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ADVANCED CHEMICAL ETCHING

a process of innovation

Automotive



Accelerating the Automotive industry

The car industry and ACE date back to 2000 when the company was first formed, with the company supplying components including buss bars, connectors and fuel system management devices to tier 1 and tier 2 suppliers across the UK and Europe.

Whilst this remains an integral part of the business, the firm prides itself now on helping to drive the evolution of the automotive industry with the development of the next generation of new vehicles and ground-breaking ideas created in the fertile minds of Formula 1 designers and engineers.

With the growth in renewables having an impact in the sector, we are now being requested to manufacture advanced components ranging from advanced kinetic energy recovery systems to fuel cell plates and motor laminations. In addition, ACE is working with most of the precision stamping companies within the industry to provide fast, accurate and inexpensive prototypes. During the development stage we constantly liaise with the customer and forward crucial information to them, leaving their engineers free to focus on production tooling.

Typical components include:

- Graded precision shims, Head gaskets, Intake grilles,
- Meshes, Fuel filters, Instrument panels,
- Bus bars for lighting circuits / power components / fuel circuits,
- Lead frames for electronic packages, Actuators,
- Contacts/terminals, Laminations, RFI Shielding,
- Diaphragm springs, Fuel Cell plates,
- Diaphragm springs for fuel management systems,
- Shims for aerodynamic spoilers



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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