

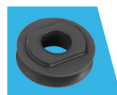
Metal Finishing Service Offering

William Rowland Metal Finishing has been offering chemical (Metal) finishing processes to a variety of industries since 1940. Our Company carries out chemical (metal) finishing processes including pickling, passivation, phosphating, degreasing, macro etching and chemical machining on a wide range of materials, including stainless steel, nickel alloys, titanium and mild steel.



Degreasing

Degreasing is a process for cleaning products from water-insoluble substances such as grease, oils, waxes, carbon deposits, and tars. In most cases the process is applied to metal products for the recycling industry who are looking to degrease high value non ferrous scraps for recycling back into the melting supply chain.



Phosphating

Phosphating is a chemical process for treating the surface of steel, where soluble metal-phosphate layers can be formed on the base material. These porous are also absorbent and suitable as a conversion layer for subsequent coating, for example with powder with no further treatment. They are also ideal as temporary corrosion protection if subsequently treated with oil or passivated within a timeframe.



Chemical Etching

Under its Rolls-Royce and NADCAP approvals, William Rowland Metal Finishing provides this macro etching service to customers involved in the aerospace supply chain and other high integrity sectors. Our etching line regularly processes rings, shafts and disc forgings in both Titanium and Nickel Alloys and is able to handle a large range of parts destined for critical applications.



Chemical Machining

Chemical Machining is a process that cleanly removes metal from predetermined areas of a part without compromising the integrity of properties of the metal. Chemical machining is used to remove given amounts of metal using a variety of chemical solutions and is used, for example, to remove the alpha case layer of forged titanium products.

We offer service and lead time that is second to none and an independent non intrusive partnership for your metal finishing needs. We recognise that in many instances, our processes are toward the end of your process route, so we understand the importance of turning your products around quickly so you can despatch goods to your valued customers. For new customers we have many testimonies are available on request.



Pickling and Passivation

Steel pickling refers to a treatment that is used to remove impurities, including rust, and scale from the surface of the material. During hot working processes such as forging and casting an oxide layer, referred to as scale develops on the surface of the part. To remove this oxide layer, the material is submerged into a tank of chemical and this is referred to as metal pickling or steel pickling in the industry. Stainless steels require a two-step pickling process, with additional chemicals used (phosphoric, hydrofluoric, and nitric acid).

Passivation is a process for treating or coating metal to reduce the chemical reactivity of its surface. For stainless steel, passivation means removing the free iron from the surface of the metal using an acid solution that prevents rust. When the surface iron is removed the other components of the alloy e.g. Chromium and Nickel remain as a surface layer over the underlying steel. Upon exposure to air, these elements react with oxygen to form an oxide layer that protects the rest of the steel from corrosion. If mechanical, heat or chemical damage occurs the iron is once again exposed leading to rusting, which is why the passivation process may be repeated to prevent a re-occurrence.

Our processes are carried out on a range of wrought and cast components including rings, shafts, discs and fabricated parts. All processes are carried out to strict internal quality conditions and where applicable compliance with externally accredited bodies such as NADCAP, NQA (ISO 9001/9100) and Rolls-Royce.

For more information please get in touch.