www.ace-uk.net

ADVANCED CHEMICAL ETCHING

a process of innovation

Renewable Energy

Renewables – The wind of change

ACE is fast becoming a critical supplier to the renewables sector, with our ability to produce specialist prototype and low volume components helping us secure work from both the UK and overseas.

The quality and technical skills gained from years of delivering precision parts to the Automotive, Aerospace and Medical sectors are a natural fit to clients operating in this market.

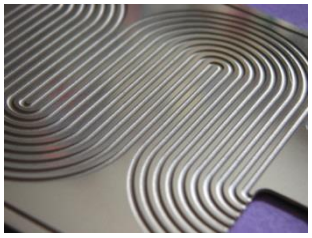
We already have some major success stories and are heavily involved in the emerging fuel cell market, heat exchangers and have delivered mechanical components to wind turbines.

Continued investment in our expanding Telford plant will ensure we stay at the forefront of new developments in renewables.

We will work with the client at the earliest stage of design, looking to add value throughout and using our knowledge of etching to offer solutions for high performance/lightweight parts.

Typical components include:

- Fuel cell plates,
- Bipolar plates,
- Heat exchanger plates,
- Manifolds,
- Slip rings,
- PEM fuel stacks,
- Gaskets



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^{i}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 ($AC^{m}E$).

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

Photo Etching (Net Shape)

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.

Materials	Almost all metals
Material Thickness	0.010mm – 1.5mm *(0.0004" - 0.059")*
Component Size	575mm x 600mm (Max) *23" x 24" (Max)*
Tolerances	<0.01mm range *(0.0004")*
Volumes	One to millions
Min Feature	<125 microns *<(0.005")*
Forming, wiring & Assembly	Available in company

Aluminium Compliant molecular Etching (Net Shape)

Aluminium Compliant molecular Etching ($AC^{m}E$) 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.

Aluminium Grades	All Grades Including Clad material
Material Thickness	0.010mm – 1.5mm *(0.0004" - 0.059")*
Component Size	575mm x 600mm (Max) *23" x 24" (Max)*
Tolerances	<0.01mm range *(0.0004")*
Volumes	One to millions
Min Feature	<125 microns *<(0.005")*
Forming, wiring & Assembly	Available in company

Titanium Molecular Etching (Net Shape)

Titanium molecular Etching (T^{i}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.

Titanium Grades	All grades
Material Thickness	0.025mm – 1.0mm *(0.001" – 0.040")*
Component Size	275mm x 275mm *11" x 11"* (Max presently) *(Max presently)*
Tolerances	<0.01mm range *(0.0004")*
Volumes	One to millions
Min Feature	< 125 microns *<(0.005")*
Forming, wiring & Assembly	Available in company

Wire EDM

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

Materials	All metals providing they are conductive
Material Thickness	0.010mm – 50mm *(0.0004" –2.00")*
Component Size	200mm x 200mm (Max) 8" x 8" (Max)
Tolerances	<0.01mm range *(0.0004")*
Volumes	One to 1000s
Min Feature	< 250 microns *<(0.010")*
Forming, wiring & Assembly	Available in company

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