

HM Wire International, Inc.
Ph: 330-244-8501 Fax: 330-244-8561
www.litz-wire.com info@litz-wire.com www.hmwire.com

How to Anodize Aluminum Wire

Anodizing Aluminum wire is the process of altering the outer surface of the aluminum with a charged acid solution. Unlike many other metals, the surface of aluminum actually hardens when it is exposed to an acid bath during anodization. Another benefit of anodized aluminum wire is that it better resists corrosion. The process of anodizing aluminum wire is not all that difficult, but it uses chemical solutions that must be handled very carefully to prevent injury.

Instructions	Things You'll need:
1. Put on rubber gloves and eye protection to protect against acid splashes. Once the gloves are on, wash your hands well with soapy water to remove any dust and surface oil from the gloves. These substances will interfere with the anodization process.	<ul style="list-style-type: none"> • Rubber Gloves • Eye protection • Dish washing soap • Water • Scrubber Sponge • Aluminum Wire • Cloth • Degreasing cleaner • Metal degreaser solution • Five gallon plastic bucket or tub • Desmutting solution • Distilled Water • Sulfuric Acid • 12 inch piece of aluminum wire, 2 • Battery Charger
2. Pour one to two teaspoons of dish washing soap onto a scrubber sponge, and thoroughly wash the aluminum wire with the sponge. You will need to unroll the wire, if applicable, to access every surface of the wire. Rinse the wire well with plain water and dry with a clean cloth.	
3. Apply a degreasing cleaner to the surface of the aluminum wire and scrub it down with the scrubber sponge. Any kitchen cleaner that is labeled as a grease cutter will work for this step. Rinse the wire and dry with a clean cloth.	

4. Apply a degreaser solution that is specifically formulated for anodizing or plating metal. This type of degreaser is available at auto supply stores. Follow the directions on the packaging to degrease the aluminum. Some of these degreasers work by soaking the aluminum in them, while others must be heated up.

5. Remove impurities from the surface by Desmutting it. Desmut is a product that can be purchased at auto supply stores and some home improvement stores. IT contains an acid, usually nitric, that removes the impurities from the metal. Pour enough desmut solution into the bucket so it will cover the surface of wire. Insert the wire into the solution and allow it to soak for 1 – 4 minutes. If you want the final appearance of the metal to be shiny, only soak it for 2 minutes. Remove the wire from the Desmutting solution, rinse well with water and then dry with a cloth.

6. Discard the desmutting solution from the bucket and rinse out thoroughly with water.

7. Pour 1 gallon of distilled water into the bucket and then pour 1 gallon of sulfuric acid, which is also known as battery acid. Mix the solution using a paint stirrer Sulfuric Acid is available at auto supply stores.

8. Cut 2 additional pieces of aluminum wire that are 12 inches long each. Wrap one piece around the end of each wire that you want to anodize and bend them upward at 90 degree angles. Insert the wire into the water with each of the end pieces sticking straight up.

9. Attach each of the battery clamps to the wires that are sticking up out of the water. Set the battery charger to 12 amps and turn it on. Allow the charger to run for 105 minutes. The submerged aluminum will have a slightly yellow appearance.

10. Turn off the battery charger and detach the clamps. Remove the aluminum from the sulfuric acid and detach the two end pieces of wire. Rinse completely with distilled water.

Tips & Warnings:

- You will know that the aluminum wire has been properly degreased when the water spreads out on like a layer, versus beading up.
- Sulfuric acid produces gas that is toxic if inhaled, The above procedure should only be performed outdoors or in a well-ventilated areas.