
Important Tips Prior to Sending an Order for Anodizing

We strive to provide superior quality and make parts look great for each and every customer. In order for you to have the best results possible in your anodizing experience we have provided some very important tips to keep in mind prior to sending your order:

Packaging

When sending jobs to be finished at Alpha please be sure that the parts are packaged so that they cannot be damaged in shipment from rubbing together or banging into each other. If there is any damage present to your parts when we un-package your order we will let you know. If the packaging you send your parts in has dirt or oil please send us details on how you would like them to be re-packaged after finishing.

When packaging avoid putting any tape directly on the aluminum as it is difficult to clean off and is not removed by the anodizing process. Also, if your parts have been polished using a buffing compound please be aware that our chemicals may not be able clean off the compound well enough prior to anodizing. Extra dirt or oil on the parts can also present a challenge to our cleaning process. We are happy to remove tape, dirt, or excessive oil at an additional cost.

Fingerprints and Other Potential Corrosion

Please avoid leaving finger print marks on un-coated aluminum products as these can become imprinted on the surface of the metal. We have encountered many instances where fingerprints corroded the aluminum and were not able to be removed by the cleaning/etch process. For this reason we recommend the use of nitrile gloves in the handling of all raw aluminum.

It is important to note that raw aluminum exposed to water or even air, if left unprotected for even a short period of time, will oxidize. Unfortunately, it usually oxidizes unevenly which can make it very challenging to provide a great cosmetic result after the anodizing process. Also, certain types of cleaners used on raw aluminum can create corrosion. Please avoid using strong acids, ammonia, lye, or alkaline cleaners. It is OK to clean aluminum prior to anodizing using mild soap/detergent, acetone or alcohol.

Machine Marks, Scratches, Extrusion Lines or Dents

A principle to keep in mind is that whatever you have on the machined finish will remain after anodizing or chromate conversion. Think of the anodizing process as similar to film development. Whatever is in the substrate of the aluminum will be more visible after the anodizing process is completed.

Anodizing cannot hide machine marks, scratches, extrusion lines or dents. Our etch process (depending on alloy used of course) can remove tiny scratches or fine lines but the more pronounced the mark or scratch the more likely it will show after finishing. We do offer acid etch (for an extra cost) that will help hide some of the machine marks and lines by creating a matte finish.

Steel Pins, Inserts, or Rivets

Anodizing is only suitable for aluminum and its alloys. Iron products such as steel cannot be anodized and will in fact be destroyed by the process. Please remove any steel pins, coils, etc. prior to sending your parts to Alpha. Also, if you have aluminum rivets as part of the design we highly recommend installing them after the anodizing process to prevent potential bleeding.

Note: we are able to put steel parts through our chromate conversion process but please let us know in advance.

Belt Sanding or Tumbling

If your parts are belt sanded or tumbled it is important to note that the belt or tumbling media should not be used with both steel and aluminum. Aluminum parts that are sanded after steel parts can get small particles of steel embedded in the aluminum substrate but will not be visible to the eye. The steel particles will plate out and leave small pits on the surface of the aluminum after anodizing. The same issue can occur with tumbling media. For this reason, we recommend changing the belt or tumbling media prior to running aluminum parts to avoid any potential problems.

Welded Parts

If parts are welded prior to being anodized please know that there will be surface and color variation on your finished product. We recommend using 5356 welding rod for the best cosmetic results. TIG welding generally provides a better outcome for aluminum to be anodized than MIG. Because of the way MIG welding heats and cools it typically does not anodize properly and will not take color dye, which leaves a less than desirable cosmetic look.

Formed or Shaped Parts

If you have a product that needs to be formed or shaped in any way it should be completed before anodizing. Anodized coatings are hard and resistant to wear but they do not have elasticity and will not respond well to excessive tension. Anodized finishes will craze (crack) when the aluminum substrate is deformed in any fashion. These fractures can become openings to corrosion. This is why we recommend that anodizing take place after an aluminum component has been formed in order to avoid these potential problems.

Color Matching

We often receive requests to color match dyed parts. Please be aware that colors obtained through dying are not as consistent as those obtained through powder coating or paint. In fact, there is no such thing as a pantone matched color in most commercial anodizing. Creating consistency in color and color matching is extremely difficult due to all the variables in the anodizing process (see more on this topic on the color anodizing page of Alpha's website). This is why we recommend providing an acceptable color range (light, medium, dark) prior to processing your parts. If you have a color sample available please send this either with the job or email a photo. This will help us to get target the color that you desire.

It is important to note that Alpha uses organic dyes which are not absolutely colorfast, especially in high UV exposure situations. Please be aware that organically dyed parts do fade to some degree over time.

Racking Marks

Anodizing involves running an electric current through aluminum parts in an electrolytic bath during processing. In order to achieve the coating all parts must be gripped by either aluminum or titanium racks which will leave "contact points" (rack marks). These pinpoint areas are not anodized and will be visible. MIL-A-8625 specifically allows for rack marks but they can be controlled by specifying on your print allowable locations for gripping a part. If rack marks are critical or you have specific cosmetic requirements please discuss possible racking options in advance with us.

Blind Holes and Metal Shavings

If your parts are machined with blind holes (a hole that does not go all the way through) we ask that you check to make sure all metal shavings are cleaned out, as best as possible. Our processing is limited in how it can remove metal shavings that are trapped in blind holes, which may lead to bleeding. This creates an undesirable cosmetic look that cannot always be reworked.

*Content written by Greg Wood, Chief Executive Officer. All rights reserved.