



WilsonPartitions “In-house” Anodizing Line

Architects and designers specify Wilson Partitions anodized aluminum for its strength, durability, beauty, finish, and superior quality.



Aluminum extrusions are securely racked prior to the cleaning tank. Our anodizing line can anodize aluminum up to 30 feet long.

Step 1: Cleaning

Aluminum extrusions are first cleaned in a soap and hot water tank in order to get rid of contaminants including dirt and light oils.

Step 2: Rinsing

Extrusions are then rinsed in order to remove all byproducts of the previous stage.

Step 3: Etching

This process places aluminum extrusions into a caustic bath designed to get rid of light scratches and develop a smooth, matte finish.

Step 4: Deoxidizing and Desmutting

Aluminum extrusions are rinsed a number of times and then placed into an acidic rinse in order to remove residue that may be left over from the previous caustic bath. After another rinsing, extrusions are ready for anodizing.



As aluminum goes through the anodizing process, the racks that hold extrusions in place corrode. Welders are available on site for this purpose!



The first few steps prepare aluminum extrusions for anodizing.



Solutions get as hot as 185 degrees Fahrenheit! Health and safety is taken very seriously at our warehouse.

Step 5: Anodizing Aluminum

Aluminum extrusions are placed in a sulfuric acid anodizing tank. Anodizing leaves behind a hard, porous layer of aluminum and oxygen that is resistant against scratches and wear from the natural environment.

Once coating is built to the required thickness, extrusions are sealed if the color desired is clear. Otherwise, extrusions are placed in the tin coloring tank.

Step 6: Electrolytic Coloring or “Two Step”

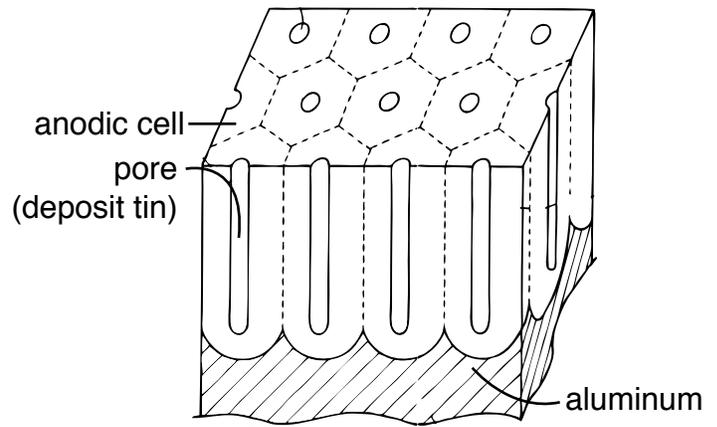
The pores created in the anodizing tank allows color to be deposited into it. Wilson Partitions deposits tin into the aluminum extrusions. The amount of tin that is deposited into the pores determine the resulting color. Light Champagne only requires 18 seconds while black ano takes about 12 minutes.

Step 7: Sealing the Anodic Coatings

Extrusions are then placed in the seal tank. This closes the pore structures so that colors remain permanent. It also makes the aluminum non-reactive, non-absorbing, and non-corroding. Extrusions are then rinsed in a hot bath in order to speed up the drying process.

Right: The nine (9) available finishes as a result of electrolytic coloring.

The Anodic Coating



Environmental Considerations for Anodizing

Environmental concerns play an increasingly vital role in every phase of production. The primary source of generating hazardous waste at Wilson Partitions is from the chemicals used in the processing of anodizing aluminum extrusions for the architectural industry. By changing some of the chemistry previously used in this process, we have been able to reduce the amount of hazardous waste generated at our facilities.

Process	Waste	Treatment
Alkaline Cleaning	soap, caustic soda	Adjust pH to comply with local requirements.
Etching	aluminum hydroxide	Precipitate and send sludge to recycle.
Desmutting	sulfuric acid, H ₂ O	Adjust pH to comply with local requirements.
Anodizing	aluminum hydroxide	Treat by ion exchange and recycle.
Electrolytic Coloring	tin sulfate	Filter and adjust pH to comply.
Sealing	magnesium acetate seal	Send sludge to recycle.