

# THE ESSENTIAL GUIDE TO GETTING THE MOST FROM OUR VERSA-ETCH TECHNOLOGY





# WHAT IS VERSA-ETCH TECHNOLOGY?

Versa-Etch is a technological process used to chemically etch multiple different component designs onto a single sheet of metal. This method involves creating a mask with multiple design elements or using a sequential etching process to create different features on the same material. The etching manufacturing technique can then be used to selectively remove material from the metal sheet using chemical reactions. A mask or resist is applied to protect certain areas of the metal, exposing the material to an etchant that reacts with the unprotected areas, and then removing the mask to reveal the desired component designs.

Our Versa-Etch technology is often considered ideal for design and prototyping stages of manufacturing for several key benefits, which we will now cover.



## COST-EFFECTIVE PROTOTYPING

Prototyping often involves the creation of multiple design iterations. Etching allows for relatively quick and cost-effective production of prototypes, especially when multiple designs can be processed in a single batch. This is particularly beneficial for exploring different design concepts without incurring significant tooling or setup costs for each iteration.



## DESIGN FLEXIBILITY

Etching provides a high level of design flexibility. Engineers and designers can easily experiment with different shapes, sizes, and features on a single sheet of material. This flexibility is crucial in the early stages of design when multiple iterations may be required to optimise the final product.



## RAPID TURNAROUND

Chemical etching processes often have shorter lead times compared to traditional machining methods. This enables a faster turnaround for prototypes, allowing designers to quickly assess and iterate on their designs.





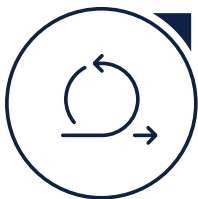
### INTRICATE AND COMPLEX DESIGNS

Etching excels at producing intricate and complex designs with high precision. This is beneficial when prototyping components with detailed features or geometries that might be challenging or expensive to produce using traditional machining methods.



### ITERATIVE DESIGN PROCESS

Designers often go through several iterations before finalising a product. Multiple etching allows for an iterative design process, where changes can be made quickly and cost-effectively between each iteration.

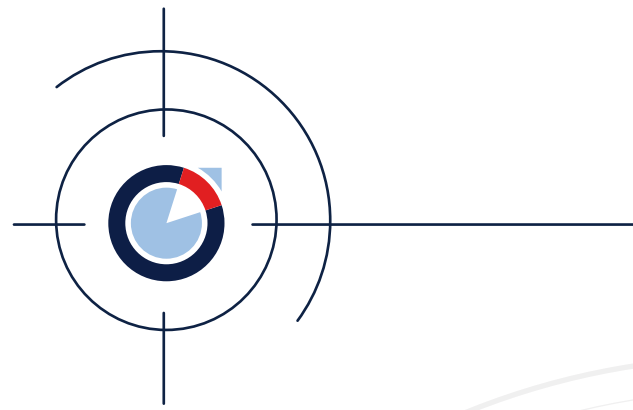


### CUSTOMISATION AND SMALL PRODUCTION RUNS

Etching is well-suited for small production runs and customisation. If a product requires unique designs or features for different customers or applications, multiple etching can accommodate these variations efficiently.

In summary, the advantages of multiple etching for design and prototyping include cost-effectiveness, design flexibility, rapid turnaround, the ability to handle intricate designs, and suitability for small production runs. These factors collectively make it an ideal choice for exploring and refining designs in the early stages of product development.





# WHAT ARE THE KEY BENEFITS?

Using the chemical etching manufacturing method and the Versa-Etch process to create multiple component designs on the same sheet of metal can be cost-effective for several reasons:

1

## MATERIAL EFFICIENCY

Etching allows for precise removal of material, minimising waste.

2

## REDUCED TOOLING COSTS

Compared to traditional machining processes, chemical etching involves lower tooling costs. Acetate tooling is used to create the patterns on the metal.

3

## COST EFFICIENCY

When multiple designs can be accommodated on a single sheet using Versa-Etch technology it is possible to use a single set of tooling for all the designs, reducing the overall tooling cost.

4

## BATCH PROCESSING

Chemical etching is often performed in batch processes. Processing multiple designs on a single sheet in one batch can be more efficient than treating each design separately. This batch processing can reduce setup times and increase overall efficiency.

5

## LABOUR COSTS

The labour cost associated with chemical etching may be relatively low compared to other manufacturing processes. When multiple designs are processed in a single batch, it helps distribute the labour cost over a larger number of components, contributing to overall cost savings.

6

## COMPLEXITY AND PRECISION

Chemical etching excels at producing intricate and complex designs with high precision. When multiple components with intricate designs are needed, etching can be a more cost-effective solution than traditional machining methods.

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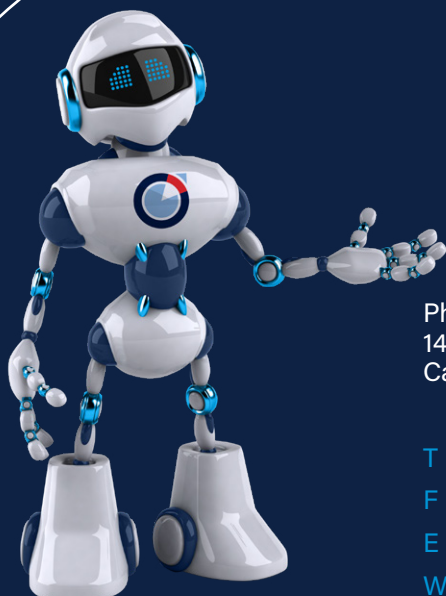
## FLEXIBILITY AND QUICK PROTOTYPING

Chemical etching is known for its flexibility and relatively quick prototyping capabilities. If design changes are needed or if there's a need to produce small quantities of different components, etching can offer a cost-effective solution with a shorter turnaround time compared to some other manufacturing methods.





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**CHEMICAL ETCHING & FORMING**



Photofab Ltd,  
14 Cromwell Road, St Neots,  
Cambs, PE19 2HP United Kingdom

T +44 (0)1480 226699  
F +44 (0)1480 475801  
E [enquiries@photofab.co.uk](mailto:enquiries@photofab.co.uk)  
W [photofab.co.uk](http://photofab.co.uk)

