



# PAIN & FINISHING

# COMPLETE PROTECTION

Paint and finishing services at Portsmouth Aviation play a crucial role in ensuring the quality and durability of our engineering products.

With meticulous attention to detail and the use of advanced coating technologies, these services ensure the longevity and optimal performance of critical components, reinforcing the company's commitment to delivering high-quality and reliable solutions to its customers.



TECHNICAL  
SERVICES



CNC  
MACHINING



METAL  
FINISHING




QUALIFICATION,  
INSPECTION  
& TESTING



METAL  
FABRICATION



PAINT  
& FINISHING



Paint and finishing in engineering encompass a range of essential processes to enhance the appearance, protection, and performance of engineering components and structures.

These processes involve applying coatings, such as paint, to surfaces using various techniques. The coatings not only offer aesthetic benefits but also provide crucial protection against corrosion, wear, and environmental factors, ensuring the longevity and reliability of engineering products.

### **Why Portsmouth Aviation for Paint and Finishing?**

Portsmouth Aviation is dedicated to delivering top-notch service with meticulous attention to detail in metal finishing.

We conduct thorough in-house testing to ensure that all components are blasted, coated, and painted according to exact specifications. With one of the largest capacities for metal spraying, the company offers both versatility and a tailored approach to meet individual paint requirements.



# PAINT & FINISHING SERVICES

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

PRECISION  
CRAFTSMANSHIP

SUPERIOR  
FINISHES

GUARANTEED  
EXPERTISE

UNRIVALED  
QUALITY

## Preparation

### Shot Blasting

Our shot blast unit allows us to achieve superb mental cleaning and high-quality preparation for any subsequent finishing coatings including thermal spray, powder coat or our variety of wet paint finishes.

The unit, measuring 6 metres long and 3.5 meters wide, utilises surface profile inspections and comparator checks, insuring quality of work.



# Coating

## Powder Coating

Portsmouth Aviation boasts a fully equipped powder coating facility and our experience ranges from defence, industrial, marine, and aerospace.

More recently, we have been supplying anti-bacterial coating for medical devices. The electrostatically applied powder is stored in an oven until cured, creating a strong and durable coating that provides excellent corrosion resistance. Our stock is comprised of large quantities of standard colours, and we have the capacity to provide specialist colours, gloss levels and textures.

They are environmentally friendly as they do not contain solvents and emit minimal amounts of volatile organic compounds (VOCs) into the atmosphere. Secondly, powder coatings create a robust and durable finish that is typically tougher than liquid coatings. Additionally, they allow for the application of thicker coatings without the risk of running or sagging, providing enhanced protection. Furthermore, powder coatings enable the attainment of a wide range of specialty effects that would be impractical with alternative coating methods. Finally, the curing time for powder coatings is considerably faster than that of liquid coatings, ensuring efficient and rapid production processes.

## Thermal Spray

Thermal spraying is a process that involves melting two wires using an electric arc, which are then atomized and sprayed onto a substrate using compressed air.

Portsmouth Aviation employs a twin arc spray method to mitigate thermal loading, ensuring the sprayed surface remains intact. This process achieves high-quality coatings while preserving the structural integrity of the substrate.

We offer metal spray options, including zinc and aluminium coatings. Metallisation's Arctec 28E is a cutting-edge thermal spray coating known for its exceptional corrosion protection and wear resistance. This advanced metalizing technology ensures uniform and dense coatings with excellent adhesion properties. Arctec 28E is widely used in industries such as marine, oil and gas, aerospace, and infrastructure to safeguard critical components and structures from harsh environments.

In a recent project, Portsmouth Aviation utilized Arctec 28E in the innovative collection hall of the new V&A East Storehouse. Our engineers applied the thermally sprayed non-slip coating to the flooring of this multi-story architecture, demonstrating the versatility and effectiveness of the Arctec 28E coating in real-world applications.

## Wet Spray

The wet spray paint process involves the application of liquid paint onto a product, providing both an appealing appearance and protective coating.

This is achieved using a specialised spray gun that atomizes the liquid paint, breaking it down into fine particles for an even distribution onto the targeted surface. Typically, the paint is mixed with a solvent or waterborne solution to achieve the desired viscosity for proper application. Our expertise lies in delivering exceptional coatings that not only enhance aesthetics but also offer long-lasting durability.

The wet spray paint process is a meticulous and essential method used to enhance the visual appeal and protectiveness of a variety of products. By employing careful surface preparation, precise application, and adequate curing, this technique ensures a professional and durable finish.





## Preparation Facilities

- 6m x 3.5m full scraper floor recovery Ferrous Blast Room
- 5m x 4m full scraper floor recovery Non-Ferrous Blast Room

### Specifications

- SS EN ISO 8501-1
- BS EN ISO 8503-5



## Paint Facilities

- Auto line with IR tunnel oven, curing temp of up to 120 degrees
- X1 3.3m x 6.7m Gas fired spray bake oven with curing temp, up to 80 degrees
- x2 7m x 4m IR curing spray bake ovens
- Powder Coat Booth
- x2 7m x 4m Gas fired spray bake ovens with curing temp, up to 80 degrees
- Stoving oven 220 degrees



## Paint Coatings

- Epoxy Primers
- Non-Chromated Etch Primers
- Gloss Finishes
- Satin Finishes
- Eggshell Finishes
- Matte Finishes
- Masking Capabilities
- Dry Film Lubricants
- Water Base Coatings
- Chemical Agent Resistant Coatings (CARC)
- Lacquers

### Specifications

#### UK Defence Standards

- Def Stan 80-25
- Def Stan 80-161
- Def Stan 80-208
- Def Stan 80-225



## Thermal Coatings

- 01E Aluminium
- 28E Arctec
- 02E Zinc
- BS EN ISO 2063-1:2019



# 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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