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## ADVANCED CHEMICAL ETCHING

*a process of innovation*



### Medical

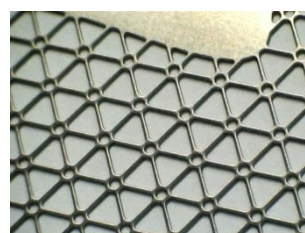
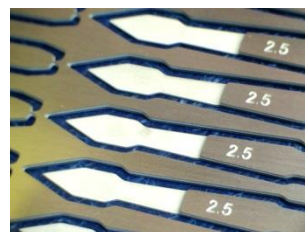
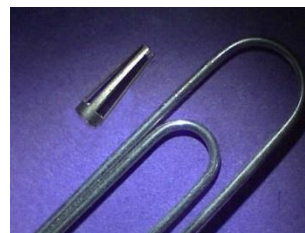
Advances in the medical sector are progressing rapidly and many companies are being left behind in the pursuit for cutting-edge products. This has created many new challenges for manufacturers and in particular the increase in demand for Titanium and Titanium alloys used for implants.

ACE has responded by investing time and money into developing a unique process for etching Titanium (T<sup>IME</sup>) - Titanium Molecular Etching and is now able to deep etch and profile material for customers involved in producing intricate medical devices.

Many customers are already switching onto this unique solution and tapping into our ability to provide burr-free, stress-free components within a few days to keep up with the medical sector's demand for right-first time products.

### Typical components include:

- Scalpels
- Knife blades
- Implants
- Flexible and rigid meshes
- Diaphragm springs for pumps
- Bone pins
- Microfluidics
- Hearing aid components
- Ophthalmic scalpels
- Single use implements
- Medical saws
- Cranial Mesh



**Advanced Chemical Etching Limited,**

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## Company Overview

Advanced Chemical Etching is one of the largest specialist metal component manufactures in Europe, innovating and developing a number of manufacturing processes to meet the needs of our International customers. ACE has scientifically developed special processes to etch through corrosive resistant exotic materials such as titanium (T<sup>i</sup>ME), Nitinol, Elgiloy and Inconel various grades. As well as developing a molecular process to etch Aluminium to a new level of dimensional and visual quality and delivery (AC<sup>m</sup>E).

## World Class Quality

ACE currently holds ISO 9001, ISO14001, as well as a host of customer accreditations and is currently working towards securing TS16949 and AS9100 to support increasing business in the automotive and aerospace sectors.

Through continuous Quality Improvement we seek to provide levels of quality that exceed our customers' expectations.

Close liaison with the customer at every stage ensures full traceability and allows us to offer value design and manufacturing, often securing significant cost downs in the process.

## Core Capabilities Overview

<b>Photo Etching (Net Shape)</b>  Photo Etching is a process for manufacturing flat metal components by chemical erosion without burrs or stresses in fine detail, in most materials in a very short lead-time.		<b>Aluminium Compliant molecular Etching (Net Shape)</b>  Aluminium Compliant molecular Etching (AC <sup>m</sup> E) is a new process scientifically designed for manufacturing highly accurate components in all grades of Aluminium. The process has been scientifically designed at the atomic level to produce finer lines and tighter tolerances than the conventional process.	
Materials	Almost all metals	Aluminium Grades	All Grades Including Clad material
Material Thickness	0.010mm – 1.5mm (0.0004" – 0.059")	Material Thickness	0.010mm – 1.5mm (0.0004" – 0.059")
Component Size	575mm x 600mm (Max) 23" x 24" (Max)	Component Size	575mm x 600mm (Max) 23" x 24" (Max)
Tolerances	<0.01mm range (0.0004")	Tolerances	<0.01mm range (0.0004")
Volumes	One to millions	Volumes	One to millions
Min Feature	<125 microns <(0.005")	Min Feature	<125 microns <(0.005")
Forming, wiring & Assembly	Available in company	Forming, wiring & Assembly	Available in company
<b>Titanium Molecular Etching (Net Shape)</b>  Titanium molecular Etching (T <sup>i</sup> ME) is a new process scientifically designed for manufacturing highly accurate components in all grades of Titanium. The process has been scientifically designed at the atomic level to produce finer lines and tighter tolerances using safer chemistry than the conventional process.		<b>Wire EDM</b>  Wire EDM (Electrical Discharge Machining) is a profiling process that uses electric current and fine wire to precision profile shapes in metals and other conductive materials. It leaves a smooth surface that usually requires no further finish	
Titanium Grades	All grades	Materials	All metals providing they are conductive
Material Thickness	0.025mm – 1.0mm (0.001" – 0.040")	Material Thickness	0.010mm – 50mm (0.0004" – 2.00")
Component Size	275mm x 275mm (Max presently) 11" x 11" (Max presently)	Component Size	200mm x 200mm (Max) 8" x 8" (Max)
Tolerances	<0.01mm range (0.0004")	Tolerances	<0.01mm range (0.0004")
Volumes	One to millions	Volumes	One to 1000s
Min Feature	< 125 microns <(0.005")	Min Feature	< 250 microns <(0.010")
Forming, wiring & Assembly	Available in company	Forming, wiring & Assembly	Available in company

## Advanced Chemical Etching Limited,

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