2} KSI	R _m KSI	A ₅₀ %
	1½-2¾/₄	138	143	18
	(2¾/₄)-4¾/₄	124	130	18

Impact Properties Typical values	Plate thickness	Testing temperature	Impact energy	
	inch	°F	Charpy-V, longitudinal Ft-lbs	(J)
	1½-2¾/₄	-40 (-40°C)	70	95
	(2¾/₄)-4¾/₄	-40 (-40°C)	52	70

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 5/8 inch in the thickness of plates from the same heat.

Delivery Conditions Q.

Dimensions Hardox HiTuf is supplied in plate thicknesses of 1½-4¾/₄ inch. More detailed information on dimensions is provided in our brochure 41-General product information Weldox, Hardox, ArmoX and Toolox-UK.

Tolerances	<p>Thickness tolerance 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, ArmoX 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	According to ASTM A6
General Technical Delivery Requirement	According to our brochure 41-General product information Weldox, Hardox, ArmoX and Toolox-UK.
Heat Treatment and Fabrication	<p>Hardox HiTuf has obtained its mechanical properties by quenching and tempering. The properties of the delivery condition can not be retained after tempering above 840°F (450°C). Hardox HiTuf can be subjected to tempering up to 840°F (450°C).</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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