



ADVANCED CHEMICAL ETCHING LTD

ENGINEERING



PRECISION ENGINEERING

When customers require a component manufacturing process that defies what is possible using hard tooling methods, they turn to us. We've worked hard to become the world leaders in photo chemical etching, and continue to develop and apply our manufacturing process to a range of engineering applications.

Whereas stamping, punching, laser and water jet cutting are staples of metal components manufacturing, only chemical etching can provide the unrivalled quality, demanding tolerances and flexibility of process we can offer to our customers.

COMMITMENT TO QUALITY AND SERVICE

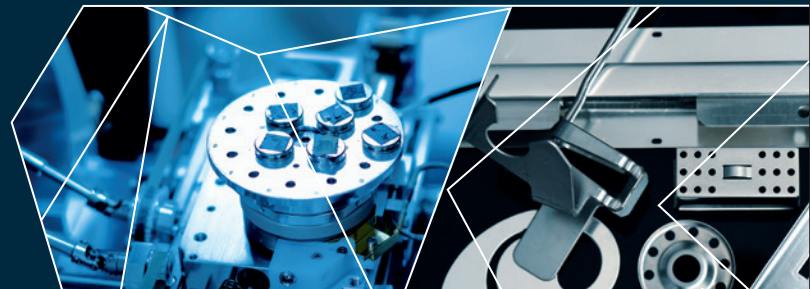
With no hard tooling or profiling process, we can produce components in volumes between one and one million, at a price that doesn't increase with complexity. With **tolerances** to $> \pm 0.025\text{mm}$ and an **unlimited level of complexity**, our process is ideal for crafting safety-critical parts that will never be effected by burrs, stress or distortion.

We work in a range of high quality metals including **Stainless Steel, Aluminium, Titanium, Copper Alloys** and **Nickel Alloys**, and have produced such high quality components for use in the engineering sector as precision shims and washers, metal grilles, meshes and filters, gaskets, mounting plates and brackets. Our **commitment to quality** means that we continually monitor and control our chemical and metal supply, ensuring that we always offer a product with zero surface

imperfections at a level of intricacy that is unparalleled in the industry. We are **constantly evolving** and **refining our chemical etching techniques**, manufacturing millions of etched components per annum to **major global manufacturing and engineering companies** across many markets and industries.

Our digital tooling process means that **we can rapidly produce components with a lead-time of days rather than weeks or months**. We involve customers at every stage of the design and production process, and work closely with engineers and designers to ensure that all parts conform to **exact specification, every time**.

Contact ACE today on +44 (0)1952 416 666 to find out what we could produce for you – whether it's 1s or millions.



TYPICAL ETCHED COMPONENTS

- » Battery contacts
- » Precision shims
- » Springs
- » Diaphragm springs
- » Grilles
- » Meshes
- » Gaskets
- » Clips
- » Spacers
- » Formed brackets
- » Mounting plates
- » Thrust washers

METALS

- » Steel (all grades and hardness)
- » Stainless steel (all grades and hardness)
- » Aluminium alloys
- » Copper alloys
- » Nickel alloys
- » Titanium alloys

A PROCESS OF INNOVATION

ACE CORE CAPABILITIES OVERVIEW

Photo Chemical Etching (net shape)	Technical Information
<ul style="list-style-type: none"> ⬢ Low-cost digital tooling, (no hard tooling for etched parts) ⬢ Burr-and stress-free, flat etched parts ⬢ Unlimited complexity (etching is not a profiling process, so complexity doesn't equal high cost) ⬢ Lead-times in days 	<p>Metals Almost all Metals</p> <p>Thickness 0.005mm – 2.5mm</p> <p>Component size..... 575mm x 1475mm (max)</p> <p>Tolerances > ±0.025mm</p> <p>Volumes One to Millions</p> <p>Min feature >0.07mm</p> <p>Forming, machining & assembly In House</p>

Aluminium Etching (net shape)	Technical Information
<ul style="list-style-type: none"> ⬢ Proprietary process for etching aluminium ⬢ Clean, smooth edges ⬢ No expensive hard tooling ⬢ Low-cost design iterations – fast turnaround ⬢ Burr-and stress-free – metal properties unaffected ⬢ 100% tighter tolerances than the industry standard ⬢ Serial production capacity 	<p>Metals All grades</p> <p>Thickness 0.025mm – 2.5mm</p> <p>Component size..... 575mm x 1475mm (max)</p> <p>Tolerances > ±0.025mm</p> <p>Volumes One to Millions</p> <p>Min feature >0.07mm</p> <p>Forming, machining & assembly In House</p>

Titanium Etching (net shape)	Technical Information
<ul style="list-style-type: none"> ⬢ Lead-times in days ⬢ Unlimited complexity (pay for the first hole only) ⬢ No hard tooling ⬢ Low-cost set up and design iterations ⬢ Burr-and stress-free components ⬢ Accuracy to ±25 microns ⬢ Fine lines as low as 70 microns 	<p>Metals..... All grades</p> <p>Thickness..... 0.025mm – 1.0mm</p> <p>Component size 300mm x 500mm (max)</p> <p>Tolerances > ±0.025mm</p> <p>Volumes..... One to Millions</p> <p>Min feature >0.07mm</p> <p>Forming, machining & assembly..... In House</p>