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Cost-effective solutions
with Hardox and Domex

Cost-effective solutions with Advanced High Strength Steels and Wear Plates



With renowned products, unique support and unparalleled technical expertise, SSAB is a global leader in Advanced High Strength Steel (AHSS) and Wear Plate. We are leading the way in design, innovation, technology as well as environmental responsibility. Our products, combined with our strong focus on customer support, offer unique cost effective solutions for your workshop.

We are your local partner in Advanced High Strength Steels and Wear Plates for demanding applications and our product brands Hardox and Domex are a benchmark in the global steel business. Our top Swedish quality steels are produced in an integrated process extending from raw materials to finished material. This enables us to keep the entire process under close control and ensures highest steel quality.

- ▶ Only Swedish iron ore sourced from the same mine
- ▶ Coal with reduced sulfur
- ▶ No feeding of scrap
- ▶ Extremely low hydrogen content
- ▶ Optimized chemical steel composition
- ▶ Very low carbon equivalent
- ▶ Low silicone content
- ▶ Very low contents of residual elements

Our integrated production process in combination with the optimized properties of our AHSS and Wear Plate products guarantee high cleanness, high toughness and strength, superior workability and short delivery times from our local stocks.

COST-EFFECTIVE SOLUTIONS FOR YOUR WORKSHOP

- ▶ Lower production costs
- ▶ Trouble-free fabrication and less reworking
- ▶ Optimal reproducibility
- ▶ Shorter workshop times
- ▶ High quality of end products

Hardox

Maximize your efficiency with the No. 1 Wear Plate

There are many ways that Hardox Wear Plate can increase the efficiency of your workshop and boost the performance of your products. Hardox meets strict demands on strength, consistent quality, flatness and surface condition. The unique combination of consistently high hardness, high strength and excellent impact toughness makes Hardox Wear Plate a very appropriate material for a wide range of applications. Longer lifetime, higher payloads, lower operating costs and good availability from local stocks leads to an improved overall economy for you and your customers.

- ▶ Up to 10 x longer service life depending on the application
- ▶ Lower maintenance costs
- ▶ Less weight
- ▶ Higher payloads
- ▶ Lower energy consumption and fewer operating costs

AccuRollTech™

The unique SSAB AccuRollTech™ process for Hardox heavy plates guarantees the highest precision and tighter thickness tolerances compared to EN 10 029.

NOMINAL THICKNESS [mm]	TOLERANCE CLASS A [mm]		MAX. THICKNESS VARIATION WITHIN ONE PLATE [mm]
	MIN.	MAX.	
–4.9	–0.3	+0.4	0.5
5.0–7.9	–0.3	+0.5	0.6
8.0–14.9	–0.4	+0.6	0.7
15.0–24.9	–0.5	+0.7	0.8
25.0–39.9	–0.7	+0.8	1.0
40.0–79.9	–0.9	+1.5	1.1
80.0–	–1.0	+2.2	1.2

HARDOX FOR PROCESSING AND LASER CUTTING

- ▶ Uniform steel quality for optimal reproducibility
- ▶ Excellent flatness and tight thickness tolerances for less reworking, less scrap and lower production costs
- ▶ Low alloy and optimized chemical composition for high steel quality and best processing performance
- ▶ Superior surface finish for higher cutting speed
- ▶ High quality of cutting edge for less reworking and high quality of end products

SSAB flatness tolerances

The excellent flatness ensures best laser cutting performance and less reworking.

NOMINAL THICK- NESS [mm]	NORMAL TOLER- ANCE CLASS N		SPECIAL TOLER- ANCE, CLASS S	
	Measurement length [mm]			
	1000	2000	1000	2000
3.0*–4.9	7	11	**3	**8
5.0–7.9	5	10	3	8
8.0–14.9	5	9	3	6
15.0–24.9	5	8	3	6
25.0–39.9	5	7	3	6
40.0–155.0	4	7	3	6

* Restricted flatness tolerances apply to 3 – 4 mm thick plate. Further information is available from SSAB.

** Subject to special agreement.



Hardox is available from 0.7 mm up to 160 mm.

STEEL GRADE	HARDNESS NOMINAL [HBW]	IMPACT TOUGHNESS CVL TYPICAL 20 mm	BENDING PROPERTIES TRANSVERSE T < 8 mm R/t	REL. SERVICE LIFE INTERVAL ¹	CEV/CET ² TYPICAL 20 mm	THICKNESS [mm]
Hardox HiTuf	350	95 J – 40 °C ³			0.55/0.36 ³	40 – 160
Hardox 400	400	45 J – 40 °C	2.5	1	0.43/0.29	3 – 130 ⁴
Hardox 450	450	50 J – 40 °C	3.5	1.1 – 4.0	0.47/0.34	3 – 130
Hardox 450	450		4.0		0.39/0.31 ⁵	0.7 – 2.1
Hardox 500	500	37 J – 40 °C	4.0	1.3 – 5.6	0.62/0.41	4 – 80
Hardox 550	550	30 J – 40 °C		1.5 – 8.1	0.72/0.48	10 – 50
Hardox 600	600	20 J – 40 °C		1.8 – 12.3	0.73/0.55	8 – 50
Hardox Extreme	650–700	< 15 J – 40 °C		2.4 – 17.9	0.84/0.59	8 – 25

All plates are produced with AccuRollTech™ precision guarantee or closer.

1. Max/min sliding wear by SSAB WearCalc (mild steel 0.2–0.8).
 2. CEV = $C + Mn/6 + (Cr + Mo + V)/5 + (Cu + Ni)/15$; CET = $C + (Mn + Mo)/10 + (Cr + Cu)/20 + Ni/40$

3. 70 mm

4. Thicknesses up to 160 mm are available upon request.

5. Typical values 0.70–2.10 mm

Domex

Increase your efficiency with lighter and stronger products

Domex Advanced High Strength Steel increases the efficiency of your workshop and simplifies your production through superior formability, excellent weldability, bendability and good machining properties. When using Domex, your products can be made with thinner steel while retaining their strength properties. This reduces weight, allows for higher payloads, increases the lifetime and cuts costs as less material is needed in production. Because of its excellent workshop properties, Domex allows you to develop completely new lightweight designs.

- ▶ Simplified production
- ▶ Lower weight
- ▶ Increased payloads
- ▶ Stronger structures
- ▶ Longer lifetime
- ▶ New product designs with improved performance

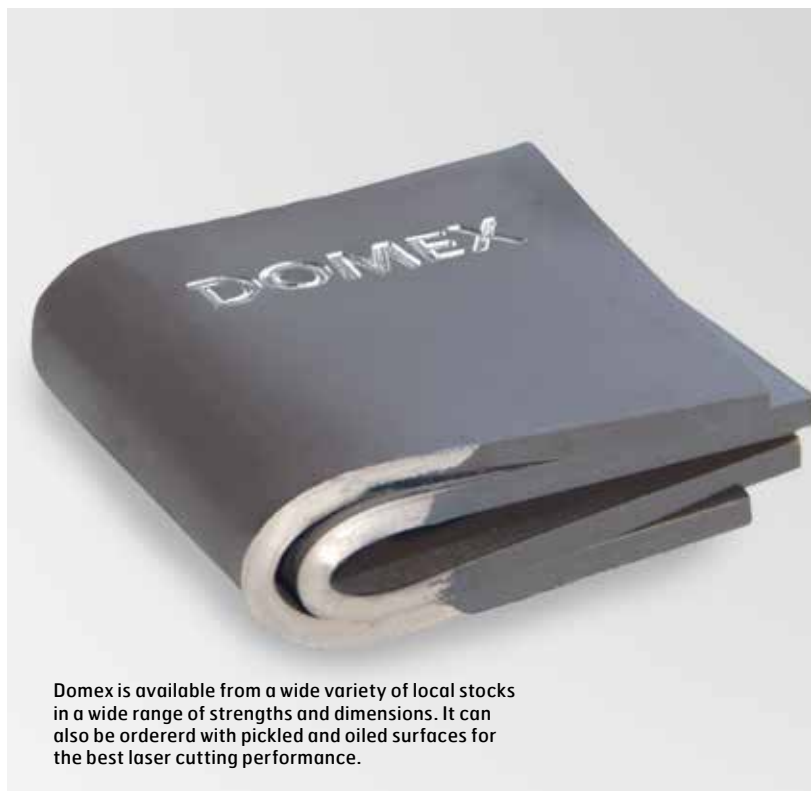
DOMEX FOR PROCESSING AND LASER CUTTING

- ▶ Homogeneous steel properties for optimized production and reproducibility
- ▶ Tight tolerances for less reworking, less scrap and lower production costs
- ▶ Reduces surface roughness for higher cutting speed
- ▶ Excellent formability for designing new lightweight structures
- ▶ Suitable for hot-dip galvanizing

SSAB Thickness tolerances

Our integrated production process for Domex Advanced High Strength Steel guarantees tighter thickness tolerances compared to EN 10 051 for excellent workability and less reworking.

NOMINAL THICKNESS [mm]	NORMAL TOLERANCE EN 10051		SSAB TOLERANCE	
	WIDTH ≤1200	WIDTH >1200	WIDTH ≤1200	WIDTH >1200
– 2.0 mm	± 0.17 mm	± 0.19 mm	± 0.13 mm	± 0.14 mm
(2.0) – 2.5 mm	± 0.18 mm	± 0.21 mm	± 0.14 mm	± 0.16 mm
(2.5) – 3.0 mm	± 0.20 mm	± 0.22 mm	± 0.15 mm	± 0.17 mm
(3.0) – 4.0 mm	± 0.22 mm	± 0.24 mm	± 0.17 mm	± 0.18 mm
(4.0) – 5.0 mm	± 0.24 mm	± 0.26 mm	± 0.18 mm	± 0.20 mm
(5.0) – 6.0 mm	± 0.26 mm	± 0.28 mm	± 0.20 mm	± 0.21 mm
(6.0) – 8.0 mm	± 0.29 mm	± 0.30 mm	± 0.22 mm	± 0.23 mm
(8.0) – 10.0 mm	± 0.32 mm	± 0.33 mm	± 0.24 mm	± 0.25 mm
(10.0) – 12.5 mm	± 0.35 mm	± 0.36 mm	± 0.26 mm	± 0.27 mm
(12.5) – 15.0 mm	± 0.37 mm	± 0.38 mm	± 0.28 mm	± 0.29 mm
(15.0) – 16.0 mm	± 0.40 mm	± 0.42 mm	± 0.30 mm	± 0.32 mm



Domex is available from a wide variety of local stocks in a wide range of strengths and dimensions. It can also be ordered with pickled and oiled surfaces for the best laser cutting performance.

Domex is available from 2 mm up to 12 mm

STEEL GRADE	YIELD STRENGTH [MPa]	TENSILE STRENGTH [MPa]		ELONGATION		BENDING RADIUS 90° BEND			THICKNESS [mm]
	MIN	MIN	MAX	A ₈₀ [%] t < 3	A _s [%] t > 3	t < 3 mm	3 < t < 6 mm	t > 6 mm	
				MIN	MAX				
Domex MC – Cold forming steels distinguished by high strength, excellent formability and weldability.									
Domex 460 MC	460	520	670	15	19	0.5 x t	0.7 x t	0.9 x t	2.00 – 12.00
Domex 500 MC	500	550	700	14	18	0.6 x t	0.8 x t	1.0 x t	2.00 – 12.00
Domex 550 MC	550	600	760	14	17	0.6 x t	1.0 x t	1.2 x t	2.00 – 12.00
Domex 600 MC	600	650	820	13	16	0.7 x t	1.1 x t	1.4 x t	2.00 – 10.00
Domex 650 MC	650	700	880	12	14	0.8 x t	1.2 x t	1.5 x t	2.00 – 10.00
Domex 700 MC	700 ¹	750	950	10	12	0.8 x t	1.2 x t	1.6 x t	2.00 – 10.00
Domex 900	900	930	1200		9	3.0 x t	3.0 x t	3.0 x t	3.00 – 6.00
Domex 960	960	980	1250		8	3.0 x t	3.0 x t	3.0 x t	3.00 – 6.00
Domex 1100 ²	1100	1250	1450		7	3.0 x t	4.0 x t		3.00 – 6.00
Domex W - Domex 550 W and 700 W are high strength, weather resistant steels. They are characterised by good formability, impact toughness and weldability.									
Domex 550 W	550	600			18	1.0 x t	1.0 x t	1.5 x t	3.00 – 6.00
Domex 700 W	700	750			12	2.0 x t	2.0 x t		3.00 – 6.00

1. For thickness > 8 mm, may be 20 MPa lower.


2. New grade under development with preliminary specification.

SSAB is a global leader in value added, high strength steel. SSAB offers products developed in close cooperation with its customers to reach a stronger, lighter and more sustainable world.

SSAB has employees in over 45 countries and operates production facilities in Sweden and the U.S. SSAB is listed on the NASDAQ OMX Nordic Exchange, Stockholm. For more information, contact us or visit www.ssab.com



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