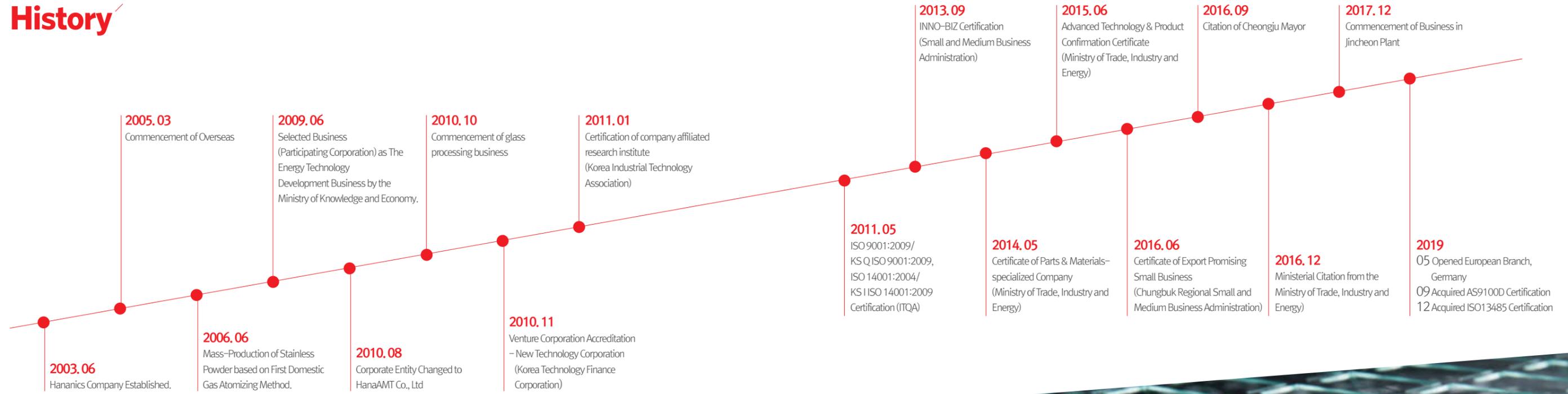


Hana AMT Precision Processing

GLASS | METAL

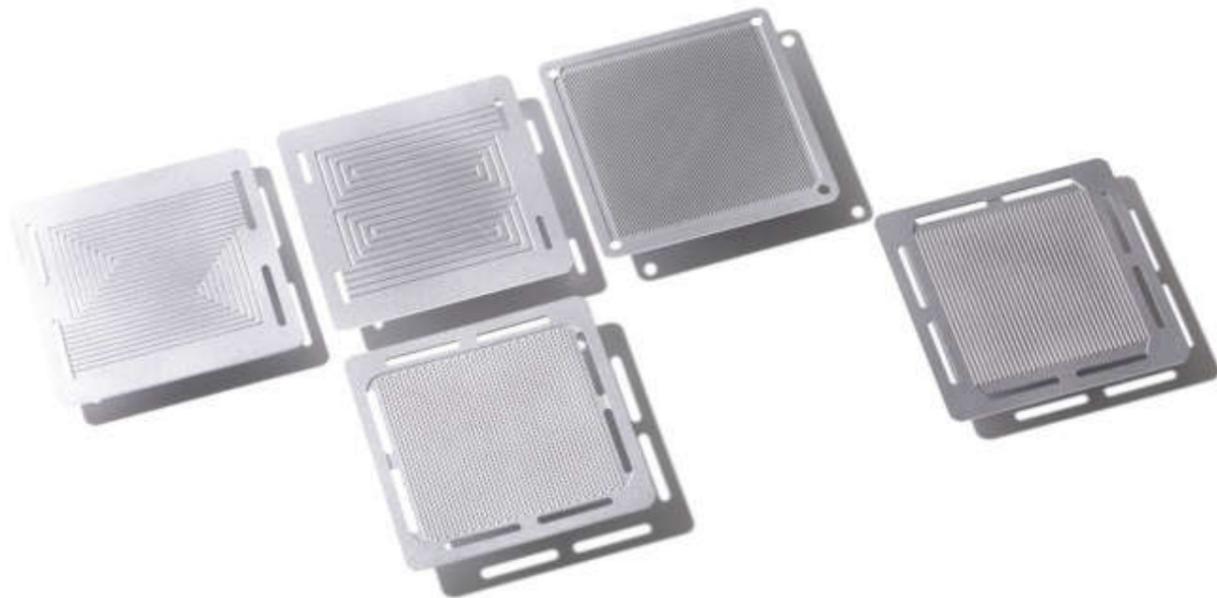
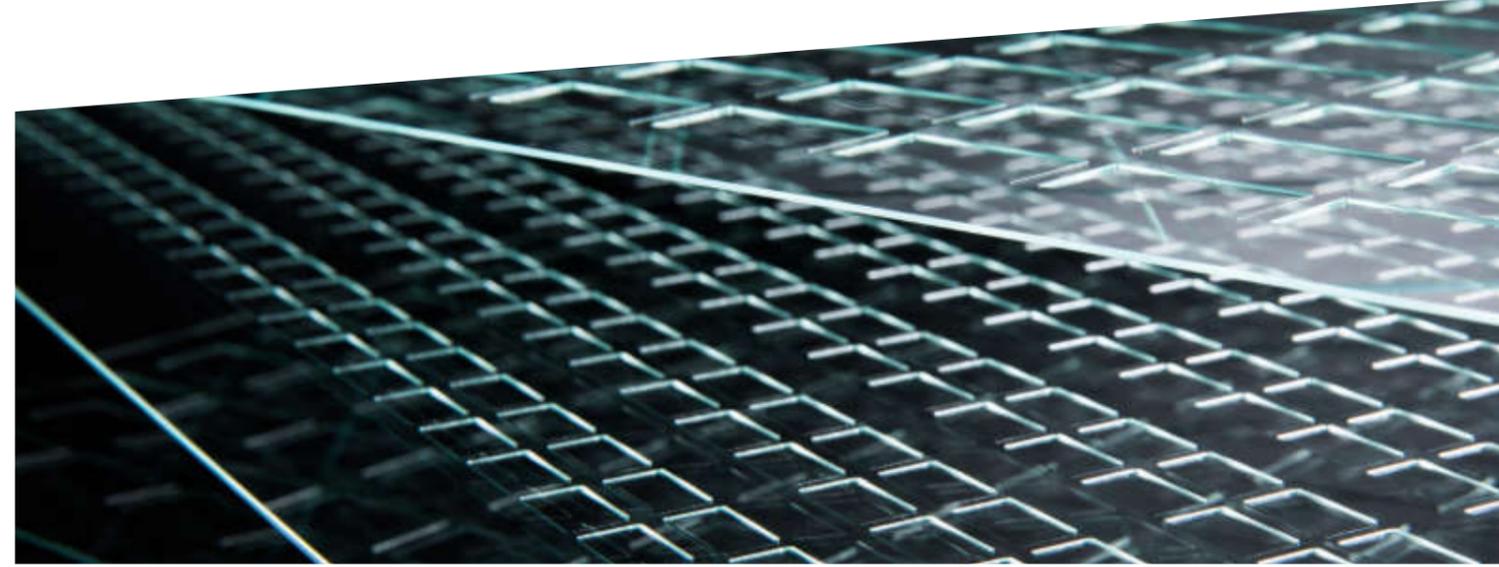
 **HANA AMT**

History



Your partner for precision processing

In the process of creating, we dream, plan and build together with you.
Our team immersing into your ideas will make us achieve our shared goal. Setting new quality and innovation standards for your product.



1. Your metal and glass items are produced by us.

We have designed our high-quality metal and glass items for your needs. To meet your specific individual requirements, we design and develop precision products considering the chemical and physical properties.

2. We produce the quantity you need.

We can produce any quantity of your customized products, from lab scale up to medium or industrial scale production to support you properly through the various stages of your product development.

3. We are your consistent high-quality supplier.

With our advanced metal and glass processing technology, we provide superior products with a constant high quality, from batch to batch, from order to order. Also we have certificates of ISO13485 and AS9100D.

4. You benefit from our long experience.

Benefit from our in-depth application expertise and more than seventeen years of experience in precision processing. We are always on track with the latest market and product trends due to our extensive engagement in scientific networks.

5. Rely on our profound application knowledge.

At Hana AMT precision processing technology, we help you realize new market opportunities. We support you from the initial idea to the lab and pilot phase and all the way to continuously optimized series production.

Metal Precision Processing

Etched Metal Fuel Cell Plates are faster, thinner, stronger with reasonable price and provide superior electrical performance to customers

The Proven Benefits of Etched Metal Fuel Cell Plates

- Metals offer superior electrical and heat conductivity than non-metal solutions.
- For mobile applications, metal plates are less fragile and able to withstand mechanical impact.
- For long-life applications, our stainless steel plate provide extended life times plus improved electrical performance.



Products Specification

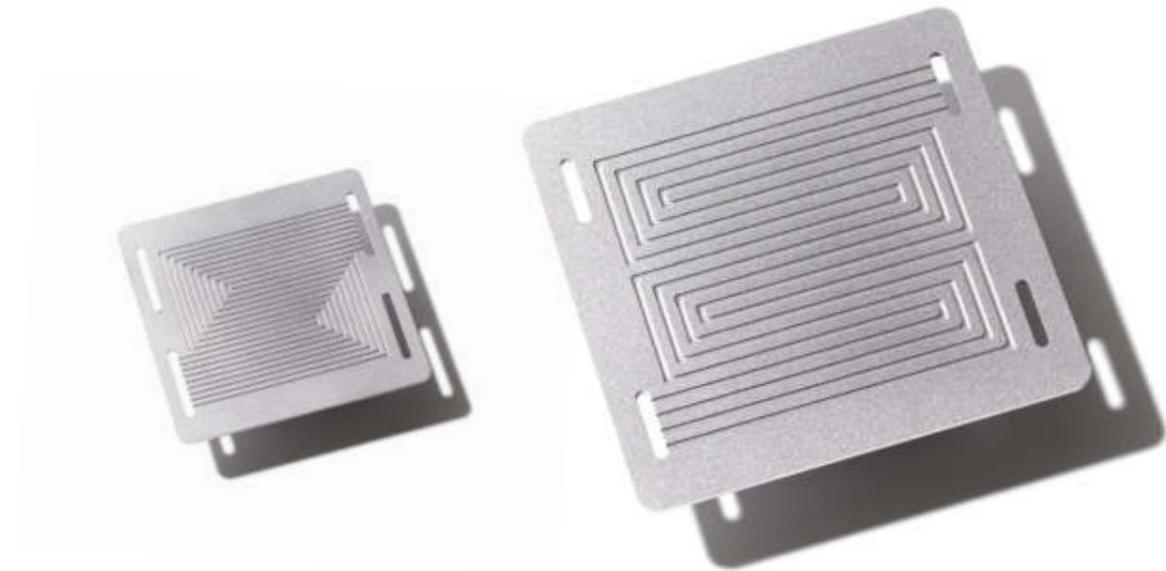
Item	Specification
Position Tolerance(pattern to pattern)	$\pm 100\mu\text{m}$
Size Tolerance	$\pm 170\mu\text{m}$
Depth Tolerance	$\pm 50\mu\text{m}$
Size	1200 x 2400 mm
Thickness	Max 5mm
Roughness	Ra = 1.0 μm ~2.0 μm
Material	Stainless Steel (316,304,430,440,460 etc), Copper and copper alloys

Chemical Etching Hole and profile geometries

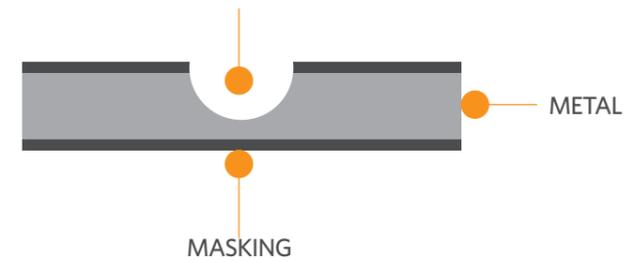
HanaAMT can control the etching process, allowing for a range of profiles. This gives products unique characteristics, such as sharp cutting edges or clean hole, fast production.

Using our own chemical etching method, we manufacture sharp products and fast compared to other processes.

In addition, we offer customers a wide range of choices for material, wide size.



ETCHED PROFILE



1. Single-sided etch

Used for a specific depth, profile or for thin metal range



2. Convex profile

Industry standard edge condition for through-etched components



3. Parallel profile

Used for clean holes or etched surfaces



4. 70/30 etch

Combines through etching and depth etching and can also be used to produce conical apertures or cutting edges



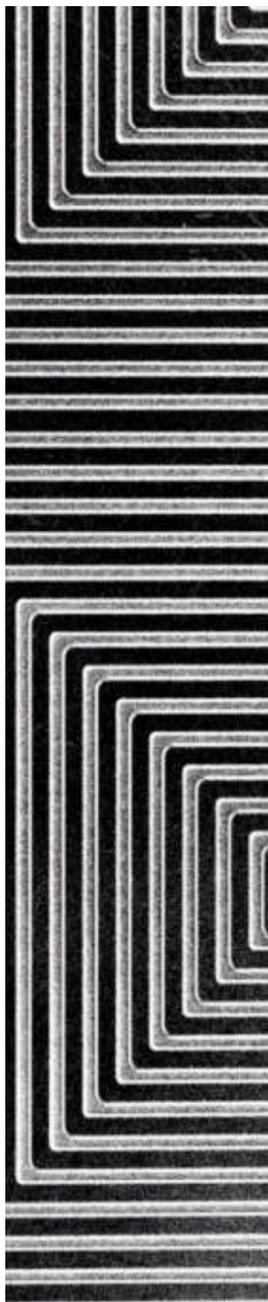
5. Double-sided depth etch

Used for surface engraving on both sides



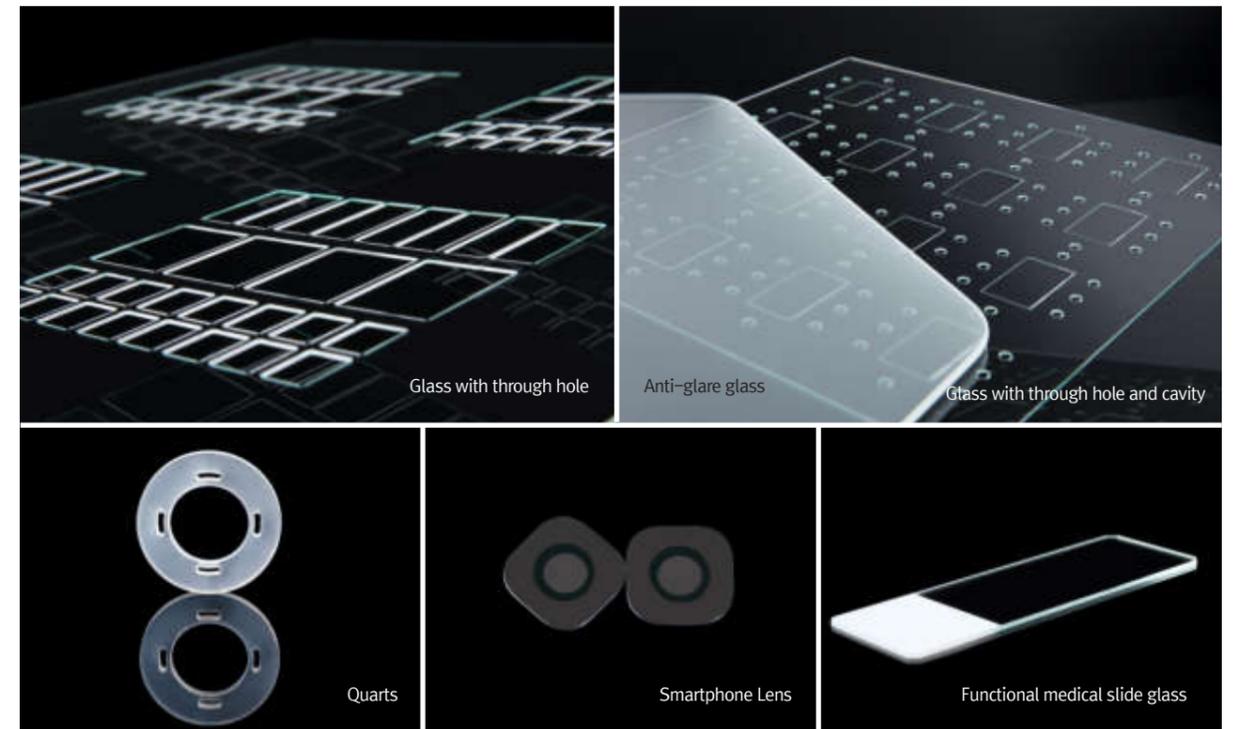
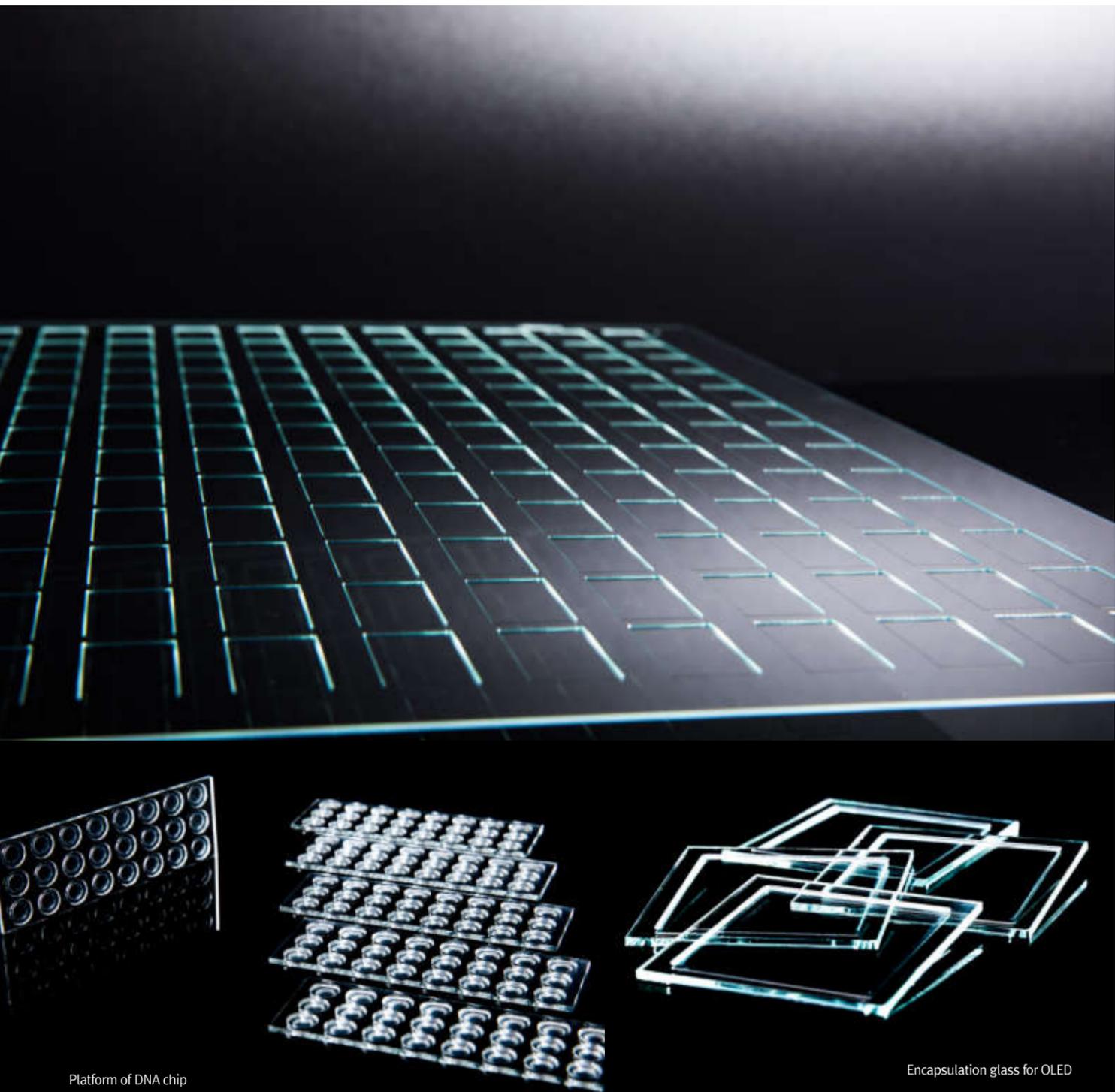
6. 2/3 stage etch

Used for multiple depths, requiring additional imaging



Glass Processing Technology

Based on nearly 20 years of experience and know-how, Hana AMT is doing its best to satisfy customers. We are committed to excellent quality by acquiring quality certifications such as AS9100D and ISO13485.

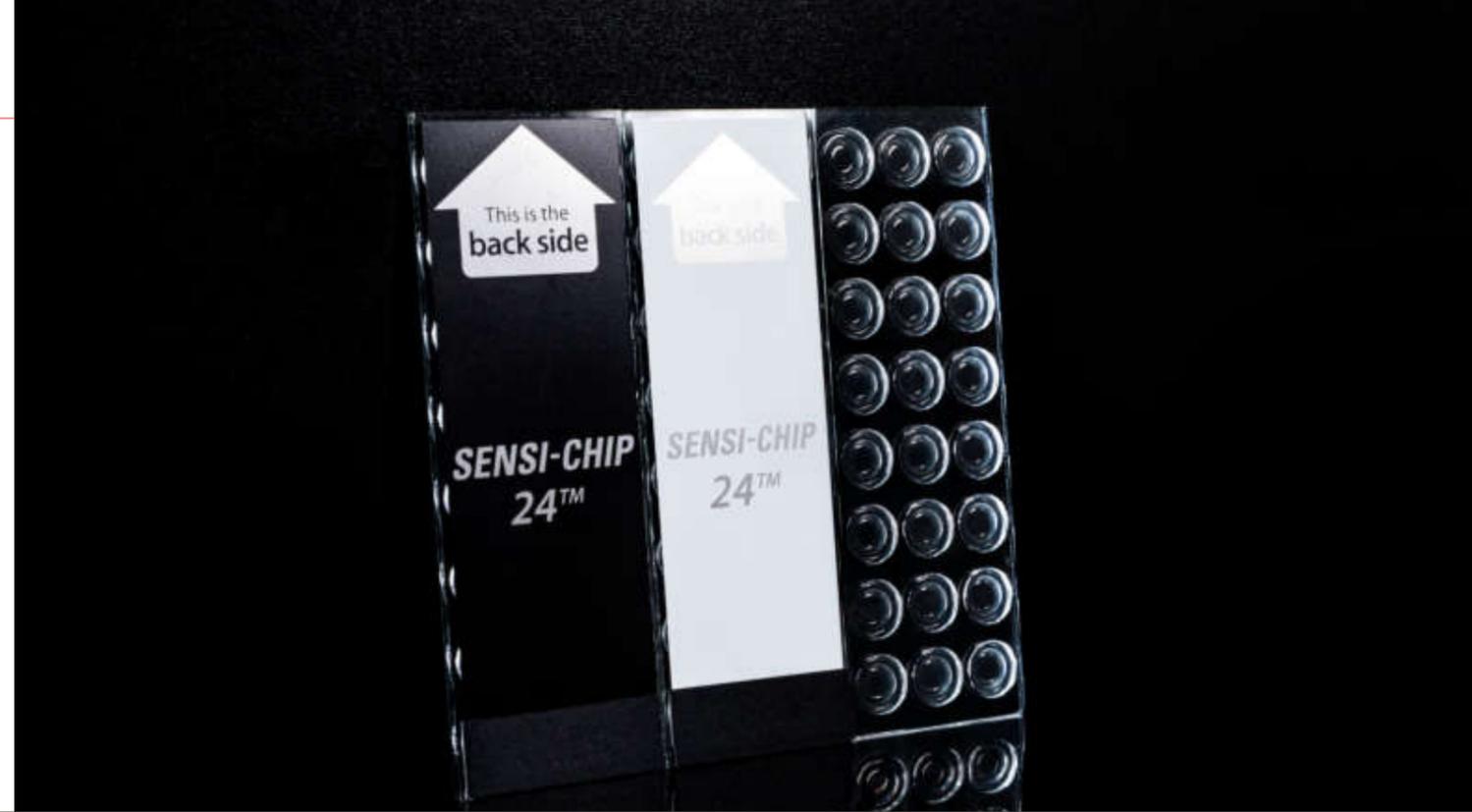


Item	Specification	Remarks
Alignment Mark Size	±80μm	Drilled circle
Alignment Mark Circularity	±50μm	
Alignment Mark to Edge Tolerance	±100μm	
Alignment Mark to Alignment Mark Position Tolerance.	±50μm	
Alignment Mark for diagonal Position/Tolerance	±50μm	
Cell Position Tolerance (Align Mark to each edge of cavities)	±170μm	
Cell Size Tolerance (deu-side)	±170μm	
Depth Tolerance of Cavity	±50μm	
R-shape of cell bottom	≤ cell depth+0.1mm	
Cavity Roughness	<0.02μm	Ra base
Glass Material	Max 920×730mm	
Glass Size	Max 5mm	
Glass Thickness	0.035/0.5/0.55/0.7/1.1mm	

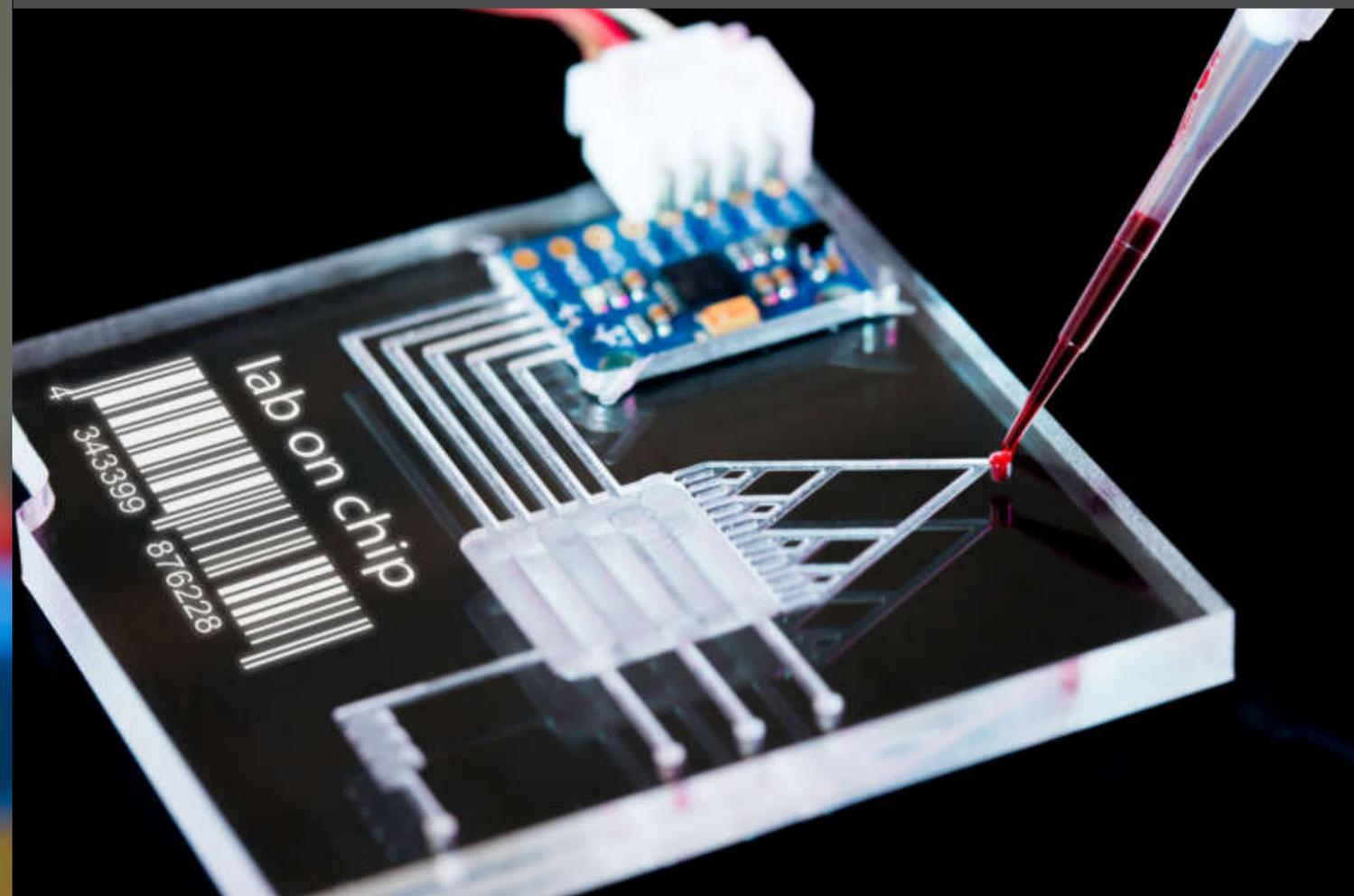
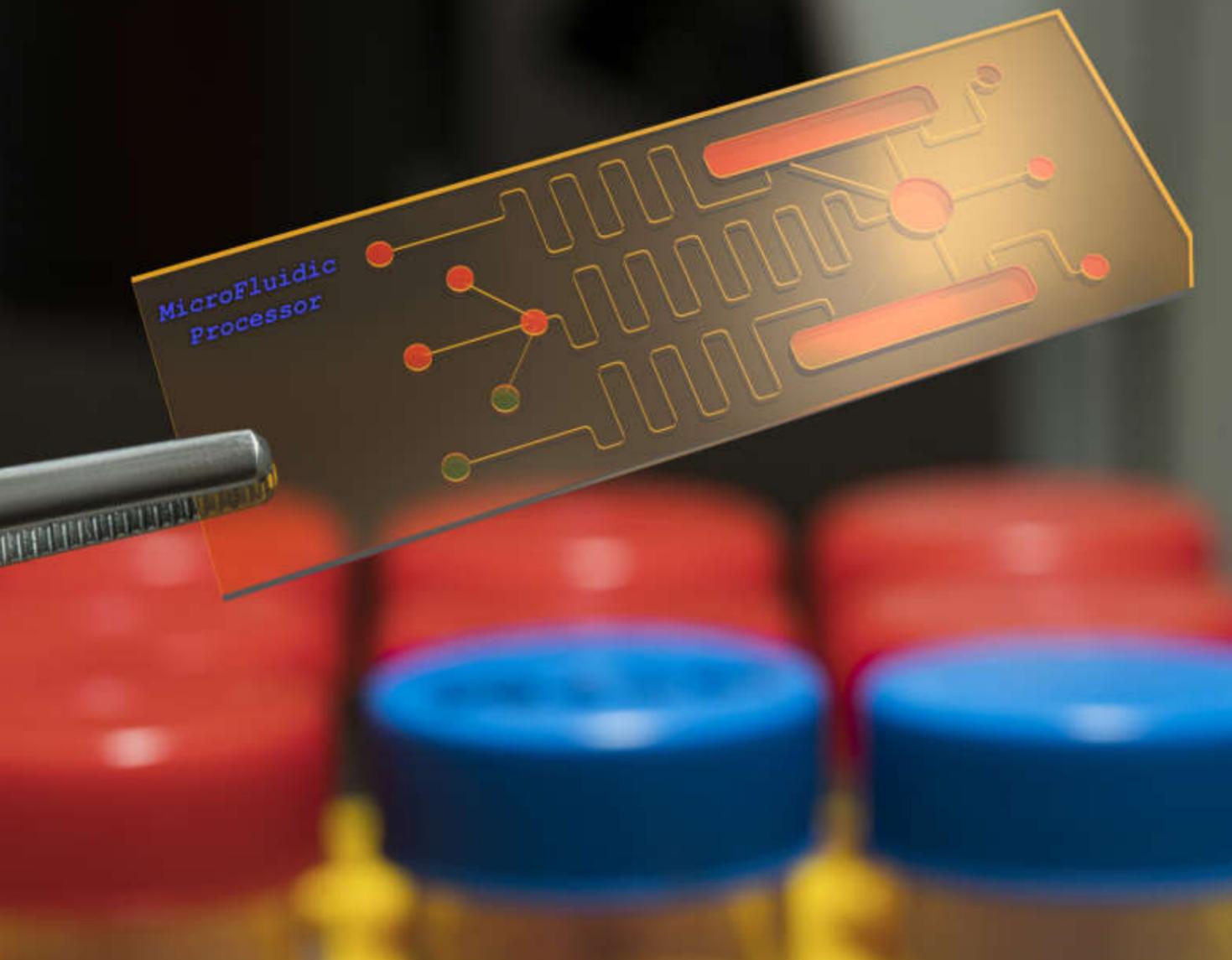
AMT BIO Chip Technology

Microfluidics & Lab on a chip

Biochips for culturing cells, tissue or microorganisms are of interest to several (bio)medical and pharmaceutical applications such as tissue engineering, organ-on-a-chip and high-throughput drug screening.



Due to glass properties, microfluidic glass products are superior to PDMS resin ones in terms of thermal and chemical resistance.



HANA AMT Precision Processing



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