Suron employs photochemical etching technology to process a broad range of metals and alloys for the production of precise, thin and flat metal parts for its customers. The photochemical etching process has many benefits, since the properties of the processed metal do not change, and the metal doesn't suffer from stress.

The parts have a high level of precision and are burr free. Using photo etching technology, Suron can provide customers with a rapid manufacturing service for low cost parts on small and medium scales.

The photoetching process involves many stages. The first stage begins when the customer's order and files are received. The planning department processes the data and produces slides that serve as the template for manufacturing the parts. The production department cuts the metal sheet to length, then cleans and coats it with a thin, plastic, light-sensitive material (a photoresist). The two slides are attached to the sheet, and the metal is exposed to UV radiation.

The rest of the process takes place in a chemical bath containing a corrosive solution. Through chemical development, the photopolymer that is not exposed to light (i.e. is masked by the black areas of the slide), is removed. The areas that are exposed to light (in contrast to the black parts) are corroded by the acid, resulting in a sheet whose components are joined by tabs and tags. At the end of the photochemical etching process, the remaining masking material is removed, and the sheet is dried and cleaned. The parts are disconnected from the sheet and sent for inspection. The Quality Assurance department performs visual inspections and checks measurements. In some cases, the parts are transferred to the plating department to apply a finish, or are sent for packaging.
Advantages of Photochemical Machining:
* Precision metal processing that does not change the metal's composition or properties
* The process does not produce burrs
* Cost-effective for small and medium runs
* Can be used to create grooves, bend marks, grading, and precision engraving
* Low cost set-up and short lead time – enables quick solutions for R&D products, and to produce models and samples

Photochemical Machining Technical Details:
* Part Size: 0.5 mm to 600*850 mm (unusual sizes of over a meter can be arranged)
* Metal sheet Size: 23cm X35cm
* Thickness of Material: (0.012 mm - 1.5 mm) .0005“-.060”
* Types of Materials: Stainless steel, Kovar, Invar, Nickel and Nickel Alloys, Steel, Copper, MoliCopper, Beryllium-Copper, Nickel-Silver, Phosphor Bronze, Brass, Aluminum, Titanium, Silver