



*Mechanical etching of aluminium*

## SATMAC MECHANICAL ETCHING PROCESS



Satmac machine and control board

The use of SATMAC etching machine considerably reduces operating costs for production of a uniform matt finishing and is even capable of masking certain extrusion defects (stripes, scratches etc.)

The treatment itself reduces dissolved aluminium and caustic soda entrained into waste water, which therefore means a considerable reduction of sludge produced by the waste water treatment process.

The extruded sections are carefully placed into the abrasive treatment machine (manually or automatically). Especially designed adjustable turbines are arranged so that all the surfaces of the extrusion, even the grooves and recesses, can be satisfactorily treated. The controls allow adjustment of the forward feed rate, as well as the quantity and speed of the shot used.

The degree of mattness also depends upon the grade of abrasive used. For architectural sections one of the finer grades is usually employed.

On the completion of the abrasive blasting cycle the material is removed. The special outlet devices on the machine prevent any shot being withdrawn with the work.

To assure uniformity a sieving system in the machine removes any shot finer than a pre-determined grit size. The machine can also be equipped with an automatic load/unload device.

The machine is constructed to minimize noise, dust or any other problem that could constitute a health and safety hazard. After treatment the work is racked for anodizing. The SATMAC process is a patented technology for aluminium section etching resulting in an attractive matt finish similar to



that obtained with 20-25 minutes in the etching solution.

### ADVANTAGES

- Reduction of dipping times in the etching solution (2-5 minutes instead of 20- 25 minutes)
- Reduction of 65-80% of aluminium hydroxide sludge formation after waste water treatment
- Reduction of 65-80% of aluminium loss due to aluminium dissolution in the etching tank (usual dissolution rate 5-8 grams/m<sup>2</sup>/minute)

- Reduction of 65-80% of sodium hydroxide consumption
- Reduction of 65-80% of aluminium in the waste water
- The finish obtained is similar to the "French matt" finish
- Extrusion lines and corrosion marks are reduced or eliminated

### PAYBACK

About 2 years, depending on actual conventional etching time and type of finish.

