



# METAL FABRICATION

# TOTAL PRECISION

Metal fabrication and manipulation is an area of expertise that is essential to many of the projects we undertake.



TECHNICAL  
SERVICES



CNC  
MACHINING



METAL  
FINISHING



QUALIFICATION,  
INSPECTION  
& TESTING



METAL  
FABRICATION



PAINT  
& FINISHING



## What is Metal Fabrication and Welding?

Metal fabrication is the construction of items to create metal structures, utilising cutting, folding and assemblance to produce functioning parts. It is a value-added process that can be used to make both stock and custom products.

Welding is a fabrication process in which two or more parts are fused together. It is defined as a coalescence of metals produced by heating to a suitable temperature with or without the application of pressure, and with or without the use of a filler material.

## Why Portsmouth Aviation for Metal Fabrication?

At Portsmouth Aviation, our specialist engineers have a multitude of experience in metal fabrication and their proficiency in welding is evident in the quality of their work.

As a company, we have invested heavily in effective training for our employees to operate the latest manufacturing equipment. We pride ourselves on bringing concepts to reality through our design, engineering, and prototyping services.

Though many companies and industries utilise metal manufacturing, few businesses can offer the outstanding standard we provide.

Our extensive plant list grants us the ability to take on bespoke metal fabrication projects, successfully delivering on budget and deadlines, with acute accuracy.

We have 15,000 square metres of manufacturing capability which gives us the ability to develop bespoke work areas for specific customer projects.



# METAL FABRICATION SERVICES

We deliver our services in-house,  
optimising quality and control.

PRECISION

EXPERTISE

VERSATILITY

DURABILITY





### **Experience and Expertise**

As a department, we have a historical and in-depth understanding of metal fabrication. Our knowledgeable engineers are accomplished in their field and can work alongside you to deliver a final product that suits your perfectly.

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### **Latest Equipment**

We prioritise procurement of the latest metal fabrication manufacturing equipment and the necessary training for our staff.

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### **Bespoke Metal Fabrication Projects**

Our capabilities allow us to take on complex, bespoke projects. Portsmouth Aviation can adapt to your requirements, be creative and innovative with our metal fabrication and create a plan that suits you. Ongoing collaboration with the customer and a wide-ranging understanding of fabrication and welding are the defining traits of this department.

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### **Compliance**

Our welders are trained in accordance with the latest regulatory certification process.



## Services

### Sheet Metal Fabrication

We have a variety of equipment to suit the needs of your project or product; we can manufacture complex designs to precise specifications.

For example, we often utilise press punching metal manufacturing processes, depending on the volume, budget, and complexity of an order. In instances of lower budget or product volume, our X1 Amada Turret Press and Amada Brake Press, in combination with our CNC machining capabilities, meet the requirements of the customer. We ensure accuracy and consistency using jigs and fixtures to maintain a viable or fit for purpose product.

Portsmouth Aviation has facilities to undertake BS EN 4872 approved Metal Inert Gas (MIG), Metal Active Gas (MAG), Tungsten Inert Gas (TIG), Manual Metal Arc (MMA), and Resistance/Spot welding plus brazing and soldering. We also undertake the maintenance, repair and refurbishment to tooling, fixtures, machines and other equipment as required.

### Extensive Welding Technologies

We also maintain an extensive collection of welding technologies and the expert staff required to tackle complex projects.

All welders at Portsmouth Aviation are trained and qualified in accordance with the latest regulatory certification processes. This means BS EN ISO 9606-1:2013 for steel and BS EN ISO 9606-2:2004 for aluminium and aluminium alloys. We also ensure that we're always able to provide MIG, MAG, TIG, spot welding and induction silver soldering and brazing services. Specifications and compliance with industry standards further reinforce their expertise in paint and finishing for engineering.



## Specifications

### Welding Equipment

- X10 MIG/MAG/FCAW machines, X10 TIG machines, 1 Spot welder

### Welder Qualifications

- All qualified to the latest certification processes BS EN ISO 9606-1:2013 (arc and gas welding of steels and nickel alloys) and BS EN ISO 9606-2:2004 (arc welding of aluminium and its alloys)

### Welding Procedure Qualifications Training Records

- BS EN ISO 15614-1:2017
- BS EN ISO 15614-2:2005
- Welding Procedures

### Welding Processes

- MIG, MAG, TIG, spot welding and induction silver soldering and brazing services

### Press Shop Services

- Brake press Amada HFE 3i 1003 100T
- Turret press Amada AE 255NT



## Our Welding Machines

- Pro Mig 530 Set
- Master Tig 3500 W
- Master Tig 3500 W
- Master Tig 3500 W
- Hypertherm Powermax 45 Plasma Cutter
- Kemppi Fastmig x450
- Kemppi Fastmig x450
- Fronius TPSi 4000i Pulse Set
- Fronius TPSi 4000i Pulse Set
- Kemppi Fastmig Pulse x 450
- Kemppi Fastmig Pulse x 450
- Kemppi Master Tig 3500 W
- Kemppi Master Tig 3500 W
- Kemppi Kempact RA 323A
- Kemppi Kempact RA 323A
- Kemppi ProEvo 3200
- Kemppi ProEvo 3200
- Serra Alpha209MF 100KVA Spot Welder
- Miller STH 160 DC Pulse Tig welder package with WP17 Tig Torch 230v 05016013PFS
- Pro Mig 530 Set
- JASIC TIG WELDER MODEL TIG500PA/DC
- JASIC TIG WELDER TIG500PAC/DC
- Kemppi MIG WELDER KEMPACT 323A
- Kemppi MIG WELDER KEMPACT 321A
- Kemppi MIG WELDER KEMPACT 323A
- JASIC TIG WELDER JT-500D
- Kemppi MIG WELDER KEMPACT RA 323A
- Kemppi TIG WELDING SET MASTERTIG AC/DC 350A
- Fronius Magic Wave 5000 Mig Welder
- KEMPACT WELDER 323A
- Kemppi PRO MIG WELDER 530
- Kemppi PROMIG 530
- Kemppi MIG WELDER PRO 4200 EVOLUTION
- Kemppi Tig Welding Set Master 335ACDC
- Kemppi Welding set master Tig 335ACDC
- Kemppi TID Welding Master Tig 335ACDC
- SWP Electrode Bench Oven
- Piranha Tungsten Grinder P3-032213264-A Piranha III
- Miller Tig Welding Kit STH160
- PLYMOVENT EXTRACTION UNIT 2106BV50508
- FRONIUS MIG/MAG Welding Set TPS320I
- FRONIUS MIG/MAG Welding Set TPS400I MIG



# CONTACT OUR TEAM

Whatever your engineering need, our expert design, build and manufacturing teams are on hand to help your business create a tailored solution. Find out how we can support you on your project.

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