



**YOUR COMPLETE SPECIALIST
PARTNER IN ALL ASPECTS OF
STAINLESS STEEL AND EXOTIC
METAL FINISHING**



A one stop shop for all specialised Metal Polishing,
Pickling and Passivation and Bead Blasting requirements



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UNIQUE POLISHING SERVICES IS THE UK'S LEADING PROVIDER OF SPECIALISED METAL POLISHING, PICKLING AND PASSIVATION AND BEAD BLASTING SOLUTIONS, OFFERING A ONE STOP SHOP FOR COMPLETE METAL FINISHING SOLUTIONS.

Servicing a global customer network, Unique Polishing has successfully completed projects throughout the UK, Europe, America and Asia. Unique Polishing is a family run business based in Manchester, with over 30 years' experience delivering high quality metal finishing solutions.

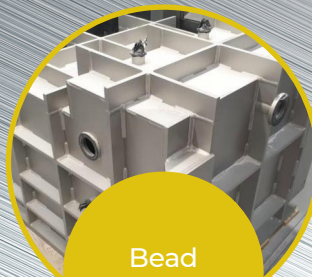
Complete customer satisfaction is our ethos and our service offering has continued to expand to provide our customers with comprehensive metal finishing and restoration services. We pride ourselves on being a proactive solution provider working with all metal polishing disciplines, from project inception to completion.



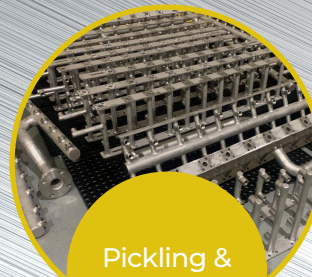
Mechanical Polishing



Machine Polishing



Bead Blasting



Pickling & Passivation



Inspection Services



International On-Site Polishing

MECHANICAL POLISHING

MECHANICAL POLISHING IS A CRUCIAL STAGE OF FINISHING STAINLESS STEEL COMPONENTS AND FABRICATIONS, BOTH DURING AND AFTER THE MANUFACTURING PROCESS. IT IS AT THE CORE OF OUR SERVICE OFFERING AND UNIQUE POLISHING HAS BUILT A STRONG REPUTATION OVER THE LAST 30 YEARS AS THE UK MARKET LEADER.



The process involves smoothing of a metal surface using handheld mechanical tools and abrasives. Mechanical polishing is performed in steps with progressively finer abrasives until a desired smoothness is achieved.

Benefits of Mechanical Polishing:

🕒 Improves surface finish 🕒 Reduces product adhesion 🕒 Improves surface cleanability 🕒 Improves aesthetic appeal

Unique Polishing specialises in achieving any finish specification required from our clients, including sanded, satin polishing (ranging from 3.2ra to 0.1ra) and mirror polishing (0.05 to 0.01). All finishes are fully inspected using our many calibrated RA surface roughness machines with a certificate of conformity (digital or print).

Our team of highly trained metal polishing experts ensure that only the highest quality services are delivered, with each team member fully competent in all aspects of stainless steel polishing, Unique Polishing services a range of industries and applications including:

🕒 Architectural 🕒 Food and beverage 🕒 Pharmaceutical 🕒 Pressure vessels
🕒 Nuclear 🕒 Defence 🕒 High tolerance machined components 🕒 Stainless steel restoration



MACHINE POLISHING

UNIQUE POLISHING HAS INVESTED IN THE LATEST MACHINERY AND ABRASIVES TO PROVIDE OUR CUSTOMERS WITH A QUICK TURNAROUND, HIGH STANDARDS POLISHING SOLUTION FOR HIGH VOLUME STOCK OF PROFILES AND BOX SECTIONS.



Our machine polishing services include:

- Q Round Bar Polishing
- Q Flat Bed polishing
- Q Profile Stock
- Q Tubular Polishing
- Q Box Section Polishing

Our workshop facility features:

- Q 910 mm wide Grandmaster with a specialist drop of 10 inch (only one in the UK) for polishing profiles and large box section with finishes ranging from 60grit to 600grit.
- Q 150mm wide double head flatbed for polishing small profiles and box section, with maximum efficiency due to two heads running at the same time, with finishes ranging from 60grit to 600grit.
- Q 1.3 m x 3m grinding machine for polishing of bigger sheets and profiles up to 40mm thick with finishes ranging from 60grit to 600grit.

BEAD BLASTING

UNIQUE POLISHING HAS ESTABLISHED ONE OF THE BEST REPUTATIONS IN THE PRECISION ENGINEERING INDUSTRY FOR ITS BEAD BLASTING SERVICE. BEAD BLASTING IS A PROCESS OF RELEASING FINE GLASS BEADS AT A LOW PRESSURE TO CLEAN A SURFACE WITHOUT CAUSING DAMAGE.

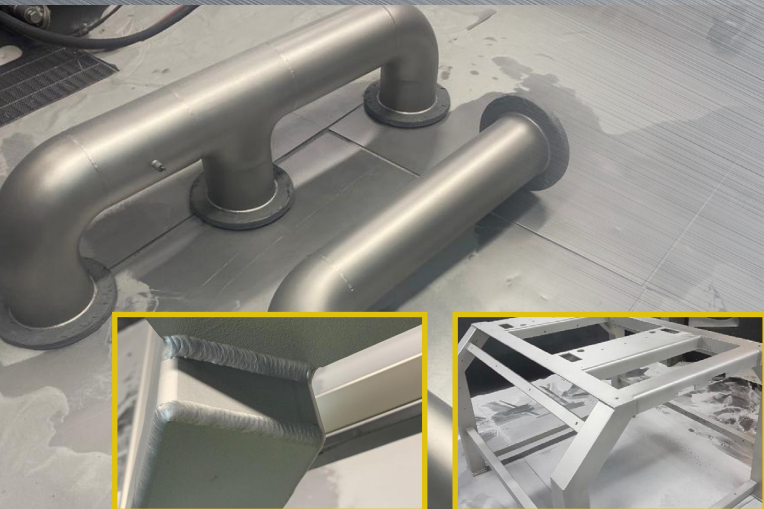


Our glass bead blasting service removes all impurities and deposits from steel surfaces to provide a smooth, uniform finish. Fine glass beads are applied to the surface at a low pressure avoiding any damage to the surface. Unlike any other cleaning/finishing methods, this eliminates all residues and embedded contaminants. It smoothly blends away surface defects and improves corrosion resistance without any dimensional change to the surface. Glass bead blasting is also used to remove burrs and feathered edges from parts in a precision operation.

The main benefits of bead blasting stainless steel are:

- Q It provides a clean and constant uniform, streak free finish even on complex shaped fabrications
- Q It removes any dirt and debris created during machining and fabrication processes
- Q It removes any scale which has been deposited before or after any heat treatment processes including welding

Unique Polishing has the expertise to provide a complete solution for your stainless steel finishing requirements. Our bead blasting room is 5m x 4m x 2.5m and we source and use 100% pure glass bead to ensure all your components and fabrications are finished to the highest of standards. Our skilled team has completed projects for the food and beverage, pharmaceutical, nuclear, defence, architectural and other industries.



PICKLING & PASSIVATION

UNIQUE POLISHING HAS DEVELOPED A TAILOR-MADE PROCESS WITH SPECIFIC CHEMISTRY TO PROVIDE THE IDEAL METAL SURFACE TREATMENT PROCESS FOR HIGH INTEGRITY STAINLESS STEEL PRODUCTS.



From our bespoke 10,000 sqft metal treatment facility in Oldham, Greater Manchester we are able to offer our clients a value centric service which is underpinned by our commitment to quality and cemented by our ISO 9001 accreditation.



Our Capabilities:

- Q 6m x 8m high roller shutter door
- Q Off road parking for HGV with full turning circle
- Q 2 x 5 tonne Overhead Cranes
- Q 14500 Litre Pickling Bath 6m x 2m
- Q 12m x 9m Purpose built chemical cleaning area
- Q In house Automatic Effluent Plant to safely dispose of waste liquids
- Q Lean production process to ensure on time deliveries.
- Q Passivation testing
- Q Ferroxyl testing

Preparation

Decreasing the substrate is a critical step in the pickling process to ensure uniform formation of the passive layer.

Unique P1 is an acid based cleaner This product works to remove oil, grease, smut and other inorganic contaminants. This product prepares the substrate for pickling



PICKLING

Pickling is the removal of any high temperature and any low chromium layer of metal from the surface of stainless steel by chemical means.

Where the stainless steel has been heated by welding, heat treatments or any other means to the point where a coloured oxide layer can be seen, there is a chromium depleted layer on the surface of the steel underneath the oxide layer. The low chromium content gives lower corrosion resistance. The pickling process removes weld discolouration and foreign iron and restores corrosion resistance. It also brings the steel back to the original base material.



The pickling process can be performed in several procedures:

- Q Immerse in pickling solution.
- Q Applying pickling paste for local pickling.
- Q Spray pickling a sprayable pickling paste for quick and economical large surface areas.
- Q circulation for large pipework and fabrications in suite on site where the above processes are not viable.

All of Unique's polishing procedures are coordinated to ASTM A380 standard practice for cleaning, descaling and passivation of stainless steel.

PASSIVATION

Although this process occurs naturally on the surface of stainless steel, it is often useful to accelerate and assist in the development of the passivation layer. Passivation occurs when chromium oxidises with the oxygen in the air to form a corrosion resistant passivation layer. This process can be accelerated and assisted with a passivation product, ensuring the development of a uniform and thick passive layer.

Benefits of Pickling & Passivation:

- Q Dissolves surface "free iron" particles.
- Q Increases corrosion resistance.
- Q Removes surface contaminants.
- Q Instantaneously forms passive oxide layer.



INSPECTION SERVICES

UNIQUE POLISHING OFFERS A FULL RANGE OF INSPECTION SERVICES THAT COMPLIMENT OUR ON-SITE POLISHING SERVICES.

All of our operatives are fully trained in each inspection service to ensure that all inspections are delivered safely and within our strict procedures. Inspection services can be carried out on-site across the UK and internationally, where reports can be issued for individual items on the following inspections.



1

RA (surface roughness) is a measure of the texture of a surface. The roughness of a surface has most commonly been measured by an instrument in which a stylus travels across the surface, the movement of the stylus is amplified and a signal recorded. The result is generally expressed as RA or average roughness and is the arithmetic average value of the deviation of the trace above and below the centreline. The value of RA is normally measured in micrometres. ISO standards use the term CLA (Centre Line Average).

2

Passivation Testing: The corrosion resistance of stainless steel depends on the quality of a very thin oxide layer, so called the (passive layer). Maintaining this passive layer is one of the most important aspects in preserving the quality of stainless steel. Damage of the passive layer, in time, will cause severe corrosion, therefore preserving the passive layer is critical. Unique Polishing can test the passivity of stainless steel quickly and accurately helping you to avoid corrosion issues. Each item that undergoes our in-house pickling and passivation processing receives passivation testing. Alternatively, testing can be performed on site in the UK or Internationally.

3

Ferroxyl Testing: Determines whether austenitic stainless steel needs to be pickled or whether it has been pickled correctly. When structure on the surface of austenitic stainless steel has not been evenly restored, an excess of metallic iron will be present (embedded iron) which will adversely affect the properties of stainless steel. This can be left by carbon steel tools or welding material. The presence of iron particles in stainless steel surfaces disturbs the chromium oxide layer, reducing the corrosion resistance locally. When embedded iron particles are not removed, corrosion is likely to set in. Each item that undergoes our in-house pickling and passivation processing receives Ferroxyl testing. Alternatively, testing can be performed on site in the UK or Internationally.

4

Soluble Salt Testing: Detects salts, particularly chlorides and sulphates of calcium, magnesium and sodium, that are non-visible and require testing to determine. Though they are termed “soluble” they are not soluble at all.



INTERNATIONAL ON-SITE POLISHING

UNIQUE POLISHING IS RECOGNISED ON AN INTERNATIONAL SCALE FOR HIGH QUALITY, PROFESSIONAL METAL POLISHING. OUR GLOBAL CUSTOMER NETWORK HAS ALLOWED US TO DELIVER OUR SERVICES TO A RANGE OF INDUSTRIES.



Specialising in efficient site completions or shutdowns, our expert knowledge and experience is brought to you directly, ensuring only the highest quality service.

Our team of experienced professionals can visit any location internationally, to deliver all types of metal polishing jobs on items that are static or considered too difficult to transport. This efficient solution offers a value engineered service saving both time and costs, and the strain of dismantling the goods and transportation.

Utilising the latest technology in abrasive equipment along with our unique polishing procedures, Unique Polishing has developed a market leading position for comprehensive, advanced international on-site polishing services, completing projects across the world.

AUSTRALIA

Client: World renowned pharmaceutical company.

Project: Refurbishing a line of in situ glove boxes in a clean room environment to maximise production.

Delivery: Within 7 days our equipment was shipped, and two expert polishers reached the site in Perth. The team assisted local fabricators and polished and passivated over a 3 week period. All RA reports were created and the client was in production 2 days earlier than expected.

AMERICA

Client: Leading American chemical company.

Project: Restore a series of old pressure vessels in situ on site.

Delivery: Unique allocated 6 weeks to re-polish these internally to a 0.4 RA finish. All reports were generated after completion and the vessels were back in production 4 days earlier than expected. All equipment was shipped from the UK 2 weeks prior to the start date to eliminate down time.

INTERNATIONAL ON-SITE POLISHING



SWITZERLAND

- Client:** Leading Swiss pharmaceutical company.
- Project:** repair a series of C22 glove boxes in a clean room environment.
- Delivery:** the service was delivered on site with an RA value of 0.8ra, higher than the client's requirement of 0.4ra. The services were delivered in a clean room environment and the project was completed within the allocated 14 days. All reports and inspections were passed before leaving the site.

IRELAND

Unique Polishing has completed a number of projects across Ireland, predominantly for the pharmaceutical industry, having polishers based in the North and South for up to 18 weeks.

UNITED KINGDOM

Unique Polishing is a leader in the UK market, having completed complex projects for a range of industries from architectural and pharmaceutical to nuclear and defence. Our HQ is centrally located in the North West, providing quick access to Scotland, North England, Central England, London and the surrounding areas.

All safe system and other documentation can be submitted before arrival to site. Our operatives are fully trained and qualified in the following:

- CSCS
- SSSTS
- I PAF
- ABRASIVE WHEEL
- CONFINED SPACE
- FIRST AID
- FIRE MARSHALL TRAINED



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