

UP-CLOSE EXPERIENCE

EXTREME PRECISION BY HERZ

Highly intricate, precise to a hundredth of a millimetre and completely burr-free: Herz produces ultra-fine etched parts that are precisely tailored to your requirements. Become convinced with the help of the data from our tolerance table.

TOLERANCE TABLE AS GUIDE VALUE FOR ETCHED PARTS

TECHNICAL SPECIFICATIONS

Copper, Silver, Copper alloys
(e.g. Brass, Beryllium- / Tin Bronze, Nickel Silver, K65, K75, Konstantan)

Thick-ness	Min. dimension (mm) for:		
	Bar	Gap	Toler-ance* ±
0.05	0.05	0.09	0.02
0.08	0.08	0.11	0.02
0.10	0.10	0.14	0.02
0.15	0.15	0.17	0.02
0.18	0.18	0.20	0.02
0.20	0.20	0.22	0.02
0.25	0.20	0.28	0.025
0.30	0.25	0.34	0.03
0.40	0.30	0.44	0.04
0.50	0.40	0.55	0.05
0.60	0.45	0.66	0.06
0.70	0.50	0.80	0.07
0.80	0.55	0.90	0.08
1.00	0.60	1.10	0.10

Steel, Stainless Steel, Nickel, Nickel-based alloy, Special materials (e.g. Kovar, (Ni-)Crofer, Inconell, Invar, Mu-Metal, ...)

Thick-ness	Min. dimension (mm) for:		
	Bar	Gap	Toler-ance* ±
0.01	0.05	0.10	0.02
0.02	0.05	0.10	0.02
0.05	0.05	0.12	0.02
0.08	0.06	0.14	0.02
0.10	0.07	0.16	0.02
0.12	0.08	0.16	0.02
0.15	0.10	0.18	0.02
0.18	0.12	0.22	0.025
0.20	0.15	0.24	0.025
0.25	0.18	0.30	0.03
0.30	0.20	0.36	0.035
0.40	0.25	0.48	0.045
0.50	0.30	0.60	0.06
0.60	0.40	0.75	0.075
0.70	0.45	0.90	0.09
0.80	0.50	1.00	0.10
1.00	0.60	1.30	0.12

Aluminum and Aluminium alloy
(e.g. Peraluman)

Thick-ness	Min. dimension (mm) for:		
	Bar	Gap	Toler-ance* ±
0.05	0.08	0.12	0.04
0.10	0.10	0.16	0.05
0.15	0.15	0.20	0.06
0.20	0.20	0.24	0.08
0.25	0.25	0.30	0.10
0.30	0.30	0.36	0.10
0.40	0.40	0.48	0.12
0.50	0.50	0.60	0.15
0.60	0.60	0.72	0.15
0.70	0.70	0.84	0.20
0.80	0.80	1.00	0.20
1.00	1.00	1.30	0.25

* The referenced specifications and tolerances can only be achieved with optimum panelisation.



WE DO MORE THAN JUST
MEET OUR CUSTOMERS'
REQUIREMENTS.
**WE ARE IDEAS
CATALYSTS AND MAKE
THINGS POSSIBLE.**

WHY HERZ?

6 GOOD REASONS FOR HERZ

When it comes to etching technology, trust in a partner who thinks ahead, who uses advanced technology, experienced employees and new ideas to help you and your products advance. A partner like Herz.

EUROPE'S TECHNOLOGY LEADER

With Herz you can rely on the only etching expert in Europe who manufactures sample blanks as well as large series productions. That means you receive everything from a single source – from the first sample part to mass production – and from the same, state-of-the-art facility. This ensures a smooth transition to series production and thus saves costs and capacities.

STRONG TECHNICAL ADVICE

Whether you prefer telephone consultation or a direct visit at your premises: With Herz, you can rely on more than 45 years of technical experience in etching technology. And you can also rely on seamless all-round support – from prototypes to series production. The key difference: We take our time to understand your complete process and your product.

CUSTOMISED SOLUTIONS

Just the best product is not enough for Herz: We also develop the best processing method for you. For example, our modern CAD system calculates the optimal solution for you.

ON-SITE SERVICE

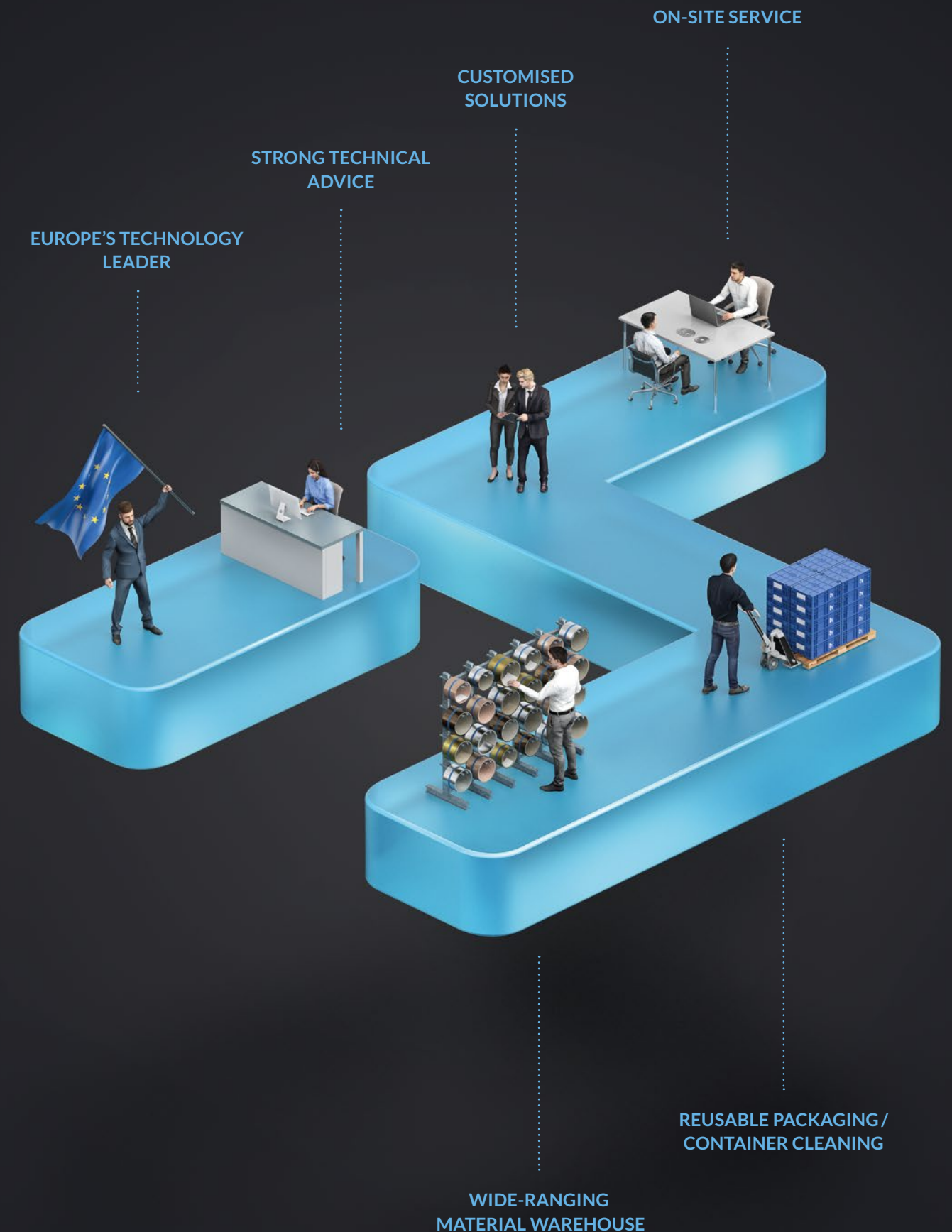
Even if in the end it is machines that make your etched parts: At Herz, humans take care of you. Especially when things get complex, we are happy to provide personal service directly on site. For example, we can discuss feasibility with you during the design phase and thus avoid unnecessary modification loops right from the start.

WIDE-RANGING MATERIAL WAREHOUSE

Contrary to the trend of ordering 'just in time', we keep around 700 materials in stock for you. This allows you to quickly test prototypes in various materials and bring them into series production rapidly. We are also willing to store rare materials from our customers in order to guarantee fast response time.

REUSABLE PACKAGING / CONTAINER CLEANING

We ensure safe packaging and reliable transport of your etched parts. With tailor-made reusable packaging in specially designed small load carriers (SLC), the entire delivery arrives safely and clean at your location. Thereafter, we simply take the empty containers back to prepare them for your next order.



A close-up photograph of a hand wearing a white, textured glove. The hand is holding a white, oval-shaped object with a fine, grid-like texture. The background is a soft, out-of-focus blue and white, suggesting an outdoor setting. The text is overlaid on the left side of the image.

**ÄTZTECHNIK HERZ.
FAST, PRECISE,
ECONOMICAL.**

WHY ETCHING TECHNOLOGY?

6 GOOD REASONS FOR ETCHING TECHNOLOGY

With Ätztechnik Herz, you benefit from high quality and flexibility combined with high cost efficiency. This applies to sample parts as well as series production. Discover your advantages.

LOW TOOL COSTS

Optical instead of technical tools are used for etched parts. They are ready for use much faster and more cost-effectively than, for example, punching tools made of metal.

FULL FLEXIBILITY IN GEOMETRY

More complex equals more expensive? Not when it comes to etched parts. They facilitate completely new possibilities for complex structures – partly because the metal is machined from both sides.

FINEST STRUCTURES WITH HIGH PRECISION

Ätztechnik Herz produces intricate and ultra-fine structures that can simply not be achieved with punching technology. The production process guarantees maximum precision down to the hundredth of a millimetre.

FAST PART PRODUCTION

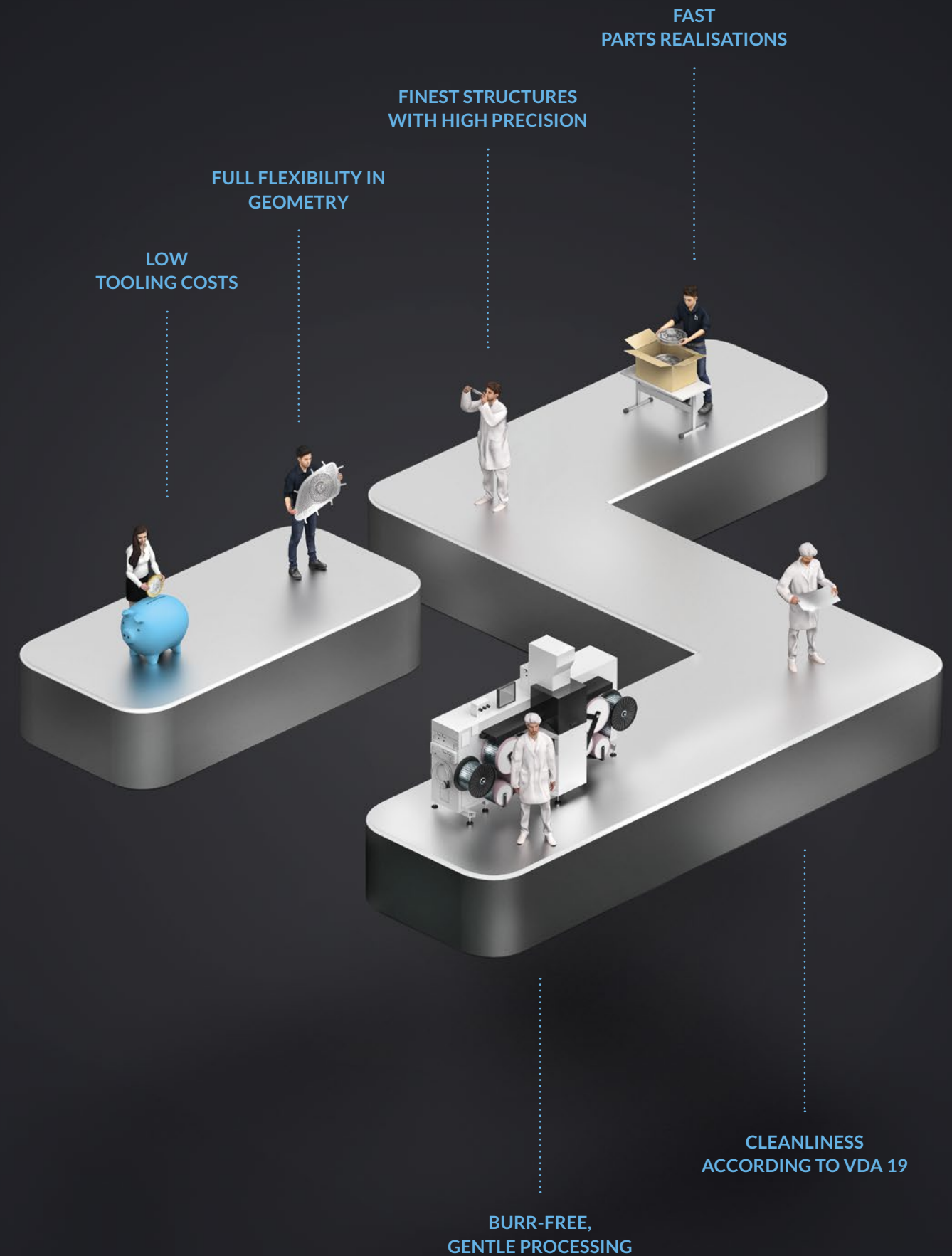
No elaborate / costly tool construction, efficient processes and a comprehensive material warehouse: With Herz, you get to the finished product faster. With Speedline service even in just 24 hours.

BURR-FREE, CAREFUL PROCESSING

Etching technology is a photochemical process. The etched part is not affected by burrs or deformations. This is a decisive advantage over mechanical processing.

CLEANLINESS ACCORDING TO VDA 19

Metal etching does not produce metallic particles. Therefore, Ätztechnik Herz fulfils cleanliness requirements in accordance with VDA 19 – without any additional cleaning processes.





**EFFICIENT PROCESSES.
PRECISELY TAILORED
TO YOUR
REQUIREMENTS.**

TECHNOLOGIES

Prototype or preproduction? Small or large series? At Herz you can always count on economic efficiency. Production of blanks or reel-to-reel as well as the optional combination of etching and laser technology offer the perfect solution for every requirement.



**REEL-TO-REEL:
EFFICIENT WITHOUT INTERRUPTION**

Highest precision and low initial costs: Etching of strips combines the benefits of etching technology with the cost-effectiveness of strip production. You benefit in particular from medium and large quantities as well as series productions that are intended for automated refinement.



**ETCHING LASER TECHNOLOGY:
THE BEST FROM TWO WORLDS OF TECHNOLOGY**

By combining etching technology and laser technology, you can count on an extremely cost-effective solution for the production of surface-structured metal blanks up to 3 mm thick. You thus benefit from a fast and cost-effective alternative to conventional laser cutting or eroding. Another plus: As a member of the Herz Group, our subsidiary company Herz Lasertechnik works with the same high-quality standards you are accustomed to from us.

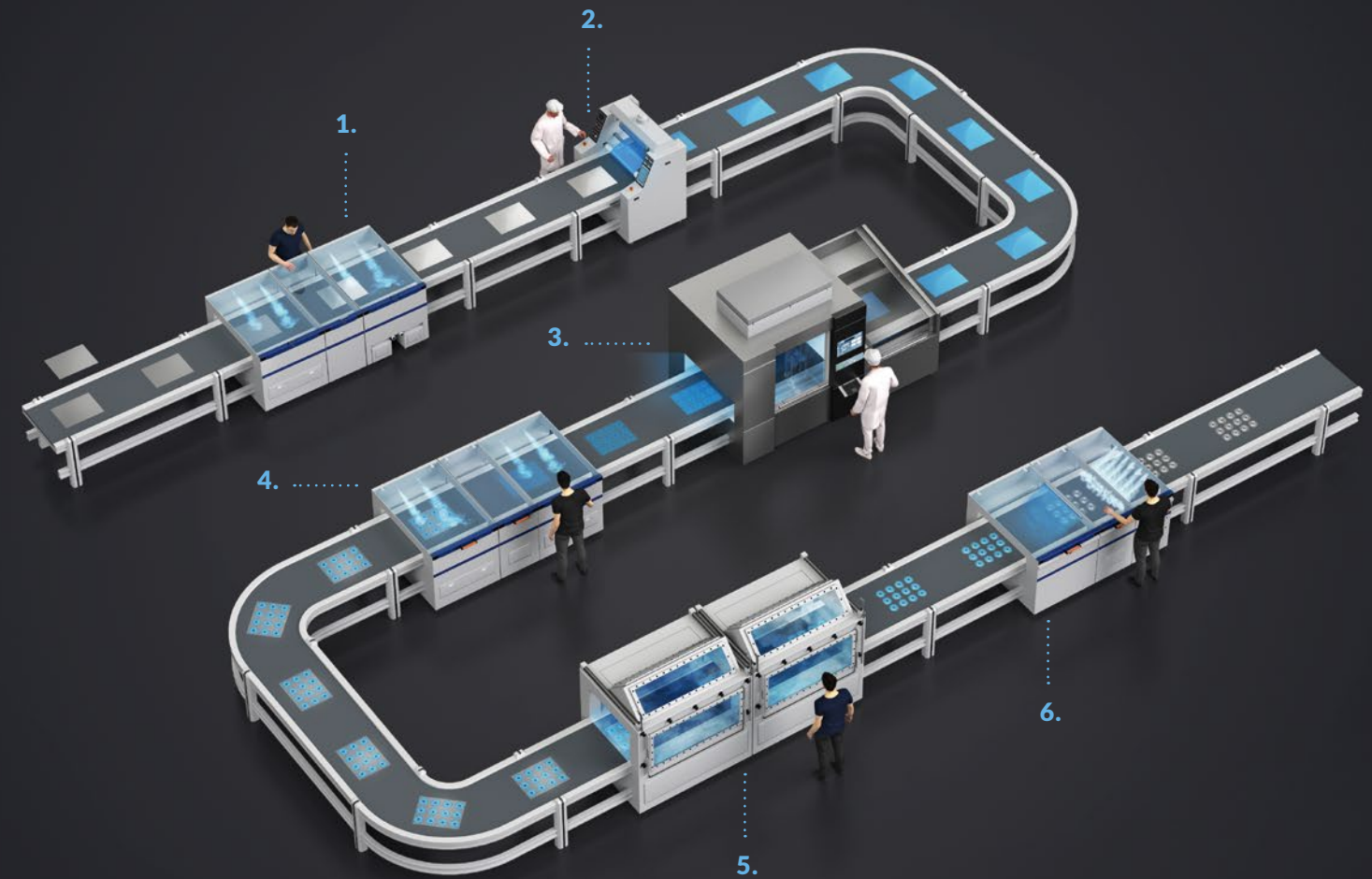


**BLANKS:
PLATE FOR PLATE TO THE PERFECTLY ETCHED PART**

We cut etching technology exactly to your specifications. Are you looking for small quantities? Would you like to process your etched parts manually? Then customised production of blanks is usually the first choice. This means that the parts are etched from metal plates. You can choose from approximately 700 types of material - with plate lengths of up to 725 mm.

THE ETCHING PROCESS

Etching is an efficient manufacturing process for material thicknesses from 0.01 to 1.0 mm – a range that goes far beyond the limits of other manufacturing technologies. And how does that work? Discover how your CAD data and metal plates can be used to create your customised etched part.



1. PRE-TREATMENT

Metal blanks are cleaned and the surface is roughened mechanically and chemically.

2. LAMINATION

The metal blanks are coated on both sides with a UV-light-sensitive film.

3. EXPOSURE

The blanks are exposed to UV light. A film tool reproduces the contour of the etched part.

4. DEVELOPMENT

The unexposed areas on the film are dissolved and removed.

5. ETCHING

The metal blanks are sprayed with an etching medium in order to dissolve the exposed metal.

6. FINISHING

In the so-called stripping process, the protective film is removed from the finished parts.

SERVICES

Is speed extremely important? Do you need a special material from our inventory or would you prefer to provide a desired material? Our Speedline service and our material services offer you plenty of possibilities.



SPEEDLINE: PRODUCTION IN 24 HOURS

To boost your competitive edge, we are really picking up speed: With our Speedlines we manufacture your products in 5 working days or even in as little as 24 hours.

As soon as we have received all the necessary documents and materials that may have been provided, the time starts ticking! You should definitely take advantage of this competitive edge, especially in prototype development!



PREREQUISITES FOR IMPLEMENTATION WITH SPEEDLINE

Production from material warehouse: It must be possible to produce the etched parts from our stock material.

Quantity limitation: Implementation with Speedline is limited to certain quantities and numbers of pieces.

Delivery conditions: Ex works, plus shipping costs. Let our Speedline specialists advise you.



700 MATERIALS IN STOCK: THE CHOICE IS YOURS

From A for aluminium to Z for zinc: Herz keeps roughly 700 types of material in stock for you. So you always have options – and we can respond promptly to your orders.

On our website you will find an excerpt from our current list of materials. Is your desired material missing? Contact us to inquire about any material or to discuss available alternatives. By the way: We also process materials that you provide.



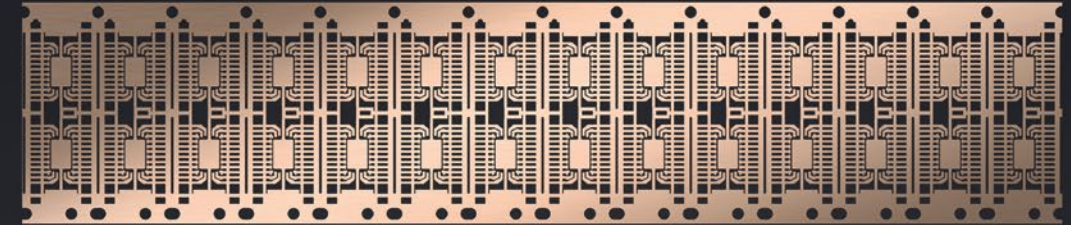
A man with glasses and a light blue shirt is sitting at a desk in an office, looking at a computer monitor. He is using a mouse and keyboard. The office has large windows in the background.

**HIGHLY SPECIALISED.
TO KEEP UP WITH THE
DIVERSITY OF INDUSTRIES.**



SHARPER VISION OPTICS AND SENSORS

In terms of optics and sensor technology, accuracy is key. Ideal operating conditions for Herz's etched parts, which are distinguished by their high precision. For example, use black oxidised etched parts for light absorption. Benefit from burr-free edges that enable projection of sharp images. And you can rely on absolutely flat parts – guaranteed by the Herz etching process.



LONGER LIFECYCLES ELECTRONICS

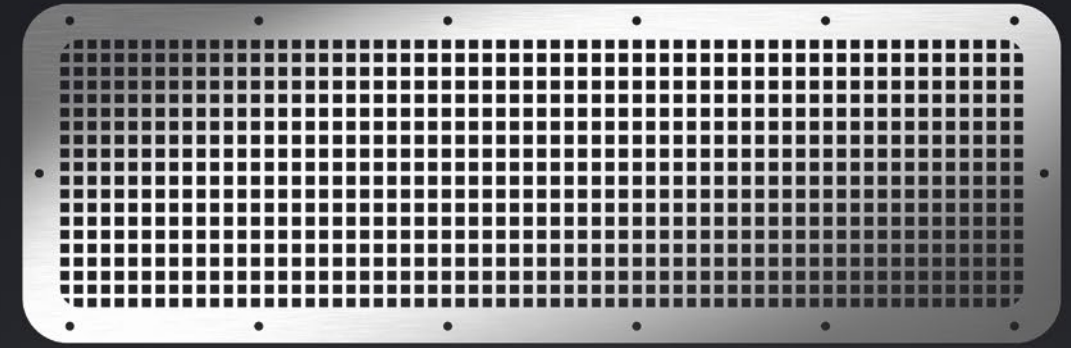
In the intricate field of electronics, Herz etched parts really show their full potential – in small and large-scale production. For example, shield casing can be finished with etched bending edges and can thus be bent cleanly and precisely without special tools. Thanks to low tooling costs, Herz's etched parts also pay off when it comes to complex lead frames.





DRIVING SMOOTHLY AUTOMOTIVE

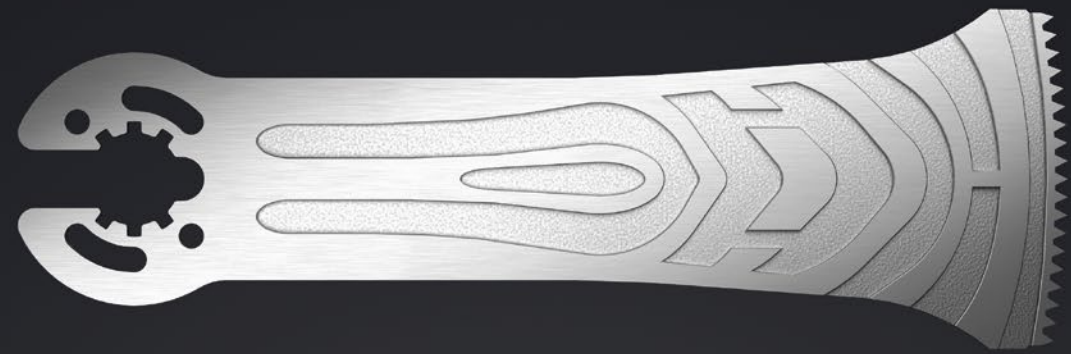
Smooth and error-free production processes are essential for automobile manufacturers and their suppliers. After all, nothing is more expensive than when the production line comes to a standstill. All the better that the automotive industry can rely on etched parts from Herz. Our certification according to IATF16949 is proof for this promise.



SAFE LIFT-OFF AEROSPACE

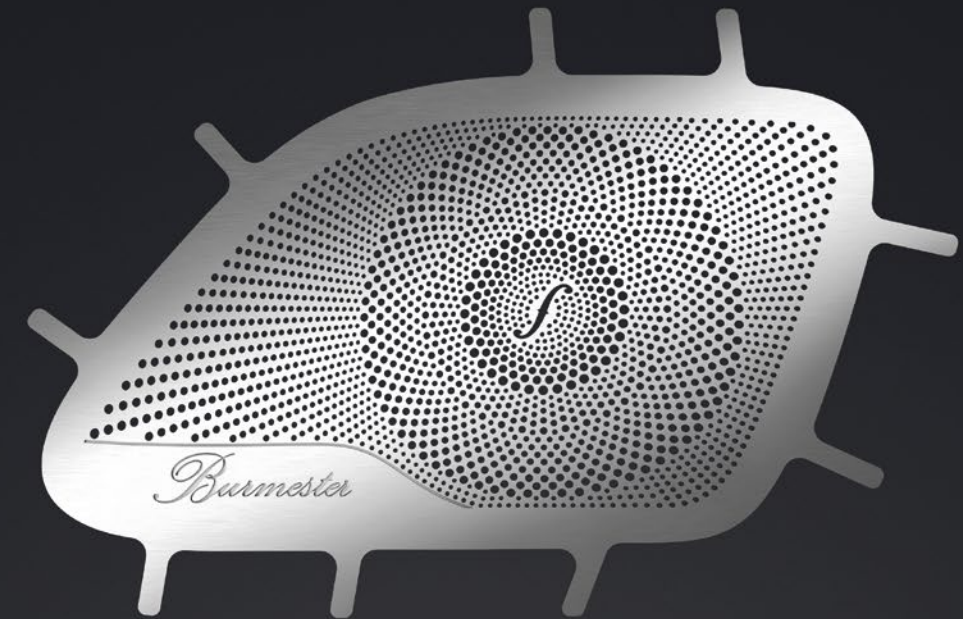
Extreme heat and cold, high pressure and complex high-tech: The requirements of the aerospace industry for etched parts are enormous. Herz has cost-effective and reliable solutions to meet these requirements. For example, we can produce complex individual parts for satellites extremely economically. Or we can provide etched parts made of high-strength metals that can easily withstand extreme temperature fluctuations and mechanical stress.





MORE PRECISE OPERATION MEDICINE

From intricate elements for hearing aids to stable surgical tools: In medical technology, the full scale of benefits of Herz etched parts are particularly useful, because the steels used in medicine are ideally suited for etching. Furthermore, the burr-free products meet the high quality standards of the industry. A particular Herz standout feature: Using combined etching and laser technology enables us to produce stable workpieces with thicknesses of up to 3 mm and complex surface structures.



MORE FREEDOM IN DESIGN DESIGN

Exquisite matt gloss effects, intricate surface structures and a comprehensive selection of metals: Ätztechnik Herz opens up new possibilities for design processes – and has already amazed many designers. True to the motto 'You draw it, we etch it', we are the ideal partner to implement your design ideas.





WHERE OTHER
TECHNOLOGIES REACH
THEIR LIMITS,
**THAT IS WHERE WE
START.**

45

YEARS OF EXPERIENCE
IN ETCHING TECHNOLOGY

2000

NEW PARTS
PER YEAR

700

TYPES OF MATERIAL

THE COMPANY

Perfection and precision are part of our everyday mantra – but never become trivial for us: Because what motivates us at Herz is to continue to advance our customers, the world of technology and our company.



OUR PHILOSOPHY

At Herz we have higher aspirations than merely fulfilling customers' wishes: With our know-how in etching technology, we want to open up new opportunities and stimulate new trends and ideas over and over.

With this attitude and more than 45 years of experience, we have become one of the European technology leaders in etching technology. But this is no reason to rest on our laurels: with pioneering laser technology and customer-orientated services like Speedline, we are setting new standards.

PARTNER FOR RESEARCH AND DEVELOPMENT

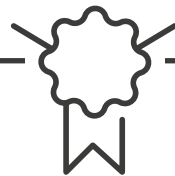
As one of Europe's technology pioneers in the field of etching technology, we are in constant dialogue with leading German institutes such as KIT, Steinbeis and Fraunhofer.

With joint research and development projects, we continue to advance etching technology and new procedures in metal processing. Thus we are creating solutions today for the challenges of tomorrow.

CERTIFICATIONS

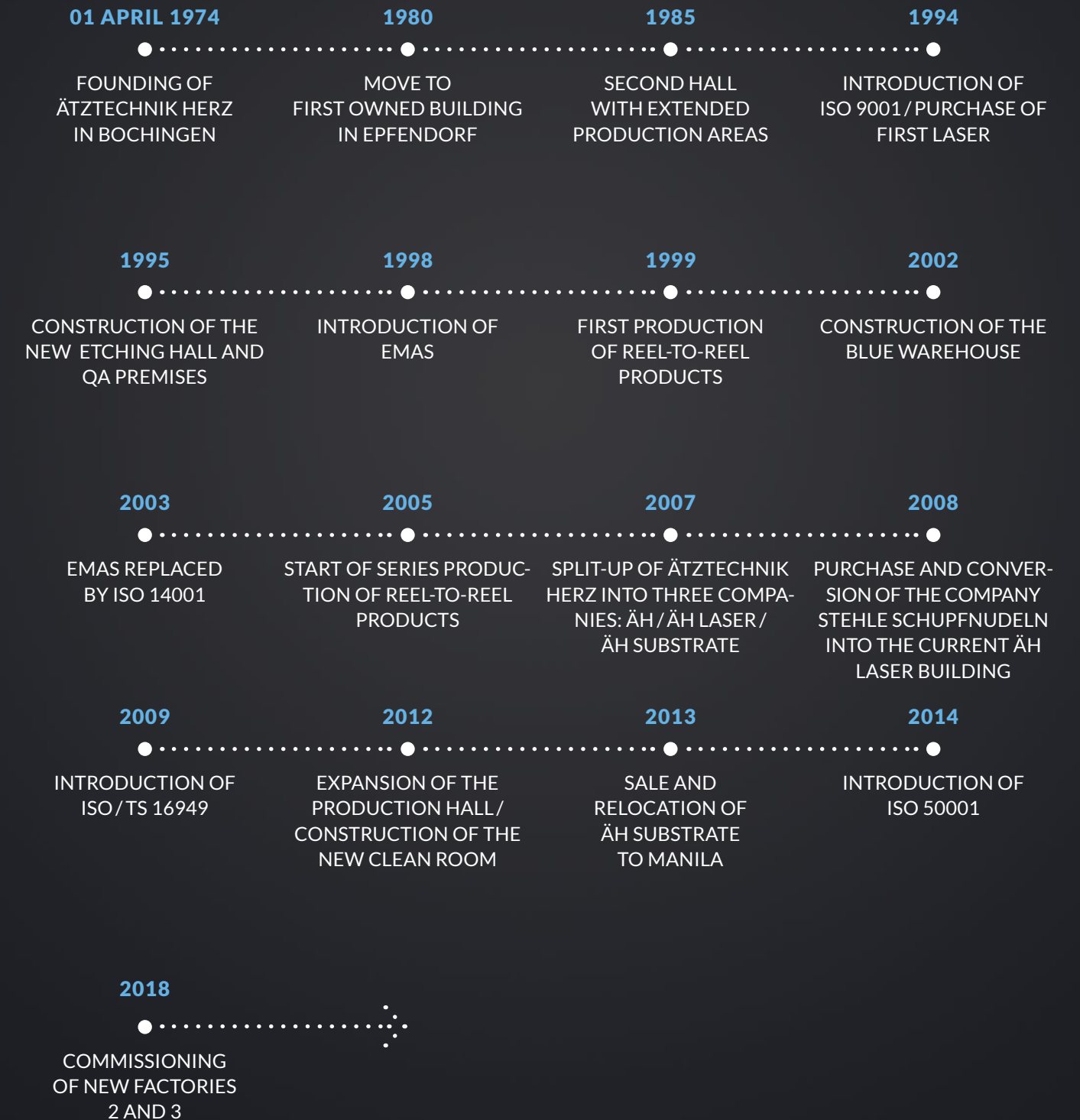
It is good to be able to rely on the quality of one of Europe's leading manufacturers for etching technology. It is even better if this quality is constantly checked, optimised and officially confirmed: Quality management, environment and industry standards are certified at Herz and offer our customers safety in black and white.

- Certificate ISO/TS 16949:2009
- Certificate ISO 9001:2008
- Certificate ISO 14001
- Certificate ISO 50001
- AEO Certificate of the European Community



HISTORY

Progress as tradition: Discover the success story of Herz.



HERZ SHOWS HEART

ENVIRONMENT AND SOCIAL

Do etching technology, environmental protection and social responsibility fit together? Yes! We are actively tackling the challenges and protecting the environment, climate and resources in accordance with the ISO 14001 and ISO 50001 guidelines. We are also pleased to be involved in the areas of sport and social affairs as well as education and culture.

ENVIRONMENTALLY FRIENDLY HEAT

Through smart use of thermal energy, Herz protects the environment and the climate: For example, we cool the data centre with a heat pump and use it to generate hot water for our operation. Moreover, we designed heat recovery in all ventilation systems and process cooling via external cooling.

ENVIRONMENTALLY FRIENDLY ENERGY

Herz also protects the environment in terms of energy usage: Our solar system with an output of approximately 60 kWh generates environmentally friendly electricity from sunlight. Lighting is controlled by motion detectors and energy-efficient pumps reduce energy consumption across the board.

ENVIRONMENTALLY FRIENDLY HANDLING OF CHEMICALS

Conserving resources as a guiding principle: We regenerate the acids and alkaline solutions used in etching with chlorine gas. This approach allows us to use chemicals longer and reduce overall consumption. In the end, we filter out the metal components so that only household waste water reaches the disposal network.

A HEART FOR ASSOCIATIONS

A strong team that delivers strong performance: These are values that we actively support in our company as well as in the regional associations. Football and dancing are just as important to us as skateboarding, wrestling and BMX freestyle.

A HEART FOR SOCIAL AFFAIRS

Taking good care of each other and never excluding anyone: We are committed to this motto in our own company and support social initiatives and institutions, such as the Special Olympics and various aid organisations including their youth groups.

A HEART FOR EDUCATION AND CULTURE

The people who take care of education also take care of the future. Herz is committed to educational institutions and projects as well as cultural events in the region. The spectrum ranges from schools and language courses to family projects, cinema and music.



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