



www.ace-uk.net

ADVANCED CHEMICAL ETCHING

a process of innovation

Aerospace



Flying high with Aerospace and Defence

Quality, speed, precision and innovation are four of the key drivers that make ACE such an instrumental partner to the aerospace and defence sector. Lean manufacturing principles adopted in other sectors are now being embedded by the company in attracting and subsequently delivering a range of custom-made components for many different aircraft platforms.

This growing reputation has seen us working jointly with major players within the industry developing major projects with emphasis on emerging technologies. An increasing move to miniaturisation of parts, alternative material usage and greater supply chain management all represent significant opportunities for growth in the coming years. ACE is also very well versed in producing safety critical components in the majority of compliant aerospace grade materials, including Beryllium Copper, Phosphor Bronze, Inconel®, Nimonic®, Incoloy®, Stainless steel, Aluminium, Aluminium Bronzes, Titanium and Molybdenum.

Typical components include:

- Heat exchanger plates, Graded precision shims,
- Gaskets, Intake grilles,
- Meshes, Fuel filters,
- Instrument panels, Dials and pointers,
- Leadframes for electronic packages, Actuators,
- Contacts / Terminals, Control gear components,
- Laminations, Interior lighting components,
- RFI Shielding, Diaphragm springs,
- Fuel cell plates, Buss bars for power components



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 (TⁱME), 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^mE).

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.		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.	
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
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.		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	
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

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