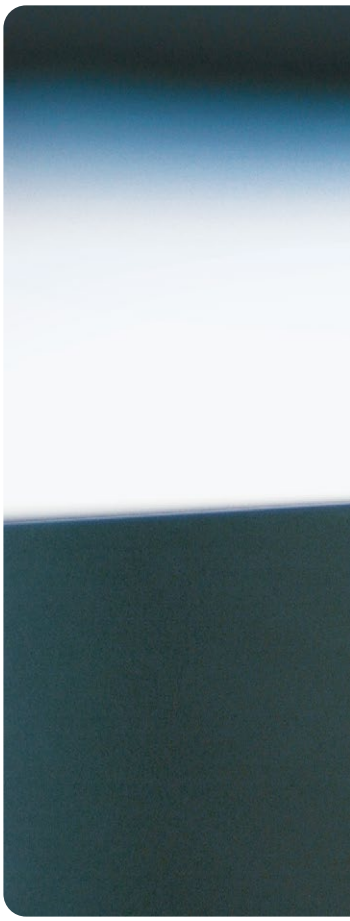
outokumpu
sustainable stainless steel

STAINLESS STEEL PRESS PLATES

DESIGNED TO MEET THE REQUIREMENTS OF
EVEN THE MOST DEMANDING APPLICATIONS

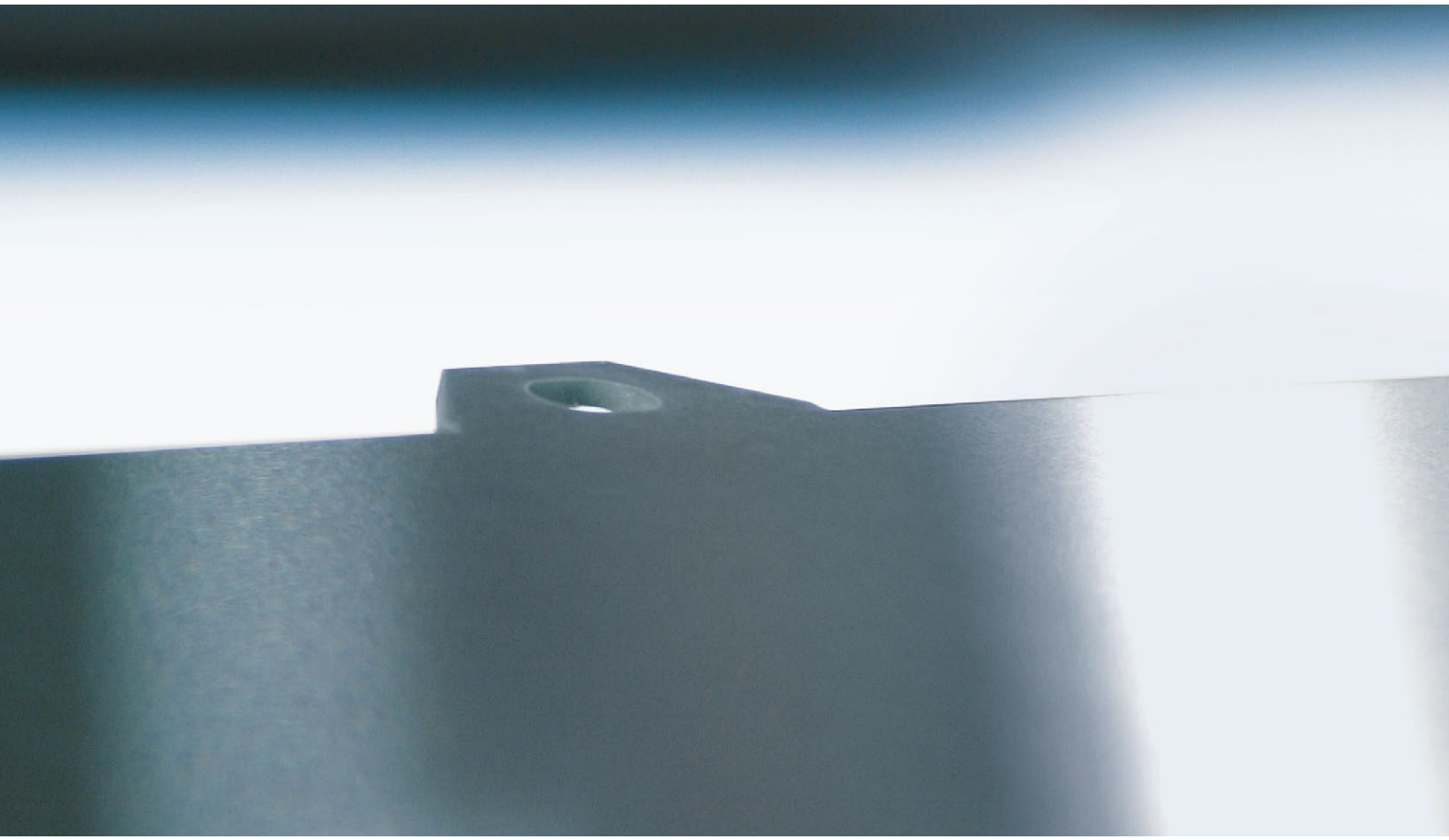
High performance stainless steel press plates

Outokumpu´s global offering covers a wide range of customised press plates, ready-to-use plates for the hardboard industry, and semi-finished plates for the laminate industry. Our industry-leading, over a century-long expertise in stainless steel production and our unique processes allow us to deliver plates with exceptional flatness and cleanliness. Our end-to-end approach, from melting and rolling to finishing and testing, ensures the highest quality according to customer specifications. Delivery reliability, competitive lead times and technical support are the cornerstones of our customer promise.



Our services

- Cutting
- Grinding
- Polishing
- Hardening
- Stretch-levelling
- Surface protection



CUSTOMER FOCUS

With our deep expertise and decades of experience we have a full understanding of our customers' needs.

QUALITY CONSCIOUS

Using steel from our own mill in Avesta gives us consistent quality and full traceability in every operation.

SHORT LEAD TIMES

Our inhouse production gives us control over every step in the production chain and enables us to supply products with some of the shortest lead times in the market.

Hardened plates for the laminate industry

Design and finish are of vital importance in the decorative laminate industry. To meet these requirements, we developed a special, hardened martensitic chromium stainless steel grade, Avesta 393 HCR.

Why choose our hardened steel plates?

Hardness
The hardness of the 393 HCR grade makes it highly resistant to plate damage, such as indentations and scratches.

Flatness
Thanks to our special hardening process, the 393 HCR plates have an excellent degree of flatness.

Low thermal expansion
Low thermal expansion reduces the risk of deformation.

Parallelism
Parallelism is defined as the maximum thickness deviation within one plate. Our tolerance grinder enables us to achieve the optimal degree of parallelism.

Low inclusions
To ensure that our plates are easily ground and etched, we have designed a rigorously controlled melting and casting process called LIC, Low Inclusion Content. The LIC process helps to guarantee the lowest level of inclusions.

Etchability
The martensitic structure of the 393 HCR grade is ideal for electrolytic and chemical etching.

Chromium plating
The linear expansion difference between 393 HCR and a chromium layer is very small. This makes the 393 HCR grade an ideal choice for large chromium plated plates.

Products
- 393 HCR (EN 1.4006)

Applications
- High Pressure Laminates (HPL)
- Low Pressure Laminates (LPL)
- Compact laminates
- Shuttling boards
- Hardboard presses
- Transport in HPL presses
- Low pressure lamination of particleboards and MDF (LPM)
- High density fiberboard (HDF)

Surface plates for the hardboard industry

Ever since the 1930s, Outokumpu has been one of the world's leading plate producers for the hardboard industry. Our surface plates enjoy a long service life thanks to a unique method of pre-stressing that minimizes plate deflection in the press.

Products
- Avesta 393 HCR (EN 1.4006)
- Avesta 832 H (EN 1.4310)
- Avesta 15-5PH

Applications
- Hardboard industry

Why choose our surface plates?

Pre-stressing
Prestressing gives the plate a convex shape and the press a larger opening, improved heat transfer and less plate damage. The prestressing effect is not reduced during the use of the plate.

Tolerance-ground
The tolerance-ground finishing gives the hardboard a smooth surface free from pittings and scratches and an excellent parallelis.

Fixing lugs without welding
We can supply waterjet cut plates with fixing lugs included. This allows us to avoid welding.

Hardness
The hardness of our 393 HCR grade makes it highly resistant to plate damage, such as indentations and scratches.

Corrosion resistance
Our Avesta 832 H grade offers improved corrosion resistance compared to the Avesta 393 HRC, designed for more aggressive environments.

Transport and wear plates

The exceptionally long service life under tough conditions has brought Outokumpu transport and wear plates great appreciation. Our Avesta A9 and A10 steel grades have been specially developed for the hardboard industry.

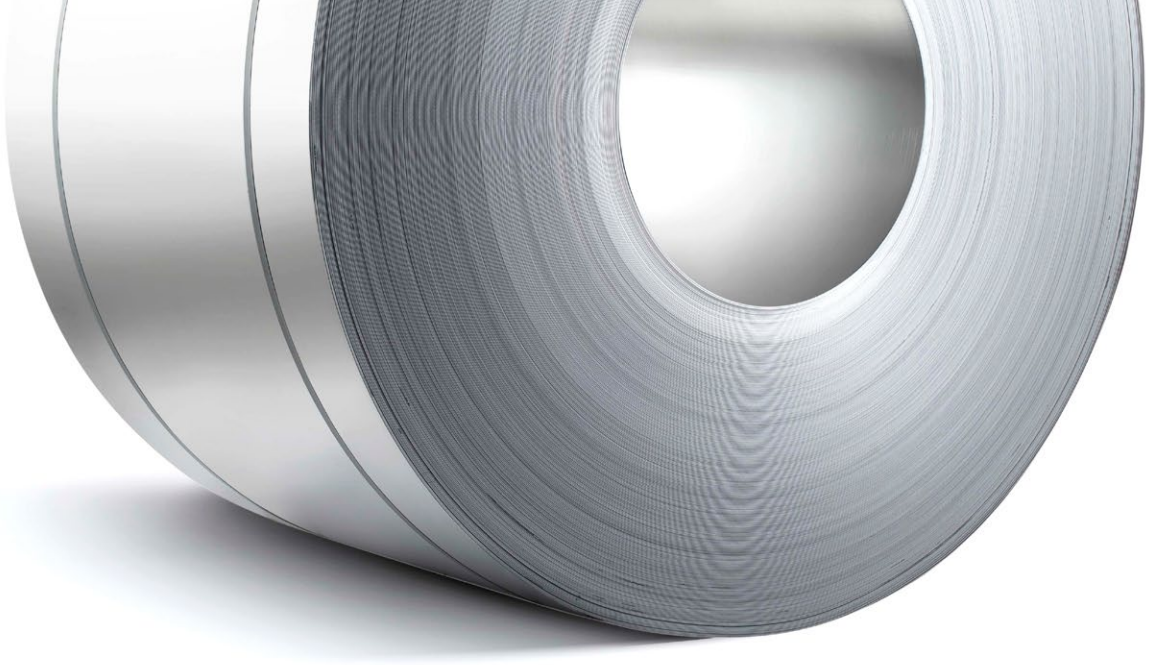
Products
- Avesta A10 (S355) (Transport plate)
- Avesta A9 (S235) (Wear plate)

Applications
- Wallboard
- Laminate
- Fiberboard

Why choose our transport and wear plates?

Low strength variation
Thanks to stretch levelling, the strength variations across our plates are remarkably low.

High dimensional stability
Our plates retain their dimensions and flatness in spite of repeated temperature variations.



Temper rolled coils for endless belts

Outokumpu is a global leader in temper rolled coil production for a great variety of applications. The coils are delivered in a cold rolled condition with mill finish (2H surface). Typical tensile strength between 800–1,400 N/mm^2.

Products
- Core 301/4310
- Core 304/4301
- Dura 15-5PH
- Dura 14-7PH
- Supra 316/4401
- Forta DX 2205
- Forta SDX 2507

Applications
- Fiberboard production belts
- Baking oven belts
- High performance composite belts
- Cooling belts

Outokumpu offers a wide range of temper rolled steel grades

Core – Good corrosion resistance
Our all-purpose Core grades offer a good corrosion resistance. These grades are suitable for a great variety of applications that require good formability and weldability.

Dura – High strength & hardness
Our precipitation hardened Dura steels combine high strength and hardness with good corrosion resistance.

Supra – Very good corrosion resistance
Our Supra 316/4401 is a widely used molybdenum alloyed austenitic stainless steel. The grade has very good corrosion resistance and it is suitable for a number of applications.

Forta – High strength & corrosion resistance
Our Forta duplex and super duplex grades offer a unique combination of high mechanical strength and great stress corrosion cracking resistance. Other characteristic properties of duplex include good resistance to abrasion, erosion, and fatigue as well as high-energy absorption and low thermal expansion.

Dimensions and tolerances

Plates

Dimension	Grade				
	393 HCR	832 H	15-5PH	A9	A10
Length [mm]	2,000–6,240 +3/-0	2,000–7,800 +3/-0	2,000–7,800 +3/-0	2,000–6,000 +3/-0	2,000–6,000 +3/-0
Width [mm]	965 – 2,420 +3/-0	1,300 – 2,600 +3/-0	1,300 – 2,630 +3/-0	1,300 – 2,360 +3/-0	1,300 – 2,640 +3/-0
Thickness [mm]	2.5 [1] - 7 +0.3/-0,1	5 – 7 +0.6/-0.4	5 – 7 +0.6/-0.4	2 – 5 +0.5/-0.2 [4]	3,5 – 5 +0.5/-0.2 [4]
Parallelism [mm]	< 0.10 [2] – 0.8	0.24 – 0.36 [3]	0.24 – 0.36 [3]	0.2 – 0.5	0.2 – 0.5
Hardness	40 ±2 HRC	200 ± 20 HB	34 ± 2 HRC	120 ± 20 HB	155 ± 20 HB
Surface finishes	Ground or hot rolled	Ground or hot rolled	Ground or hot rolled	Cold rolled or hot rolled [5]	Hot rolled
320 grit Finish 7 plus	R_a < 0.25 µm R_a < 0.15 µm	R_a < 0.25 µm R_a < 0.15 µm			

1) Thickness when ground
2) Parallelism when ground
3) Depending on dimension
4) ± 0,15 mm in thickness < 3,5 mm
5) < 3,0 mm cold rolled surface

Coils

Dimension	Grade						
	Core 301/4310	Core 304/4301	Supra 316/4401	Dura 15-5PH	Dura 14-7PH	Forta DX 2205	Forta SDX 2507
Width [mm]	1,500–2,040	1,500–2,040	1,600–2,040	1,630–2,040	1,630–2,040	1,600–2,000	1,600–1,980
Thickness [mm]	1.0 – 4.0	1.0 – 4.0	1.0 – 4.0	1.0 – 4.0	1.0 – 4.0	1.0 – 4.0	1.0 – 4.0 [1]
Min weight [t]	15	15	15	12	12	15	15

1) Width 1980 min thickness 2,5 mm

Our industry-leading, over a century-long expertise in stainless steel production and our unique processes allow us to deliver plates with exceptional flatness and cleanliness.

Outokumpu as a partner

Worldwide sales and service center network

Headquarters in Helsinki, Finland

Shares listed in Nasdaq Helsinki

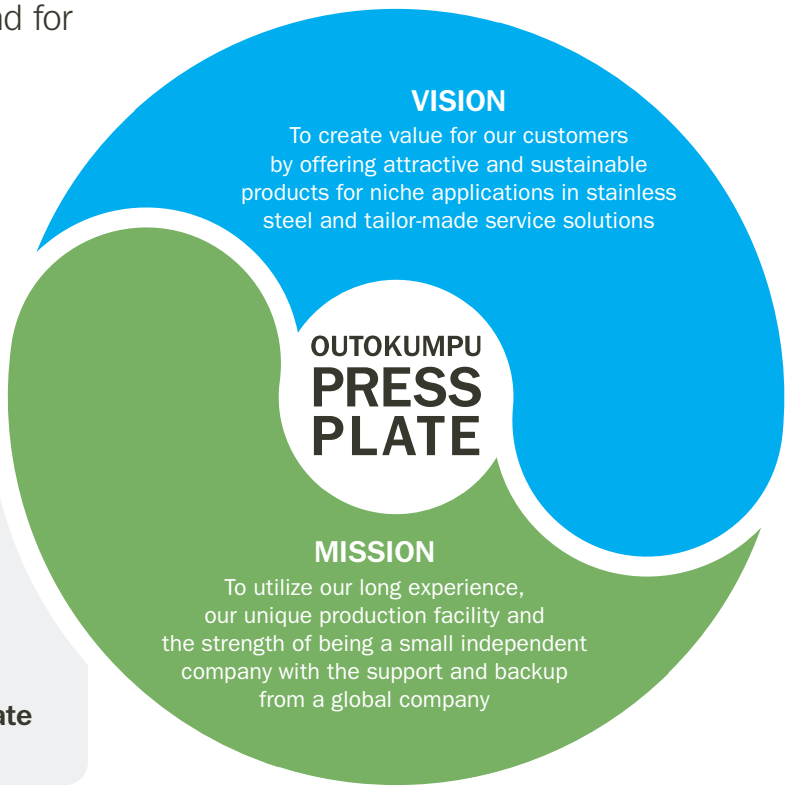
Production facilities in

- Finland
- Germany
- Mexico
- Sweden
- USA

Leading the green transition in the stainless steel industry

The population of the world is expected to grow, leading to urbanization and requiring more energy and – steel. From basic structures of society to industry, mobility, and household appliances, the demand for stainless steel will grow.

Steel accounts for 7–9% of global greenhouse gas emissions. With our products' total carbon footprint up to 75% lower than the industry average, we enable customers to reach their challenging value chain emission reduction targets.



Contacts

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Working towards a world that lasts forever.

We work with our customers and partners to create long lasting solutions for the tools of modern life and the world's most critical problems: clean energy, clean water, and efficient infrastructure. Because we believe in a world that lasts forever.

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