

Alkaline Cleaning, Acid Etching & Chemical Milling Systems

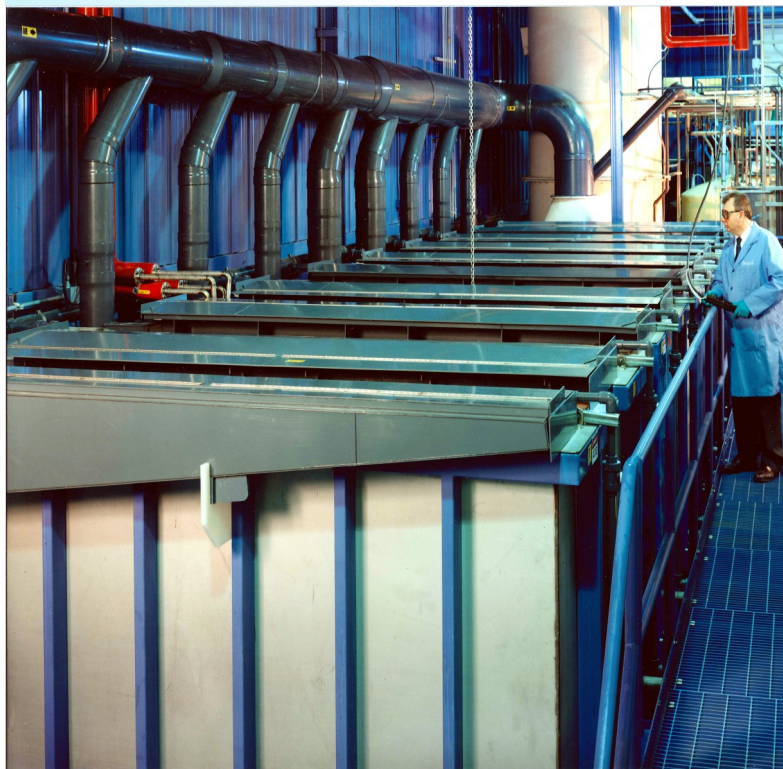
Mech-Chem engineers, designs, builds and constructs fully automated alkaline cleaning, acid etching, and chemical milling systems to produce parts and components for the aerospace industries and land based turbines. Mech-Chem interacts with our clients to develop the conceptual design, prepare the detail design, and provide the drawings to permit and construct the facility.

These systems use a variety of acid based and alkaline based chemicals depending on the metal parts and components being processed. The chemistries and systems design vary depending on which of the following metals are being processed:

- ♦ Aluminum (Al alloys)
- ♦ Titanium (Ti alloys)
- ♦ Nickel (Ni alloys)



Alkaline cleaning and etching systems for aircraft and turbine parts & components



Alkaline cleaning and acid etching facility for the processing of 4ft X 10ft V/MO/Ti alloy sheets

Mech-Chem provides the complete design for the facility including the concrete and containment design, equipment fabrication, system installation, and start-up of the operation. We have a staff of engineers that can meet all the requirements to prepare the design drawings for the processing systems and complete facilities.

Chemical Handling

Mech-Chem institutes self-contained and splash proof chemical handling systems. These systems guard against any fumes or chemicals entering the work area. Chemical pumps, valving boxes, containment pans, and all areas of safety are covered. The pump enclosures and spill containment pans are also vented and monitored electronically for any leaks.

Ventilation

Mech-Chem sizes, designs and lays out the airflow for air makeup, exhaust ducts, hoods, and fume scrubbers. The fume ventilation systems capture the fumes from the process tanks, storage tanks, reagent chemistry drums and totes, containment pits and other areas where chemical vapors can accumulate.

Controls and Power Distribution

Mech-Chem also designs, fabricates, and installs the instruments and controls for full PLC automated systems and facilities. The power distribution and control panels are designed and fabricated to handle the corrosive chemical environment.



Hydrochloric acid stripping operation for blades and vanes for jet engines



Acid etching system for aircraft parts and components

Truck Containment

The delivery and handling of new acids and chemicals and the removal of waste solutions from the process tanks are of particular concern. Truck containment areas are designed to allow a secure area for the acid, chemical and waste transfer to take place. This ensures that any potential chemical spill or leak can not impact the surrounding area and production operations.

Environmental and Operator Safety

Facilities incorporate state of the art technology to protect the safety of the operators as well as the environment. Trenches are incorporated to keep pipes carrying hazardous materials from being installed overhead. This, along with double walled contained piping and leak detection systems, insure safe operating conditions for everyone in the facility.



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