



WE BELIEVE IN INNOVATION AND TECHNOLOGY



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SURTECH In the world



ABOUT US



ENGINEERING

Our extensive knowledge allows us to design, to measure, any type of installation for surface treatment. In addition, as manufacturers, we learn from our own experience, in a process of continuous improvement.

We are in incessant process of technical innovation, as much with the development of new products and solutions as with the incorporation of the **latest technological innovations** that appear in the market.

Comprehensive Projects, specialists in turnkey projects. We manufacture the necessary components for the correct functioning of our projects.



SECTORS AND ACTIVITIES

Since the beginning of our history, one of the characteristics that have differentiated us has been our diversification of markets, transferring knowledge and learning from one sector to another.

Cutting-edge Technology. With continuous innovation projects, in all areas of our facilities, what makes us present solutions of vanguard in all the equipment we manufacture.



MANUFACTURING PROCESSES

We combine engineering and own manufacturing, which allows us to increase our knowledge with each new project, continuously improving the quality and functionality of our facilities. The diversity of projects that include a complete surface treatment facility has led us to incorporate multiple guilds and disciplines within our workforce. Among our specialties are **metal carpentry, plastic carpentry, plumbing, electricity, pneumatics and hydraulics**.

All our equipment is made to measure, combining craftsmanship methods with high precision machinery. We handle most of the metals and plastics on the market, to give an efficient and personalized solution to every work done.



MARKETS

SURTECH HAS MADE INSTALLATIONS IN EUROPE, AFRICA, AMERICA AND ASIA.

At present, and due to the policy of expansion and growth of the company, we have commercial agents in a large number of countries.

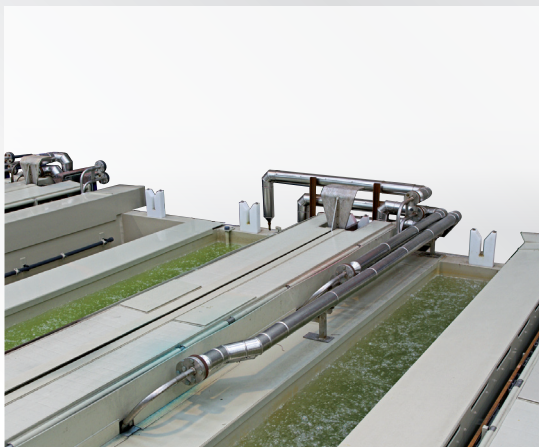
Our company has the logistic capacity to carry out the required installation in any part of the world.



Coatings for aeronautics

Within the field of aeronautics, we manufacture all kinds of installations, from the different types of anodizing to the complementary treatments required, both electrolytic and by immersion or projection:

Installations for the surface treatment of small and medium-sized parts, tanks up to 6 meters long, by chemical or electrolytic immersion.



ANODIZED

ANODIZED

Our main objective is to provide global manufacturing processes with profitable solutions, engineering systems and cutting-edge technological equipment to compete from a vanguard position in the aeronautical industry market.

Tartaric-sulfuric, chromic, boric, etc. anodizing procedures. are used in aluminum parts, or its alloy, in order to generate a thickened layer of surface aluminum oxide that acts as an anode in an electrolytic bath and gives the alloys two important improvements in their properties: resistance to corrosion and coating paint adhesion.

CADMIUM PLATED

Process whose objective is the deposit of a protective layer of pure cadmium on metallic pieces of steel, titanium, aluminum –and its alloys– and copper –and its alloys–. This type of coating is more resistant than zinc, but due to its toxicity it has been restricted in some uses. Unlike zinc, it does not oxidize to create bulky corrosion products, allowing it to be used in close-tolerance functions.

Cadmium is usually applied to rather delicate materials and especially for electrical uses.

STEEL TREATMENT

To prepare and protect the steel pieces, it is necessary to carry out a very aggressive attack to eliminate all kinds of superficial oxidation and impurities to later protect them with passivation.

ELECTROLYTIC ZINC-NICKEL

The main applications of the electrolytic zinc-nickel coating are in the aeronautical industry. They are usually parts used for hydraulic connections, screws, fasteners, brake discs, etc. Its main characteristics are:

- Greater resistance to corrosion.
- More surface hardness and wear resistance.
- Low hydrogen embrittlement.
- Good thermal conductivity.
- It is an environmentally friendly process.
- Post processes can be applied

CHEMICAL NICKEL

It is a modern process to obtain layers of Nickel alloyed with Phosphorus (NiP) on aluminum by chemical means, without the use of electric current. This application system gives it extraordinary properties:

- **UNIFORM DEPOSIT:** Regular layer throughout the geometry of the piece and control of the thickness deposited with tolerances of ± 1 micron, which allows avoiding subsequent grinding operations, facilitating adjustments.
- **HIGH RESISTANCE TO CORROSION:** As it is not a porous coating and has a great covering capacity, it guarantees high resistance to corrosion.
- **HARDNESS:** The possibility of a subsequent heat treatment allows the hardness to be raised to values close to hard chrome.

PENETRANT LIQUID INSPECTION

Liquid penetrant inspection is a type of non-destructive test that is used to detect surface defects; discontinuities such as breaks, cracks, folds, inclusions, porosity, etc. It is generally used in non-ferrous alloys and, in some cases, in ferrous materials –when magnetic particle inspection is difficult to apply–; It is also used in non-metallic materials. The basic procedure consists of spraying, by means of aerosols, a colored liquid (penetrating) on the surface of the piece under study.

The phenomenon of capillarity makes this liquid penetrate into the possible defects of the piece. After 10-15 minutes of drying, any excess liquid is removed using another liquid (eliminator). Finally, a third liquid (developer) is applied that absorbs the penetrant that has been deposited in the discontinuities, highlighting the contours of the defects. The part is now ready for visual inspection and subsequent preparation of the corresponding report. The process is simple and fast, but requires monitoring the application conditions: ventilation, distance from sources of ignition, avoiding the accumulation of electrostatic charges, treatment of discharges...

The applications of this technique are wide and varied: electrochemical coatings in general, metallic materials, plastics, glazed ceramics, porcelain... being essential for the inspection of critical parts, such as aeronautical components, due to its preventive function in operational failures that could be catastrophic.



ELECTROLYTIC ZINC-NICKEL



STEEL TREATMENT



CHEMICAL NICKEL



Aluminum Treatment

Aluminum is a metal with unique qualities: lightness, resistance to traction, ease of machining, excellent resistance to corrosion, zero toxicity, 100% recyclable (unlimited), weldable...

It is naturally a highly oxidizable metal, a condition that confers a multitude of technological possibilities in the industrial field.

ANODIZED

Anodizing is a forced oxidation electrochemical process that creates a considerably thicker layer of oxide than that which forms naturally. This artificial rust has different and better characteristics than the natural one, more protective and more versatile. Aluminum oxide is very stable and resistant to environmental corrosive agents, abrasion and mechanical wear; increases surface hardness; prolongs the durability of the profile; acts as a superficial electrical insulator; does not require maintenance... In its natural form, the aluminum layer that forms is less than half a micron. Through controlled oxidation in an acid medium, it is possible to obtain medium and large microns. The useful life of this finish is proportional to the thickness of the anodic layer obtained.

Anodized aluminum profiles are suitable for a wide range of architectural and decorative applications that require an aesthetic and durable surface, which can even be coloured.

Surtech Engineering provides comprehensive technical assistance for the identification of risk factors in all the production divisions of the facility. Research and experience are the pillars that support and drive the expansion and growth of our projects.

In order to comply with Directive 96/61 on pollution control and Law 16/2002 of the Spanish legal system, we offer you the most advanced technological support in terms of water discharges, emissions into the atmosphere and generation of waste.



ANODIZED

HORIZONTAL LACQUERED

Aluminum lacquering is a surface protection process using polymerized electrostatic painting, which provides less resistance than anodizing, but is sufficient for non-severe environmental conditions.

In horizontal installations, the profiles undergo a pretreatment by immersion, to be painted later in a second phase. Normally the first phase is carried out with packed profiles and the second mounted on frames suitable for painting.

We have simple facilities for small productions, 86 profiles/hour on 1 m/min lines, and high-performance facilities, 620 profiles/hour on 6 m/min lines. All systems with the option of one or two paint booths.

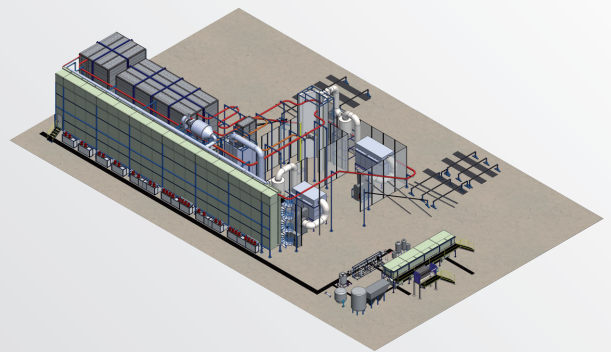


VERTICAL LACQUERED

Aluminum lacquering is a surface protection process using polymerized electrostatic painting, which provides less resistance than anodizing, but is sufficient for non-severe environmental conditions.

In vertical installations, the profiles undergo a pretreatment by projection and/or cascade, they are dried, painted and polymerized in a continuous process. Our pretreatment tunnels incorporate considerable technical improvements compared to the usual ones on the market.

We have facilities for all types of production, from 1 m/min lines that can produce 295 light profiles/hour, through high-speed lines with 2.5 m/min and 738 light profiles/hour and double loading lines that they can produce up to 1182 light profiles/hour. All systems with the option of one or two paint booths.



CHEMICAL GLITTER

The oxidation of aluminum gives it hardness, toughness and resistance to corrosion and abrasion.

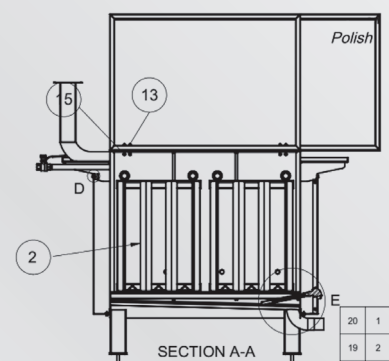
Chemical polishing consists of an attack on the metal using aggressive acids that eliminate the irregular outer layer, giving it a shiny appearance.

CLEANING OF EXTRUSION DIES WITH SODA

We design and manufacture installations for cleaning extrusion dies using high-temperature soda baths, both manual and automatic.

The soda tanks are thermally insulated to reduce energy losses and are connected to a suction system that prevents the proliferation of soda dust in the environment and prevents the accumulation of explosive hydrogen on the bath surface.

We optionally offer a soda recovery system and automatic soda replenishment systems in the bathrooms.



WE CARRY OUT SURFACE TREATMENT INSTALLATIONS FOR METALS AND PLASTICS.



Metallic Coatings

ZINC PLATED

Since zinc is not a noble metal, it has limited anticorrosive properties, but it delays the appearance of red oxidation, putting white oxidation before it. **The main types of zinc plating are:**

Cyanide: high penetration and few pretreatment requirements.

Exempt alkaline: good penetration and lower cost of wastewater treatment.

Acid: high performance and shine.

Mixed: applying alternate layers of alkaline and acid, achieving good penetration, faster treatment and a more aesthetic finish.

Zn-Ni: with deposition of both metals, with good penetration and good anticorrosive properties.

After zinc plating, to improve the protection and aesthetics of the zinc plating, passivates are applied in the desired varieties. Lastly, a silicate or organic based sealant can be applied if resistance in a salt spray chamber is required.

ELECTROLYTIC NICKEL

Nickel plating provides:

- Anticorrosive properties, which make it optimal for automotive tools or parts.
- Decorative qualities, such as those necessary in locksmithing or taps.
- Base of other decorative treatments: gold, brass, chrome, etc.

We manufacture manual and automatic nickel plating installations, by frame and drum, of chemical nickel and matt, semi-bright or bright nickel.

When the metal surface is very dirty, it is necessary to do a previous degreasing to remove fats, oils, pastes and surface impurities.

CHROME PLATED

In addition to the chrome plating of plastics oriented mainly to the automotive industry, two types of chrome plating are considered for metal parts:

Decorative: when applied over a previous layer of nickel.

Hard chrome: if it is applied directly on the steel to take advantage of the anticorrosive properties and the hardness of chrome.

We manufacture manual and automatic chrome installations, both hard chrome and hexavalent or trivalent decorative chrome.

COPPER PLATED - TIN PLATED PRINTED CIRCUITS PRECIOUS METALS

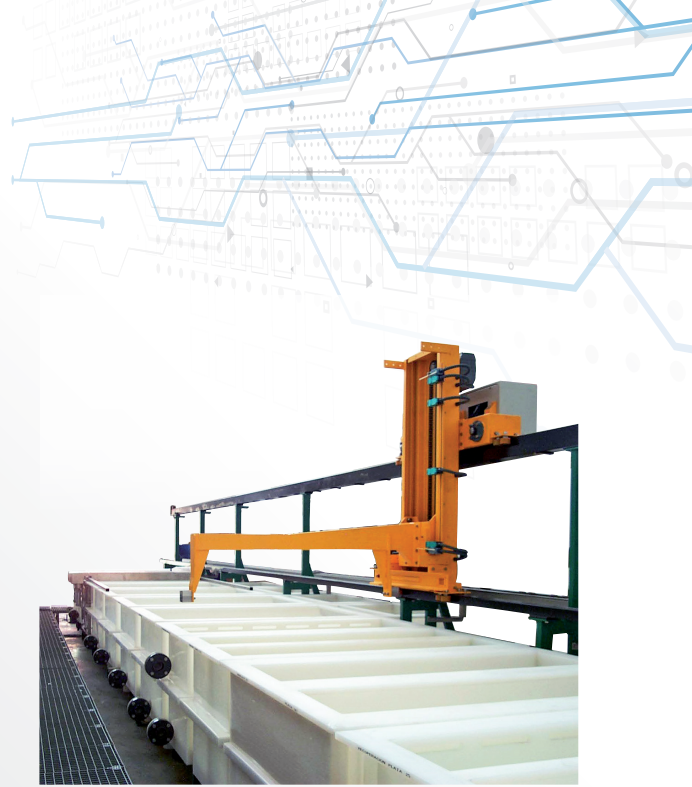
Copper plating and tin plating are metallic coatings, carried out by means of an electrolytic bath, which is given on metallic parts, whether they are made of steel, brass, copper or zamak, and which serves to increase their resistance to oxidation, corrosion or wear, improve the conductivity and weldability, and to improve their appearance in ornamental elements.

To perform the conductivity of printed circuit boards , a treatment with copper is carried out, which can later be given different finishes:

- Chemical silver
- Chemical nickel/gold
- Electrolytic gold
- Chemical tin
- Tin-Lead
- Lead free tin
- Organic protectors

In this way, depending on the chosen finish, the resistance to oxidation, conductivity, flatness of the surface to be welded and its duration are improved.

An electrolytic or chemical coating of pieces is used to give baths of gold, silver, etc. for use in jewelry and high-tech components.



ELECTROLYTIC ZINC-NICKEL

PHOSPHATED - BLUED

In any cold deformation process, the manufactured components are subjected to high tension and friction forces, as they are in contact with different elements and tools. For this reason, it is necessary to carry out a previous process to treat the surface of the component and provide it with an anti-friction coating that ensures high mechanical resistance and a low coefficient of friction. In this sense, the phosphating layers (iron and zinc and manganese), due to their high mechanical resistance, are used for the processing of metal parts.

Blueing is a final finish for steel pieces, it is a process that is based on the controlled chemical oxidation of steel, forming a layer generally of iron oxide or ferrous-diferric oxide, adhered to the surface of the piece that acts as a passive layer (inert layer on the surface of a metal). The main advantage of this process is that it does not alter the dimensions of the pieces since it is not a deposit, being an excellent protection alternative when there are close dimensional tolerances, in addition to protecting the pieces from rust and increasing the durability of the pieces.



ZINC PLATED

CLEANING - DEGREASING - PICKLING

For a correct application of any surface treatment, the condition of the surface on which it must be applied is essential.

Due to the fact that the pieces on which the coating is going to be applied come from previous processes (stamping, machining, threading, heat treatments, etc...), they must be subjected to cleaning processes prior to the coating being deposited, otherwise we can find adhesion problems or even no coating. This is what is called the preparation phase within the coating processes.

Metal pickling is done to remove stains, weld burnt, oxides and other contaminating particles that the pieces may have.



Water treatment for industrial use

When we talk about water treatment, we consider both the processes for preparing the water so that it can be used in the industrial environment, and the treatment of water for reuse or discharge, as well as zero discharge systems.



PRETREATMENT PLANTS

We consider water for industrial use to be one more chemical in the process, on many occasions more important than a chemical or electrolytic bath. Good water quality ensures cleanliness between stages and reduces contamination and consumption of chemical products. Our experience is that a good water pre-treatment significantly reduces defective parts.

We design our facilities adjusted to the needs of the process and the requirements of the client.

One of our typical plants consists of the following stages:

- Integrated corrective, preventive and predictive maintenance management software
- Configuration open to the end customer remote assistance
- In addition, we provide any of the above equipment independently and other pretreatment equipment such as softeners (decalcifiers), PUR filters, dispensers, etc.

PHYSICAL-CHEMICAL TREATMENT PLANTS

A physical-chemical type wastewater treatment plant (WWTP) eliminates the contaminants in suspension by agglutinating them so that they can be eliminated by decantation. Most of these contaminants are colloids so small that they cannot be filtered and of the same polarity, so they repel each other. By adding coagulants, it is possible to neutralize them and begin to concentrate them, and by adding flocculants, the volume of these agglutinates is increased, making them susceptible to separation by decantation.

We design our facilities adjusted to the needs of the process and the requirements of the client. One of our typical plants consists of the following stages:

Automation

- Integrated corrective, preventive and predictive maintenance management software
- Configuration open to the end customer
- Remote Assistance

In addition, we provide any of the above equipment independently, other more complex purification systems such as double decanting or electrocoagulation, metal recovery, selective sludge formation, incorporation of additional filters, etc.

WATER RECOVERY PLANTS

The combination of our water pretreatment plants and our physical-chemical treatment plants allows us to manufacture water recovery plants with a use of 40% to 60%.

After purification, one or two decantations as required, the water is sent for pretreatment, with the elimination of possible residual flocs, producing optimal water for industrial use. In each case, the most appropriate process is studied, combining reverse osmosis treatment and selective resins.

ZERO DISCHARGE AND EVAPORATORS

Both due to discharge regulations and environmental issues, the use of evaporators to produce zero discharge is increasingly widespread.

Although the energy cost is considerable, the dry residue is much less voluminous and more manageable than in physical-chemical treatment plants. We have vacuum evaporators for small flows, and atmospheric evaporators for medium and large flows.

A very effective modality is to combine the use of evaporators in specific positions that are used for metal recovery, such as chrome evaporators, with a physical-chemical one for the rest of the stages.

ELIMINATION OF OILS AND GREASE IN DEGREASING

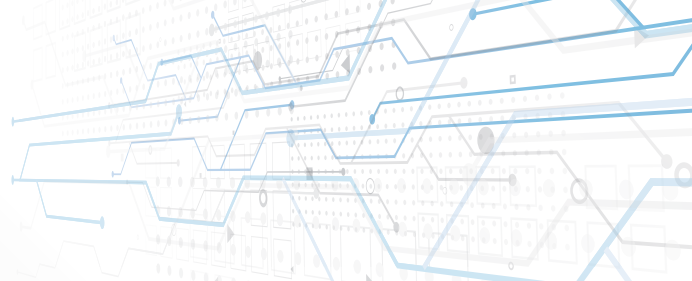
If the fats and oils that accumulate, especially on the surface, are properly removed during degreasing, its life can be extended up to three times.

We have different methods of removing oils and fats:

Grease drag strip: a strip of absorbent material is circulated over the surface of the bath to remove oils and fats.

Settling: without the use of filtering materials, the liquids are separated by density.

Filter pumps with oil removal system: filters the bath of impurities and then passes it through fabrics that absorb oils and fats.





Chrome Automotive (ABS)

Its use is mainly decorative (plastic parts for automobiles), although it also has very good anticorrosive properties. Suitable for the production process of the plastics sector.

CHROME ON ABS AND PC-ABS PLASTIC

There are different chrome plating systems on plastic parts, although currently the most widely used is chromic acid combined with sulfuric acid. Another typical formulation is the one that combines chromic anhydride, sodium fluorosilic acid and sodium sulfate.

Chrome coatings by electrolytic baths have generally been formulated so far with hexavalent chromium. Currently and to adapt to future regulations, we have developed exempt etchings and trivalent chrome as a final coating.

But plastics are not conductors of electricity and require complex pretreatment processes so that chrome deposition is correct and the desired color and gloss properties are obtained. This preparation is complex and requires the use of highly toxic products, as well as exhaustive controls. Successive layers of semi-bright nickel and bright nickel are usually applied previously to the plastic piece. In addition, depending on the article to be treated, an additional layer of copper must be applied to facilitate adhesion. The introduction of intermediate metallic layers increases the possibilities of corrosion and the implementation of systems and protocols that guarantee the reliability of the product is essential.



Facility Reforms

DISASSEMBLY AND/OR TRANSFER OF FACILITIES

We carry out the transfer of complete facilities according to the needs of the client. We disassemble the machine, carrying out an exhaustive inventory and marking of all the elements, drawing up the precise plans and diagrams.

Our departments are in charge of drawing up the necessary plans to carry out the precise civil works at the assembly site, as well as the sanitation that the components may require.

We deliver the installation completely assembled and in operation in the new location.

MODERNIZATION (RETROFIT) AND IMPROVEMENT (UPGRADE) OF EQUIPMENT

Extensive experience in machinery modernization processes. Our updates offer a guaranteed alternative to improve productivity at

affordable costs. Machines that are in good maintenance condition but have lost functional efficiency are the best candidates for a retrofit.

Upgrades –or improvements– are one of our most developed areas. The implementation of more modern or efficient accessories than those available, or where they did not exist, is a highly profitable option when the complete renovation of machines, systems or equipment has very high costs. Not only is the useful life of the machine extended, but also an increase in its productivity by being equipped with more features, automation, safety, versatility, etc. At the same time, personnel costs are reduced and the efficiency of information control procedures is facilitated.

AUTOMATION

We automate manual or semi-automatic lines to improve the productivity and functionality of the installation.

We also work on automatic lines, modernizing existing processes to adapt them to current customer needs.

Facilities and Equipment

In addition to complete installations and reforms or expansions of existing ones, we manufacture and distribute all the necessary components for surface treatment installations.

- Heat and cold equipment
- Tanks and tanks
- Loading and unloading
- Ultrasonic cleaning systems 75
- Drums and their auxiliary equipment
- Drying and polymerization systems
- Pumping systems
- Dosing systems
- Gas suction installations
- Current rectification systems
- Bath agitation
- Projections (Spray)





Software

Its use is mainly decorative (plastic parts for automobiles), although it also has very good anticorrosive properties. Suitable for the production process of the plastics sector.



HMI screen, PC and SCADA software. The operator will control, observe and interact with the different operations and states of the installation, via touch screen, and/or PC (standard operating system W10) with SCADA software. This computer can communicate with your company's Ethernet network. In this way, remote assistance can be carried out from our offices. Our software 'Supervision of Galvanic Processes' performs the functions of SCADA (Supervision, Control, Data Acquisition and Registration).

We communicate with an SQL database, from where we collect data on the loads and references of materials to be treated on the line. The Production Registry by loads is carried out to track the traceability of the processed loads, recording the data of times, temperatures, depositions and others. It allows quality control the traceability of production. Process alarms are logged. Likewise, the client can also carry out or modify the cycles, with the movements carried out by the trolleys and the loads on the line.

Our software provides access to data in a nice and friendly way.

Reconditioned

At Surtech we are interested in giving a new life to some products.

HORIZONTAL LACQUERED.
VERTICAL LACQUERED
CHEMICAL SHINE

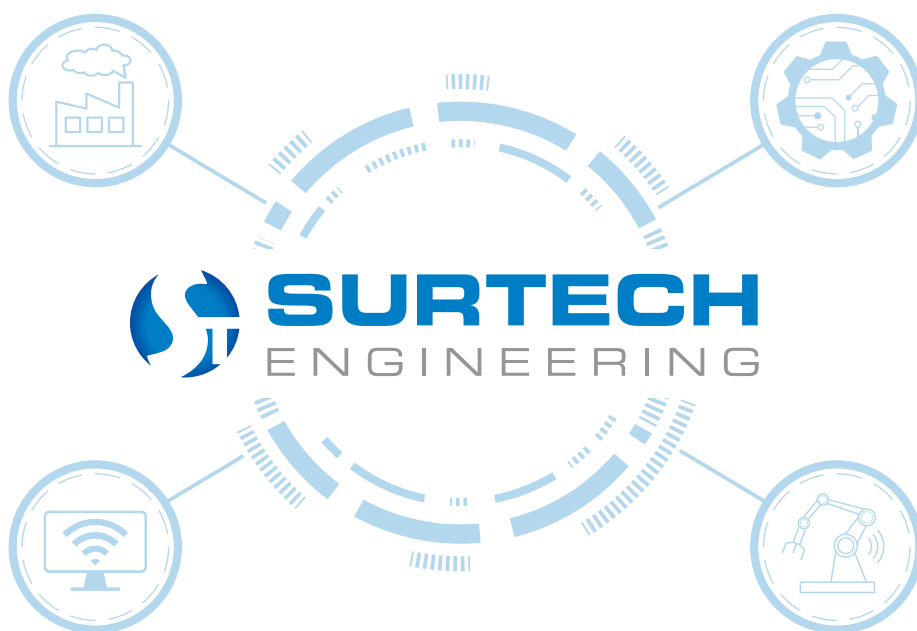
Surtech in the world

At Surtech we follow a policy of expansion and growth, so we are interested in generating value links in all continents, we have representation in some countries.



If you are interested in being our agent.

comercial@surtech.es



WE WORK AS A TEAM TO BE A REFERENCE IN QUALITY



INSTALLATIONS FOR COATINGS OF METAL PARTS BY RACK AND DRUM

Nickel Plating • Zn-ni • Chemical And Electropolished Brightness • Bluing • Chromium Plating • Hot Dip Galvanizing • Copper Plating • Tin Coating • Cleaning • Zinc Electroplating • Anodized • Precious Metals • Phosphate Coating

INSTALLATIONS FOR SURFACE TREATMENT OF ALUMINUM PROFILES

Anodized • Horizontal & Vertical Lacquering • Extrusion Dies Cleaning

SURFACE COATING INSTALLATIONS FOR AERONAUTICS

Tartaric, Sulfuric, Chromic, Phosphoric, Boric Anodized • Cadmium Plating • Passivated • Zn-ni • Application Of Penetrating Liquids

INSTALLATIONS FOR THE TREATMENT OF WATER FOR INDUSTRIAL USE

Pretreatment Plants • Physicochemical Purification • Stations • Water Recovery Plants • Removal Of Oils And Fats In Degreasing • Zero Discharge And Evaporators • Quenching Water Treatment

VARIOUS FACILITIES AND EQUIPMENT RELATED TO SURFACE TREATMENTS

ABLE TO MANUFACTURE THE IDEAS
OF OUR CUSTOMERS

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