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January 12, 2013

Etching Aluminum

The etching of aluminum is the process of using acids, bases or other chemicals to dissolve the unwanted materials, in this case the aluminum.

Aluminum, being more reactive than tin, will be oxidized when placed in a stannous chloride bath. The exposed areas of the aluminum that get oxidized turn into aluminum ions, which are water-soluble and get washed away in



the bath. The tin ions then get reduced and precipitate out of the solution as tin metal

Etching is dated back to the Middle Ages in Europe, where it was used to decorate armor. Daniel Hopfer, craftsmen from Augsburg, Germany in the late 1400's, is credited to be the first person to use the etching method for printmaking. Etching is also used in more modern days for industrial use. It is used in the printed circuit board and semiconductor fabrication industries, as well as used in the aerospace industry to remove layers of material in large aircraft components.

This project was more interesting to me from a chemistry point of view versus the art because I found it really beneficial in understanding the redox reaction occurring between the tin and aluminum.