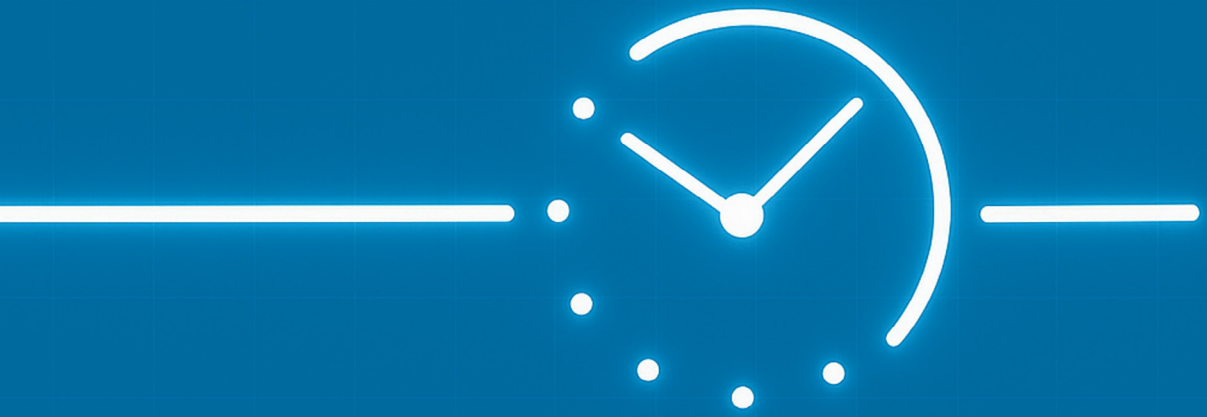
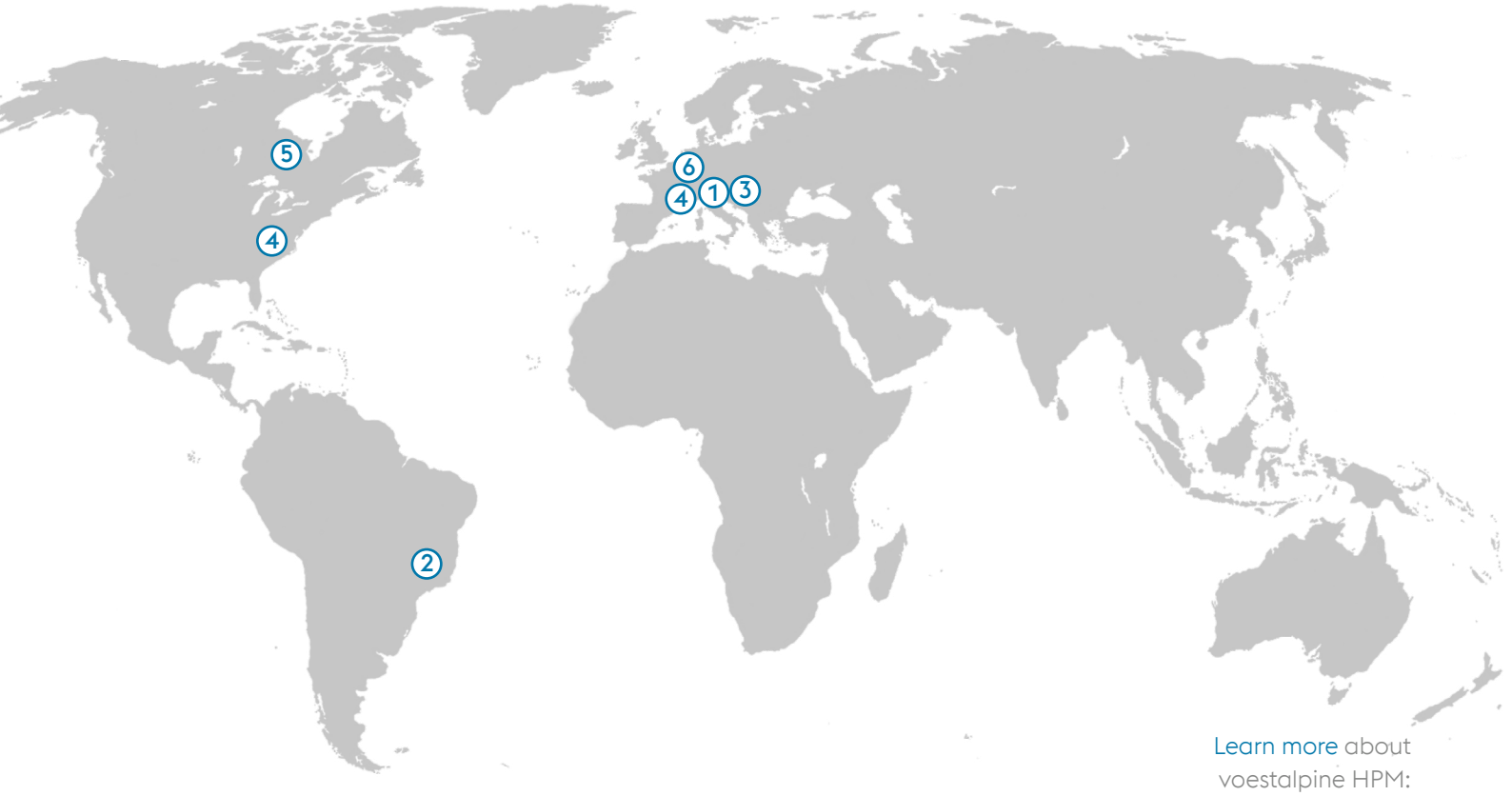


WATCH & LUXURY GOODS

Materials for the Luxury Industry

voestalpine High Performance Metals GmbH
www.voestalpine.com/hpm/watch-luxury

voestalpine
ONE STEP AHEAD.



Learn more about voestalpine HPM:

OUR COMPANY
GLOBAL AVAILABILITY

At voestalpine High Performance Metals, we deliver premium steel and non-ferrous alloys from a unified global network. With multiple production sites and over 130 sales and service locations worldwide, we ensure consistent quality and customer satisfaction across every product, service, and delivery.

1. voestalpine Böhler Edelstahl – Kapfenberg, Austria: One of the world's leading suppliers of high-speed steels, tool steels & specialty material.
2. Villares Metals Brazil – Sumaré, Brazil: Specializes in steel and specialty alloys that combine reliability, strength and customization.
3. voestalpine Böhler Bleche – Mürzzuschlag, Austria: Delivers cross-rolled sheets and plates as well as products with exceptional uniformity in mechanical and physical properties.
4. voestalpine HPM Switzerland – Pieterlen, Switzerland & voestalpine HPM USA- South Boston, Virginia: They specialize in drawing and grinding services along with the rolling of special profiles.
5. voestalpine HPM Canada – Toronto, Canada: Focuses on designing and manufacturing custom 3D printed components.
6. voestalpine eifeler Coating – Dusseldorf, Germany: Develops and offers PVD and CVD coatings and runs service centers all over the world.

WATCH & LUXURY APPLICATIONS

PINS, SPRING COMPONENTS

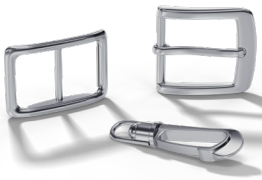
With high purity and strong work hardening potential, our materials are perfectly suited for spring components and pins, offering excellent strength, dimensional stability, and long-lasting performance under repeated stress.

BELT BUCKLES

Our steels combine high corrosion resistance, exceptional polishability, and superior purity, delivering the refined aesthetics and enduring quality expected in luxury belt buckles.

CLOSURE SYSTEMS

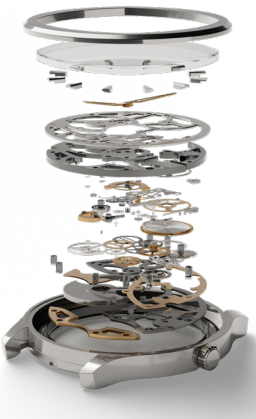
With excellent polishability and strong mechanical properties, we ensure both refined aesthetics and reliable function, ideal for high-end closure systems.



WATCH CASES, BRACELETS, BEZELS

Thanks to their high purity and low non-metallic inclusion content, these materials offer outstanding polishability and excellent corrosion resistance, making them the ideal choice for external watch components such as bracelets and bezels.

MICROMECHANICAL COMPONENTS



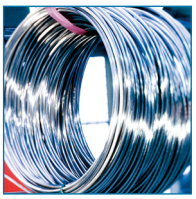
With enhanced machinability, high hardness, and good corrosion resistance, these alloys are engineered to meet the demanding requirements in terms of precision and durability of micromechanical watch components, ensuring reliable performance in even the most intricate applications.

JEWELRY COMPONENTS

Biocompatibility, high purity, and excellent corrosion resistance contribute to outstanding polishability, ensuring both safety and brilliance for components in direct contact with the skin.

PRODUCT VERSIONS AND DELIVERY SIZES

WIRE ROD



» Ø 5 – 15.5mm
» pickled
» blasted & pickled
» hot rolled
» in various executions

HIGH-PRECISION WIRE

» Ø 0.7 – 12mm
» on coils
» flat profiles 0.5 – 40mm^2 cross-sectional area

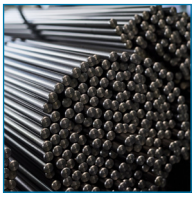
BRIGHT STEEL

» Ø 0.7 – 100mm
» cold drawn/ ground
» peeled/ ground
» tolerances: h9 – h6 & special tolerances

FLAT BAR

» hot rolled
» blasted
» pickled
» surfaces ground
» dimensions on request

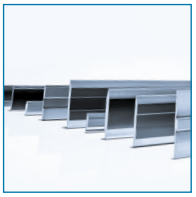
ROUND BAR



» Ø 12.5 – 130mm*
» production length
» in special lengths

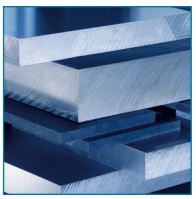
*larger on request

SHAPED PROFILES - ROLLED/ DRAWN



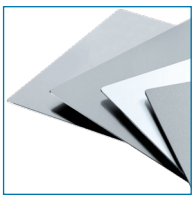
» on coils
» in rings
» straightened in bars

PLATES/ SHEETS



» thickness 1.0 – 100mm
» commercial sizes
» customized
» in various executions (sawn, ground, 6-side-machined,...)

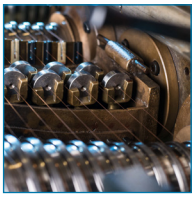
TITANIUM PLATES/ SHEETS (upon request)



» thickness 1.8 – 100mm
» cross rolled
» pickled/ ground

IN COOPERATION WITH EXTERNAL PARTNERS

HIGH-PRECISION WIRE & ROD



» rods Ø 0.15 – 4mm
» wire Ø 0.005 – 4mm
» micro flatwire 0.05 – 4mm x 0.01 – 2mm
» special profiles
» precisely offset on spools or rings

TITANIUM FOIL & GRINDING (upon request)

» titanium foil 0.01 – 2mm
» Swiss vacuum grinding (for plates, sheets & foils)
» tightest tolerances possible

SUSTAINABILITY AND CIRCULAR ECONOMY

THE LATEST TECHNOLOGY AND NEWEST ENVIRONMENTAL STANDARDS

At all our production sites, we set new standards for production quality, process reproducibility, and environmental impact. In addition to using resources responsibly, we are constantly implementing new measures for environmentally friendly processes and production.

The most important raw material is metal scrap. Therefore, establishing closed material loops internally and with customers is essential to ensure a sustainable supply chain, reduce our usage of primary raw materials and improve our carbon footprint.

With our integration of products, services and technical advisory, we drive meaningful change across our business sectors.

CIRCULAR ECONOMY

Through our unique, integrated service network, we create long-lasting performance that meets the needs of our planet and future generations.

We collaborate closely with our customers on their demanding applications. Leading by example, we enable them to engage in sustainable initiatives like the reuse of their own scrap and thereby enabling the production of more sustainable products.

Together, we inspire the change in our industries by always thinking and walking one step ahead.

Reducing **CO_2 emissions by 50 %** in our operations by 2029

Using **over 90% of recycled** scrap and secondary raw materials in our production processes by 2030

Contributing to the voestalpine group target of reducing **CO_2 emissions by 25% in our supply chain** by 2029

Learn more about inSPire, our sustainability initiative:

OUR PRODUCTS AND COMPARISON

With our voestalpine High Performance Metals solutions for austenitic and superaustenitic steels, we offer best in class polishability due to high inclusion cleanliness. Our steels offer high corrosion resistance and comply with the current standards, RoHS, etc. Due to their nitrogen content, our superaustenitic steels demonstrate exceptional strength and ductility in both solution-annealed and work-hardened conditions. These alloys possess a strong work-hardening capability, achieving high strength even with minimal cold forming.

Our martensitic steel combines high corrosion resistance with improved machinability. BÖHLER N324 delivers hardness levels of 48–53 HRC and offers excellent resistance to wear, corrosion, and oxidation. This steel is a suitable replacement for conventional stainless steels as well as leaded and lead-free alternatives, while still providing outstanding corrosion resistance.

		voestalpine Solution	Material Code		
	Applications	**BÖHLER**	**DIN**	**AISI**	**UNS**
Austenitic Steel	Watch Cases, Bracelets, Pins, Bezels, Closure Systems, Belt Buckles	A204	1.4435	316L	S31603
		A224	~1.4441	316L	-
Superaustenitic Steel	Watch Cases, Bezels, Spring & Jewelry Components, Bracelets	P569	1.4677	-	-
		P570	-	-	-
Martensitic Steel	Micro-mechanical Watch Components	N324	1.4197	420F mod.	-
		-	-	-	-

voestalpine Solution	Chemical Composition (wt%)									
BÖHLER Grade	**C**	**Si**	**Mn**	**P**	**S**	**Cr**	**Mo**	**Ni**	**N**	**Fe**
A204	< 0.030	< 1.0	< 2.0	< 0.045	< 0.030	17.0 – 19.0	2.5 – 3.0	12.5 – 15.0	< 0.1	balance
A224	< 0.030	< 1.0	< 2.0	< 0.045	< 0.030	17.0 – 19.0	2.5 – 3.0	12.5 – 15.0	< 0.1	balance
P569	0.05	-	5.0 – 6.0	-	-	26.0 – 28.0	3.0 – 4.0	13.0 – 15.0	0.6 – 0.8	balance
P570	0.2	0.40	12.0	-	-	17.0	3.0	0.2	0.5	balance
N324	0.20 – 0.26	< 1.0	< 2.0	< 0.040	0.15 – 0.27	12.5 – 14.0	1.10 – 1.50	0.75 – 1.50	-	balance

PRODUCT PROPERTIES AND COMPARISON

voestalpine Solution	Product Properties					
BÖHLER Grade	Polishability	Machinability	Formability	Wear Resistance	Corrosion Resistance	Mechanical Properties
A204	★★★★	★★★★	★★★★★	★★★	★★	★★★
A224	★★★★★	★★★★	★★★★★	★★★	★★★	★★★
P569	★★★★★	★★	★★	★★★★	★★★★★	★★★★
P570	★★★★★	★★	★★	★★★★	★★★★★	★★★★
N324*	★★★	★★★★★	★★	★★★★	★★★★	★★★★

*Comparison only valid with other stainless martensitic steels.

QUALITY CERTIFICATIONS

As a leading global supplier of steel and non-ferrous alloys, we are committed to achieving customer satisfaction in every decision, product, service and delivery. Our materials are designed and manufactured to the highest quality standards. In order to guarantee reliable and safe products, we maintain a high level of quality in all of our production units and ensure that our processes are duly certified.

voestalpine Böhler Edelstahl
» EN/ISO 9001
» EN/ISO 9100
» EN/ISO 14001
» ISO 17025 (Lab)

Villares Metals Brazil
» EN/ISO 9001
» ISO 13485
» EN/ISO 14001
» ISO 17025 (Lab)

voestalpine Böhler Bleche
» EN/ISO 9001
» EN/ISO 9100
» EN/ISO 14001
» ISO 17025 (Lab)

voestalpine HPM Switzerland
» EN/ISO 9001
» ISO 13485
» EN 9120

voestalpine HPM Canada
» EN/ISO 9001
» ISO 13485
» AS 9100-D

voestalpine HPM USA
» EN/ISO 9001

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voestalpine
ONE STEP AHEAD.